

Preliminary Analysis of Career and Technical Education in Rhode Island

April 2015



RIPEC

Executive Summary

With the General Assembly's passage of Career and Technical Education (CTE) legislation during the 2014 session (H8204 Substitute A as amended), the appointment of the new Board of Trustees and a renewed focus on workforce development and job creation by Governor Raimondo, now is the time to transform CTE in Rhode Island. It will take an unprecedented, coordinated approach to build a comprehensive system for all students to receive rigorous academic preparation, technical skills training valued by employers and employability skills that will enable them to be ready for work on day one and be prepared to enroll in and complete postsecondary education. Furthermore, the system needs to be more responsive to the needs of business and industry associations and employers by preparing youth in and out of school as well as low-skilled adults for jobs that are currently going unfilled and the jobs of the future.

The existing CTE system in Rhode Island has a number of excellent career preparation programs, elements of a high-quality system and many dedicated and talented staff and students. However, the state's CTE system is not currently aligned and duplication and gaps in the career preparation programs available to students exist. Additionally, due to inconsistent definitions and variation in program descriptions, more in-depth research and analysis is required to better understand the statewide CTE system, the local and state labor market needs and the system's capacity to meet the needs of employers and students. The next phase of analysis should also include a review of the state's postsecondary CTE offerings.

The process that culminated in this report included reviewing materials provided by the Rhode Island Department of Education (RIDE) and interviewing key stakeholders, including some of the directors of the CTE centers located throughout the state. Using this information, RIPEC conducted a baseline analysis of the current Rhode Island CTE career preparation programs and how well they align with the state's high-priority sectors. The report ends with several questions for the Board of Trustees to consider as they determine potential next steps that should be taken to improve the state's CTE system.

There are at least three main areas that RIPEC believes the Board of Trustees should focus on as they begin their work: **funding, alignment, and employer involvement**. With regards to funding, the Board should consider whether there is sufficient funding available to operate a high-quality CTE system and if existing funds are being used efficiently and effectively. The Board should also examine how well the CTE system is aligned in terms of collaboration between secondary, postsecondary, and adult education institutions as well as programmatic alignment throughout the state. Finally, the Board should examine the existing level of employer involvement in the CTE system and determine steps that can be taken to increase employer and business community involvement.

Introduction

This report is intended to present a preliminary baseline analysis on the current state of Career and Technical Education (CTE) in Rhode Island. RIPEC prepared this report with assistance from Dr. Brenda Dann-Messier, former Assistant Secretary for Career, Technical, and Adult Education at the U.S. Department of Education, and the Rhode Island Department of Education (RIDE), and in consultation with a number of stakeholders in the state, including several directors of the regional CTE centers. This analysis represents only the first step in understanding the existing CTE system in Rhode Island and further research and analysis is necessary to determine the breadth, depth and alignment of program offerings. The work scope of this project included:

1. Conducting an inventory of existing CTE programs, a review of funding sources, curriculum and outcome metrics;
2. An initial analysis of career preparation programs and their alignment to the state's high priority sectors as determined by the state's economic development agency and the Governor's Workforce Board (GWB) to identify program duplication and gaps; and
3. An overview of existing and optimal program performance metrics to determine system alignment.

There has been a resurgence of interest in CTE due to the need for a skilled workforce in high-growth, in-demand industry sectors and the projected large numbers of the current workforce slated for retirement. Elected officials and policymakers have responded to the need for more individuals educated and trained to fill current and anticipated job openings by focusing on a revitalization of CTE.

Additionally, the upcoming reauthorization of the Carl D. Perkins Act, the primary source of federal funds for CTE, spurred the U.S. Department of Education to release a blueprint to transform CTE in 2012. Embedded in the blueprint are four core principles that serve as a guide for states focused on CTE reform. The four principles of alignment, collaboration, accountability and innovation could serve as the overarching vision for the state of Rhode Island as it embarks on reimagining CTE. More detailed information about the blueprint and the four principles is available on RIPEC's website. Additionally, the 2012 CTE regulations adopted by the Board of Regents for Elementary and Secondary Education (now the Board of Education) outline the state's CTE principles as listed on page 6 of this report.

All of the factors above and the establishment of a new Board of Trustees (BOT) led RIPEC, with assistance from RIDE, to prepare this initial report for the BOT as they begin their work. To supplement information provided by RIDE, RIPEC partnered with the Rhode Island School Superintendents' Association to survey school superintendents throughout the state on the CTE programs offered in their districts. The returned surveys are available on RIPEC's website.

2014 Legislation

During the 2014 legislative session, the Rhode Island General Assembly enacted legislation designed to reform the Career and Technical Education (CTE) system in the state. The legislation, House Bill 8204 Sub A, alters an existing entity and creates an entirely new body to better assist the coordination and direction of CTE in Rhode Island.¹ The first of these entities, the Rhode Island Career and Technical Board of Trustees, is a modification of an existing statutory organization, the Rhode Island State Advisory Council on Vocational Education, which had not been operationalized for more than 20 years. The second

¹ The full text of the legislation is available on RIPEC's website.

entity, the Rhode Island Career and Technical Education Trust, is a newly created not-for-profit organization.

Rhode Island Career and Technical Board of Trustees

Under the enacted legislation, the Rhode Island Career and Technical Board of Trustees assume all powers, rights, obligations, and duties of the Rhode Island State Advisory Council on Vocational Education. The Board of Trustees is to be composed of 15 members: nine of which represent the private employment sector, five who represent secondary and post-secondary educational institutions, and one who is the state's Secretary of Commerce (Stefan Pryor or his designee). The Board is assigned a variety of responsibilities related to CTE, as outlined below:

- Advise the Commissioner of Elementary and Secondary Education and the Board of Education on the development of a biannual state plan for CTE.
- Advise the Commissioner of Elementary and Secondary Education so that he or she may make reports to the governor, business community, and the general public concerning:
 - Policies the state should pursue to strengthen CTE;
 - Initiatives and methods the private sector could undertake to assist in the modernization of CTE;
 - The distribution of spending for CTE in the state and on the availability of CTE activities and services within the state; and
 - The integration and coordination of the various policies and procedures involving CTE.
- Furnish consultation to the Commissioner of Elementary and Secondary Education and the Board of Education on the evaluation criteria and processes for CTE programs within the state as they pertain to:
 - The establishment, continuation, and discontinuation of career preparation programs;
 - Incentives that promote and reward program excellence on the basis of performance;
 - Incentives that emphasize the needs of business and labor organizations;
 - Instructor preparation and qualifications in the areas of industry credentialing, development opportunities, and relevant field-based experiences;
 - The integration of academic and technical instruction and skill attainment in career preparation programs; and
 - The management and distribution of state funding allocated for the express purpose of establishing or improving career preparation program model sites.
- Provide advice and consent on the policy principles and goals that govern the distribution of financial assistance, particularly with the analysis of the distribution of financial assistance between secondary CTE programs and postsecondary CTE programs.
- Report annually to the Board of Education on topics including recommended procedures to ensure and enhance the participation of the public in the provision of CTE at the local level within the state, particularly the participation of local employers and local labor organizations, and ensuring equal access to quality CTE programs.
- Furnish consultation to the Commissioner of Elementary and Secondary Education to evaluate, at least once every two years, the CTE program delivery systems and make recommendations to stakeholders on the adequacy and effectiveness of the coordination between CTE and the workforce demands of the Rhode Island economy and post-secondary workforce development.
- Establish, support, and expand private sector participation programs that enhance CTE at the local level within the state, particularly the participation of local employers and local labor organizations in providing funding, equipment, training, apprenticeships, work-study programs, and other services that will enhance student experiences.

- Subject to the approval of the Board of Education, assume management and jurisdiction of state-owned and operated CTE schools at the request of the governing body of the school with a consultation from the executive director of the state-owned school. Also subject to the approval of the Board of Education, assume management of other CTE schools as agreed to by local education districts and with a recommendation from the superintendent of schools.
- In the event that the governing board of the CTE school or the local education agency requests that the Board of Trustees assume management and jurisdiction, then the Board of Education may assign the care, management, and responsibility of career and technical facilities to the Board of Trustees. Prior to this, the Board of Trustees shall prepare a plan to examine and make recommendations over the management of the CTE school, management of other state-owned CTE facilities, and the method of assuming ownership and management of the CTE facility (see legislation for additional details).

Career and Technical Education Trust

The legislation calls for the creation of a permanent, not-for-profit corporation known as the Rhode Island Career and Technical Education Trust, which has a distinct legal existence from the state. The statute requires membership of the CTE Trust to be nine members, including: seven individuals, representative of the private sector, the Secretary of Commerce, and a member of the Governor’s Workforce Training Board. The Trust is authorized to receive funds from public and private sources and disburse the funds in pursuit of its functions. Functions of the CTE Trust include:

- Creating partnerships with employers to provide for internships, apprenticeship programs, voluntary work relationships and other student-learning based partnerships;
- Providing advisory assistance to the board in the development of programs, curriculum, and other areas of focus or concentration;
- Raising funds for the use of the organization, to provide grants and loans to the state board and other purposes as determined by the board; and
- Providing any other assistance to the state board, board of education or to the general assembly.

State Governance of Career and Technical Education

The Rhode Island Board of Education has the delegated statutory authority under Rhode Island General Law Chapter 16-45 to establish and manage a comprehensive and coherent CTE system. In accordance with its authority to promulgate regulations necessary to constructing such a system, the Rhode Island Board of Regents for Elementary and Secondary Education (the legal precursor to the current Board of Education) issued a rule titled “Regulations Governing Career and Technical Education in Rhode Island” in 2012.² This rule states that Rhode Island’s CTE system is designed and monitored by the Rhode Island Department of Education (RIDE) and delivered by each individual Local Education Agency (LEA).

The 2012 regulations promulgated by the Board of Regents seeks to provide CTE opportunities through a diverse delivery system that provides students exposure to the world of work, opportunities to learn technical and career-based skills aligned to industry standards and through the earning of credentials, and prepares students for seamless transition to postsecondary education, training and careers. In addition, the rule seeks to meet three CTE principles:

- Rhode Island’s CTE system will prepare learners for postsecondary education and careers resulting in employment that provides family-sustaining wages;
- Career and Technical Education will support students’ postsecondary success through planning, credentialing, industry partnerships, and articulation with higher education and training programs; and
- Rhode Island’s CTE system will invest in high-quality, highly effective career preparation programs offered through a diverse statewide delivery system.

All career preparation programs are required by the 2012 regulations to meet certain criteria to be approved by RIDE regardless of whether it is a career program of study or career innovation program. These criteria include:

- Alignment to state academic standards and career readiness or industry standards;
- Providing students with the opportunity to complete coursework that contributes to their graduation coursework requirements;
- Adherence to the career preparation program standards published by RIDE (also included in Appendix 1 of the 2012 regulations);
- Providing participating students the opportunity to earn Industry-Recognized Credentials whenever applicable to the program, postsecondary credits, and/or advanced standing in training programs or jobs; and
- Meeting RIDE-established targets for student outcomes including, but not limited to:
 - Dropout and graduation rates;
 - Credential and/or postsecondary credit-earning rates;
 - Program completion rates; and
 - Enrollment and persistence in postsecondary education and technical training programs.

² The regulations can be viewed at <http://www.ride.ri.gov/Portals/0/Uploads/Documents/Students-and-Families-Great-Schools/Educational-Programming/Career-and-Tech/CTE-Guidance-121012.pdf>

Role of RIDE and LEAs

The 2012 Board of Regents regulation also differentiates the responsibilities of the state, acting through RIDE, and the LEAs that deliver CTE programs. RIDE is required to:

- Establish a CTE system that ensures student access to career awareness and exploration activities for all K-12 students and career preparation programs for students grades 9-12;
- Establish and publish career preparation program admissions standards, when appropriate and applicable;
- Establish and maintain a quality assurance process that includes a career preparation program review and approval process;
- Establish and maintain a system of approved career preparation programs;
- Establish and maintain a Statewide Career and Technical Education Advisory Board;
- Maintain and annually publish the list of approved career preparation programs;
- Invest state resources to support both the CTE system and approved and newly established career preparation programs in a manner that advanced program quality ensures efficient and effective use of resources, and is compliant with applicable state and federal law;
- Establish and manage a funding methodology for Career and Technical Education consistent with applicable state statutes and these Regulations that is designed to support the reasonable and necessary costs for the administration and implementation of RIDE-approved career preparation programs;
- Manage a state-level data system that enables high-quality evaluation, progress-monitoring, and continuous improvement at both the state and local levels;
- Ensure that the CTE system aligns to and promotes statewide workforce and economic development initiatives; and
- Identify critical and emerging industries in Rhode Island and promote the establishment of career preparation programs in those areas.

Similarly, responsibilities for all LEAs include:

- Ensure all students have the opportunity to participate in career exploration activities;
- Provide all eligible students the opportunity to enroll in an approved career preparation program;
- Provide a spectrum of career and college counseling services that include career awareness and exploration activities;
- Provide students and families with accurate information about the availability of approved career preparation programs and students' rights to apply and enroll; and
- Provide students and families an appeals process when students do not gain access to a career preparation program.

Additionally, all LEAs that administer RIDE-approved career preparation programs must:

- Meet the career preparation program standards and participate in the state-managed quality assurance process;
- Collect and report accurate and timely CTE data;
- Manage CTE-designated funding in accordance with state and federal regulations;
- Adhere to RIDE-published cost guidelines in accordance with section 7.0 of these Regulations;
- Provide students and families an appeals process in cases where students do not gain access to a career preparation program; and
- Engage and partner with business, industry, higher education, and postsecondary training programs to improve student performance outcomes.

Employer Involvement

According to the 2012 regulations, “Rhode Island’s CTE system shall be responsive to state and regional workforce and economic trends and business and industry demands. The Commissioner is responsible for ensuring current labor market data is analyzed to inform the creation or expansion of career preparation programs in critical and emerging industries.” Therefore, the number of programs offered through the CTE system that align with the needs of employers in the state and with industry sectors should increase in the coming years.

Quality Assurance

The 2012 regulations require RIDE to develop a quality assurance program whereby the department is responsible for reviewing and approving all career preparation programs. Specifically, the quality assurance program must be consistent with federal government requirements and reflect national best practices. The two main components of the program are a program review and approval process and student outcome metrics. The regulations include seven main areas by which CTE programs should be assessed through the RIDE-established program review and approval process:

1. Policies and Procedures;
2. Partnerships;
3. Program Operations;
4. Staffing, Certification, and Professional Development;
5. Curriculum, Instruction, and Technical Skill Assessment;
6. Supplemental and Support Services; and
7. Secondary to Postsecondary Transition.

RIDE is currently in the process of developing the quality assurance program and anticipates that it will become operational by the 2016-2017 school year. In accordance with the regulation, the system will promote program quality and continuous improvement through qualitative and quantitative evaluation. As definitions of metrics differ between state and federal programs, the Board of Trustees should consider examining the CTE metrics to ensure alignment with the Workforce Innovation and Opportunity Act and other workforce training programs as appropriate. **The proposed student outcome metrics are:**

- Credential earning rates;
- Postsecondary credit earning rates;
- Advanced standing in an apprenticeship or training program earning rates;
- Program completion rates;
- Rate of enrollment in postsecondary education;
- Program cost-effectiveness; and
- Graduation rate.

Programs are to be reviewed and approved to ensure that the CTE programs of study are defined as structured, sequenced academic and technical courses (three connected CTE courses) that focus on skill development in a single career-based or occupational area. The curriculum must be aligned to state academic and industry standards, have certified and trained instructors, opportunities to earn industry-recognized credentials (IRC), postsecondary credits and/or advanced standing in registered apprenticeship and training programs. The quality assurance process calls for the annual review of new and existing programs. The review and approval process began near the end of 2014. Provisionally-approved programs grandfathered through the 2012 CTE regulations will retain their approval status until the CTE accountability system is implemented. RIDE anticipates that all provisionally approved programs will undergo full review by 2017.

Career and Technical Education Supply – Current State of CTE in Rhode Island

The first step in RIPEC’s analysis of Rhode Island’s CTE system was to determine the program offerings that are currently available to students. This represents the supply side of the CTE system – the educational and training opportunities that students can choose from. It is important to understand the current supply of programs because the CTE system is intended to provide students with the opportunity to participate in a career preparation program that may lead to future employment, industry-recognized credentials, postsecondary credits, or advanced standing in an apprenticeship program.

According to RIDE, during the 2013-2014 academic year, there were 7,350 high school students enrolled in 127 CTE programs administered across ten regional centers, 18 comprehensive high schools and 1 charter school. This represented approximately 17 percent of the state’s high school students during the 2013-2014 academic year. The level of participation underscores the importance of having a robust system that provides students with the opportunity to participate in career preparation programs that may result in employment, postsecondary credit, or advanced standing in an apprenticeship program after graduation. In addition, employers need to be able to have confidence that students graduating from the CTE system are adequately prepared for entrance into the workforce.

Types of Career and Technical Education Programs

The RIDE regulation identifies three types of CTE opportunities that should be made available to Rhode Island students. These opportunities are referred to as “career awareness,” “career exploration,” and “career preparation,” programs and differ in terms of the level of exposure to a career that they offer to students and the associated level of commitment required by the student. Career awareness programs involve the least rigor, are designed to assist students in making informed career choices, and include activities such as career interest inventories, job searches, and job shadowing. Career exploration programs provide students with greater exposure to careers by allowing students to explore their own strengths and interests and include activities such as internships, job shadowing, or enrollment in one or two introductory career and technical courses.

Table 1
Career and Technical Education Opportunities Available in Rhode Island

	Career Awareness	Career Exploration	Career Preparation
Definition	"Help students make informed career choices and inform their decisions to enroll in educational and technical courses of study"	"Provide students with both an in-depth, focused investigation of careers and work and the opportunity to experience careers and/or learn basic job skills"	"Provide students with rigorous academic and technical training and deep preparation for entry into postsecondary education, training programs, and/or careers"
Examples of Activities	Career Interest Inventories, Job Searches, Job Shadowing	Internships, Job Shadowing, Enrollment in 1 or 2 CTE courses	Depends if program is: 1. career program of study or 2. career innovation program
Level of Rigor	Low	Medium	High

SOURCE: RI Board of Regents for Elementary and Secondary Education Regulations

Career Awareness and Exploration Programs

In a transformed CTE system, age-appropriate career awareness programs are a part of the elementary school curriculum and a modified career exploration program begins in middle school so that students can enroll in a career preparation program after learning about career options, the levels of education and training needed for a career in the sector, and future earning potential. Some students may decide after completing the program that they want to explore another career path.

Career Preparation Programs

Career preparation programs, which are the most intense CTE opportunities available to students, provide students with in-depth academic and technical training that will prepare them for postsecondary education, training programs, or a career.

Career preparation programs can take one of two forms that are referred to as *career programs of study* and *career innovation programs*. Career programs of study are required to offer no fewer than three connected, non-duplicative CTE courses; deliver a curriculum aligned to both state academic and industry standards and provide instruction by appropriately certified and highly trained instructors. Programs of study are also required to provide industry-recognized credentials whenever applicable to the program and offer postsecondary credits, and/or advanced standing in postsecondary education and training programs. Career innovation programs have the same requirements as career programs of study; however, they differ from career programs of study by utilizing non-traditional educational methods such as instruction in diverse educational settings, utilization of unconventional curriculum and assessment practices, or community or workplace-based education.

Career innovation programs are also required to offer rigorous, non-duplicative career and technical instruction and provide students with the opportunity to earn Industry-Recognized Credentials when applicable, postsecondary credits, and/or advanced standing in postsecondary education and training programs. However, they differ from career programs of study by utilizing non-traditional educational methods such as instruction in diverse educational settings, utilization of unconventional curriculum and assessment practices, or community or workplace-based education. At the present time, the Metropolitan Regional Career and Technical Center, or “Met School,” in Providence is undergoing program approval as a career innovative program. Upon receiving approval as an innovative program, The Met is the only career innovation program receiving funding from RIDE.

Students can enroll in any of the three types of career preparation programs, which include:

- CTE High Schools and CTE at Comprehensive High Schools: students enrolled in this type of program are either residents of the district or referred from their resident district to attend the High School fulltime and receive academic and CTE instruction in the same facility.
- Regional CTE Centers: Enrolled students may be residents of the school district or referred from their resident district to the regional center full time and receive CTE instruction at the center and academic instruction at the adjacent high school.
- CTE Skills Centers: Students may be residents of the school district or referred from their resident district to attend the area CTE center part-time to receive CTE instruction and return to their high school for academic instruction.

RIDE utilizes three definitions for students that are enrolled in a CTE program based on their level of participation and the number of courses in the program course sequence completed. Student level of participation is measured based on a “program of study” that is defined by RIDE as including no fewer than three connected, sequential, rigorous non-duplicative CTE courses; delivered according to a curriculum aligned to both state and academic industry standards; provides instruction by appropriately

certified and highly trained instructors; and provides industry-recognized credentials whenever applicable to the program, postsecondary credits, and/or advanced standing in postsecondary education and training programs. The three student definitions are:

- **Participant:** A student who is enrolled in and has completed at least one course in an approved or provisionally approved CTE program sequence;
- **Concentrator:** A student who completes at least two courses or parts in the required sequence of a CTE program of study; and
- **Completer:** A student who completes the required courses as outlined in the course sequence for the program of study.

Program Availability and Access

The first phase of the analysis was conducted to determine the availability of career preparation programs for students as determined by their transportation region and the location of their district’s high school. The next phase of analysis conducted by the Board of Trustees should include a more in-depth review of the curriculum, assessments and instructional materials used in each career preparation program, the outcome metrics and the level of employer engagement. Although there may be different career preparation programs in each transportation region, all programs should adopt the national and/or state curriculum whenever possible, assessments and industry specific materials to ensure that program quality is consistent throughout the state.

As a result of the 2012 CTE regulations, Rhode Island’s CTE system is organized into five transportation regions. Each of the five transportation regions includes several communities located in a geographically compact area and includes one or more CTE centers. Prior to the 2012 regulations, CTE regions, which are distinct from the transportation regions, were organized around a single regional CTE center with high schools assigned to a single CTE region. Currently, CTE regions are used for the sole purpose of distributing federal Perkins Act funds to the LEAs and CTE center in that region. Presently, the CTE center in each region also acts as the fiscal agent for the regional Perkins Act funds.

**Rhode Island
Career and Technical Education
Transportation Regions**



SOURCE: RI Dept. of Education

Students may attend a RIDE-approved CTE program located at any school in the state. However, the location of a program with regards to the student’s transportation region determines responsibility for covering transportation costs. The student’s resident school district is required to cover the cost of transportation to a school located within the same transportation region. For example, a student living in

Cranston, which is located in transportation region 3, can enroll in a CTE program located at a school in Providence, which is also located in transportation region 3, and the Cranston school district must cover the cost of tuition and transportation. If, however, the student enrolls in a CTE program located at a school in Woonsocket, which is located in transportation region 1, the student would be responsible for his or her own transportation to and from school each day. For students who attend a program outside of their transportation region, transportation costs can limit access to CTE programming.

Table 2 lists each municipality in Rhode Island and the CTE region and transportation region that students living in that municipality are assigned to.

Program Categories

RIDE utilizes a financial accounting system called the Uniform Chart of Accounts (UCOA) that allows the department to compare financial investments and student performance across school districts throughout the state. The UCOA system, which uses standardized codes that are the same across the entire state, includes categories for CTE programs. These UCOA program categories are used by RIDE to classify different CTE programs based on their industry sector.

The national career clusters, developed by the National Association of State Directors of Career Technical Education Consortium (NASDCTEC), are a comprehensive collection of industry-validated expectations of what students should know and be able to do after completing instruction in a career program area. According to NASDCTEC, they “also reflect the expectations of postsecondary education and business and industry. They can be used to guide curriculum development, assessments and program planning and development.” The U.S. Department of Education requires RIDE to report certain data based on the national career clusters as a condition of receiving federal funds for CTE. There are 16 career clusters and 79 career pathways.

**Table 2
Rhode Island Municipalities by CTE Center
and Transportation Region**

Municipality	CTE Region	Transportation Region
Barrington	East Providence	3
Bristol	East Providence	3
Burrillville	Woonsocket	1
Central Falls	Davies	3
Charlestown	Chariho	4
Coventry	Coventry	2
Cranston	Cranston	3
Cumberland	Woonsocket	1
East Greenwich	Warwick	2
East Providence	East Providence	3
Exeter	Coventry	4
Foster	Cranston	2
Glocester	Cranston	2
Hopkinton	Chariho	4
Jamestown	Coventry	4
Johnston	Cranston	3
Lincoln	Davies	3
Little Compton	Newport	5
Middletown	Newport	5
Narragansett	Chariho	4
New Shoreham	Chariho	4
Newport	Newport	5
North Kingstown	Coventry	4
North Providence	Davies	3
North Smithfield	Woonsocket	1
Pawtucket	Davies	3
Portsmouth	Newport	5
Providence	Providence	3
Richmond	Chariho	4
Scituate	Cranston	2
Smithfield	Davies	3
South Kingstown	Chariho	4
Tiverton	Newport	5
Warren	East Providence	3
Warwick	Warwick	2
West Greenwich	Coventry	4
West Warwick	Warwick	2
Westerly	Chariho	4
Woonsocket	Woonsocket	1

NOTE: CTE Regions are now used solely for the purpose of distributing federal Perkins Act funds

SOURCE: RI Department of Education

Table 3
National Career Clusters and UCOA Program Categories

National Career Cluster	UCOA Category
Agriculture, Food, and Natural Resources	Agriculture
Architecture and Construction	Construction Drafting Electricity HVAC and Plumbing Marine Technology
Arts, A/V Technology, and Communications	Arts Graphic Design Television Production/Journalism
Business Management and Administration	Business Education
Education and Training	Child Development and Education
Health Science	Health Careers
Hospitality and Tourism	Culinary Arts and Hospitality
Human Services	Cosmetology
Information Technology	Computer Technology Systems
Law, Public Safety, Corrections, and Security	Law, Public Safety and Security
Manufacturing	Manufacturing
Marketing	Fashion Merchandising
Science, Technology, Engineering, and Mathematics (STEM)	Biotechnology Engineering Environmental Life Sciences
Transportation, Distribution, and Logistics	Automotive
Finance	No programs that align to this cluster to date
Government and Public Administration	No programs that align to this cluster to date

SOURCE: RI Department of Education

Although some similarities between the UCOA program categories and national career clusters exist, there are also some differences between the two classification systems. As a result, RIDE has produced a table that displays which national career cluster each UCOA program category belongs to. This information is displayed in Table 3 above.

Table 4 lists the programs that are offered at each of the CTE centers using the UCOA program categories that have been developed by RIDE. As the table demonstrates, programs which are likely similar are referred to by different names at different CTE centers (i.e. Automotive Technology vs. Automotive Careers). This table is intended to display student access to different programs throughout the state. Programs marked with an asterisk were reported by school superintendents as part of the joint RIPEC-RISSA survey, but not included in RIDE documents; while programs marked with two asterisks were included in RIDE documents, but were not included in the survey responses submitted by school superintendents.

**Table 4
All RIDE-Approved Programs Available at Regional CTE Centers**

UCOA Program Category	Charlho	Coventry	Cranston	Davies	East Providence	Newport	Providence	Warwick	Woonsocket
Agriculture	Agriculture Science*		Aquaculture						
Arts									
Automotive	Automotive & Diesel Technology	Automotive, Diesel & Marine Technology		Automotive Careers	1. Auto Collision Repair 2. Auto Technology	Automotive Technology	Automotive Technology	Automotive Technology	Automotive Technology
Biotechnology				Biotechnology					Biotechnology
Business Education			Entrepreneurship						
Child Development and Education	Early Childhood Education	Early Childhood Education	Child Development						Child Studies & Human Services
Computer Technology Systems	Computer & Game Technology	Computer IT/Game Design*	1. CISCO Networking 2. Interactive Digital Media & Computer Technology		Computer Science*	Academy of Information Technology		CISCO Networking Academy	1. Academy of Information Technology & Game Design 2. Digital Media Production
Construction	Construction Technology	Carpentry & Construction Technology	Construction Technology	Construction Technology	Construction Technology	Construction Technology	1. Construction Technology 2. General Construction	Construction Technology	Construction Technology, Solar, Heat & Electrical Technology
Cosmetology	Cosmetology	Cosmetology		Cosmetology & Barbering	Cosmetology	Cosmetology	Cosmetology	Cosmetology	
Culinary Arts and Hospitality	1. Culinary Arts 2. Hospitality & Event Planning	Culinary Arts Baking & Food Services	Culinary & Pastry Arts	Hospitality Careers	Culinary Arts	Culinary Arts	1. Culinary Arts & Hospitality 2. Pastry Arts	Culinary Arts	Culinary Arts, Hospitality & Tourism
Drafting	Drafting & Design Technology		CAD & Drafting Technology					CADD	

Table 4 Continued
All RIDE-Approved Programs Available at Regional CTE Centers

UCOA Program Category	Charlho	Cowetry	Cranston	Davies	East Providence	Newport	Providence	Warwick	Woonsocket
Electricity	Electrical Technology & Renewable Energy			Electrical & Telecommunications Technology			Electrical Technology	Electrical Technology	
Engineering	Engineering, Drafting and Design*		Pre-Engineering & Robotics	Pre-Engineering, Electronics & Robotics	Pre-Engineering (PLTW)				
Environmental and Life Sciences					Environmental & Life Sciences**				
Fashion Merchandising								Fashion Merchandising & Management	
Graphic Design	Advertising, Design & Digital Technology	Graphics Communications	Graphic Communications	Graphics and Arts Printing	Graphic Communications	Design, Graphics & Advertising Media	Graphic Communications	Graphic Design	Graphics & Printing
Health Careers	Health Careers	Health Careers	Health Careers	Health Careers				Health Careers	Health Careers
HVAC and Plumbing	HVAC						1. HVAC 2. Plumbing & Pipefitting		
Law, Public Safety and Security	Criminal Justice	Air Force Jr. ROTC			Forensics				
Manufacturing				Machine Technology					
Marine Technology	Marine Trades				Marine Biology*			Marine Trades	
Television Production/Journalism								Electronics, Digital & Audio Technology	

NOTE: Only programs offered at the state's regional CTE centers are included in this table; The Met is not included in this analysis because it does not offer traditional CTE programming.
SOURCE: RI Department of Education

Table 5
CTE Programs Offered at Comprehensive High Schools

LEA	School	Program(s)
Barrington	Barrington High School	Television Production & Journalism
Bristol-Warren	Mt. Hope High School	Business Education Consumer Services & Child Development
Burrillville	Burrillville High School	Environmental Science & Green Technology
Central Falls	Central Falls High School	Arts Academy Environmental Academy
East Greenwich	East Greenwich High School	Aviation Academy
Foster-Glocester	Ponaganset High School	Agriculture Pre-Engineering
Lincoln	Lincoln High School	Design & Engineering International Business Academy Journalism & Broadcasting Law, Public Safety & Security
North Providence	North Providence High School	Marine Academy*
Pawtucket	Jacqueline M. Walsh School for the Performing Arts	Dance Music Theater Visual Arts
	Shea Senior High School	Government & Public Service
	William E. Tolman Senior High School	Early Childhood Education Engineering Law & Public Safety Marketing & Management
Portsmouth	Portsmouth High School	Child Development Television Production
Providence	Academy for Career Exploration	Healthcare Hospitality
	Cooley High School	Biotechnology
	Hope Academy	Computer Information Systems Visual Arts
	Mount Pleasant High School	Teacher Academy
	Central High School	Law & Public Safety
Smithfield	Smithfield Senior High School	Business Finance Early Childhood Education Engineering Technology
Warwick	Pilgrim High School	Child Development
West Warwick	West Warwick High School	Academy of Finance Facilities Operation & Management

SOURCE: RI Department of Education

In addition to programs offered at regional CTE centers, some comprehensive high schools also offer career preparation programs to their students. Table 5 above displays each of the RIDE-approved programs located at comprehensive high schools throughout the state. An asterisk next to the program title indicates that the information was provided through the RIPEC-RISSA survey, but was not included in data provided by RIDE. It is important to note that the quality of these programs is unknown based on the available data and should be further investigated. The program approval process currently being implemented by RIDE may provide more information on program quality once completed.

**Table 6
CTE Programs Available by Rhode Island Transportation Region**

UCOA Program Category	1	2	3	4	5
Agriculture		Agriculture	Aquaculture		
Arts			1. Arts Academy 2. Dance 3. Music 4. Theater 5. Visual Arts (2)		
Automotive	Automotive Technology	1. Aviation Academy 2. Automotive Technology 3. Automotive and Diesel Technology	1. Automotive Careers 2. Auto Collision Repair 3. Auto Technology (2)	Automotive and Diesel Technology	Automotive Technology
Biotechnology	Biotechnology		Biotechnology (2)		
Business Education			1. Entrepreneurship 2. International Business Academy 3. Marketing & Management 4. Business Finance 5. Business Education		
Child Development and Education	Child Studies & Human Services	1. Child Development 2. Early Childhood Education	1. Child Development 2. Early Childhood Education (2) 3. Consumer Services & Childhood Development 4. Teacher Academy	Early Childhood Education	Child Development
Computer Technology Systems	Academy of Information Technology & Game Design	CISCO Networking	1. CISCO Networking 2. Computer Information Systems	Computer & Game Technology	Academy of Information Technology
Construction	Construction Technology, Solar, Heat & Electrical Technology	1. Construction Technology 2. Carpentry & Construction Technology	1. Construction Technology (4) 2. General Construction		Construction Technology
Cosmetology		Cosmetology (2)	1. Cosmetology & Barbering 2. Cosmetology (2)	Cosmetology	Cosmetology
Culinary Arts and Hospitality	Culinary Arts, Hospitality & Tourism	1. Culinary Arts 2. Culinary Arts, Baking & Food Services	1. Culinary & Pastry Arts 2. Hospitality Careers 3. Culinary Arts 4. Hospitality 5. Culinary Arts & Hospitality	1. Culinary Arts 2. Hospitality and Event Planning	Culinary Arts
Drafting		CADD	1. CADD & Drafting Technology 2. Design & Engineering	Drafting & Design Technology	

Table 6 Continued
CTE Programs Available by Rhode Island Transportation Region

UCOA Program Category	1	2	3	4	5
Electricity		Electrical Technology	1. Electrical & Telecommunications Technology 2. Electrical Technology	Electrical Technology & Renewable Energy	
Engineering		1. Electronics, Digital & Audio Technology 2. Pre-Engineering	1. Pre-Engineering & Robotics (2) 2. Engineering 3. Engineering Technology 4. Pre-Engineering (PLTW)		
Environmental and Life Sciences	Environmental Science & Green Technology		1. Environmental Academy 2. Environmental & Life Sciences		
Fashion Merchandising		Fashion Merchandise & Management			
Graphic Design	1. Digital Media Production 2. Graphics & Printing	1. Graphic Design 2. Graphics Communication	1. Graphic Communications (2) 2. Interactive Digital Media & Computer Technology 3. Graphics & Arts Printing 4. Graphic Communications	Advertising, Design & Digital Technology	Design, Graphics & Advertising Media
Health Careers	Health Careers	Health Careers (2)	1. Health Careers (2) 2. Healthcare	Health Careers	
HVAC and Plumbing			HVAC	HVAC	
Law, Public Safety and Security		Air Force Jr. ROTC	1. Law, Public Safety & Security 2. Government & Public Service 3. Law & Public Safety 4. Forensics 5. Law & Public Safety	Criminal Justice	
Manufacturing			Machine Technology		
Marine Technology		Marine Trades		Marine Trades	
Television Production/Journalism			1. Journalism & Broadcasting 2. Television Production & Journalism		Television Production

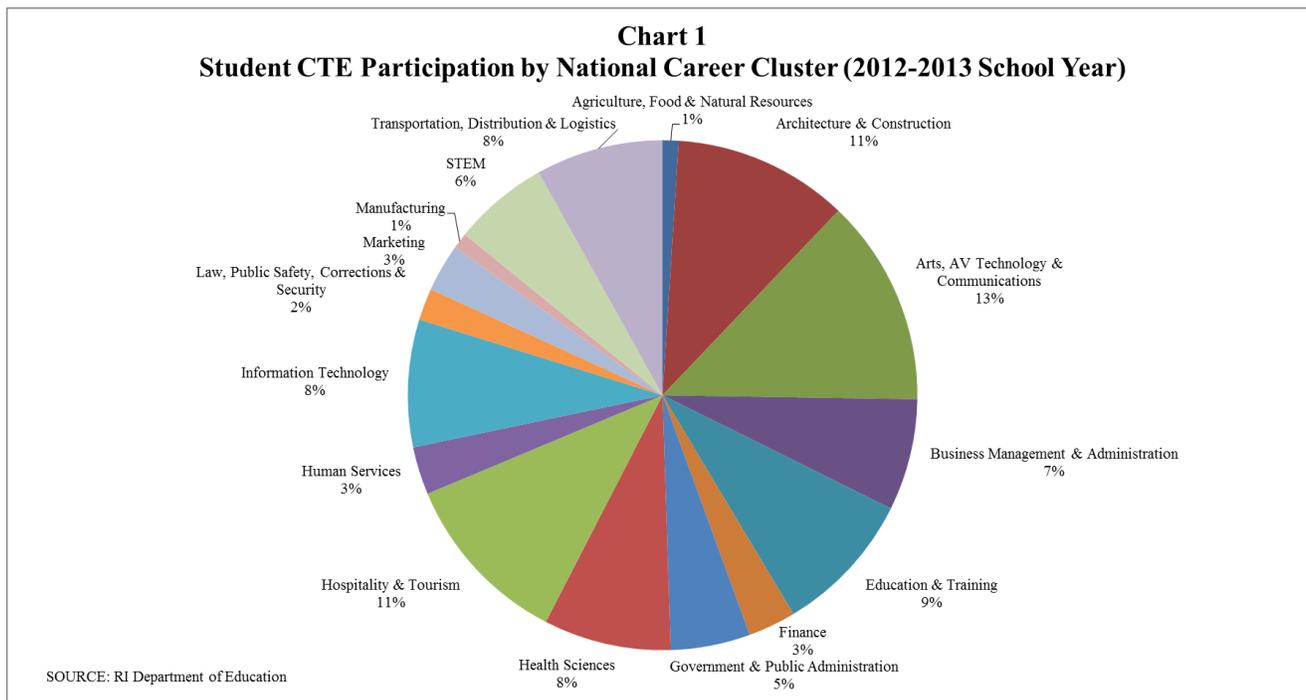
NOTE: This table lists programs offered at CTE regional centers and comprehensive high schools; The Met is not included in this analysis because it does not offer traditional CTE programming.

SOURCE: RI Department of Education

Table 6, which begins on page 18, lists the programs available in each of the state’s five transportation regions. This table includes programs offered at both CTE regional centers and comprehensive high schools located in each of the regions. Because students can attend any program located within their transportation region with their local district covering the cost of transportation, this may present a more accurate demonstration of the programs to which students have access.

Student Enrollment

According to RIDE data from the 2012-2013 academic year, the greatest percentage of CTE students were enrolled in programs classified as belonging to the Arts, A/V Technology & Communications career cluster. The next two national career clusters with the greatest enrollment were Architecture & Construction and Hospitality & Tourism. Chart 1 presents a breakdown of the percentage of CTE students enrolled in programs based on their national career cluster designation during the 2012-2013 academic year. This information provides an approximation of student interest in different CTE programs as well as the availability of these programs



RIDE also maintains data on student enrollment at each of the state’s regional CTE centers and comprehensive high schools with CTE programs. During the 2013-2014 academic year, the CTE center with the largest total enrollment (excluding The Met) was the Cranston Area Career and Technical Center, which had 617 total students enrolled including 176 completers followed by Davies with 608 total students including 159 completers. Tables 7 and 8 display total student enrollment at each of the CTE regional centers and comprehensive high schools with CTE programs respectively, for the 2013-2014 academic year. They also display the number of student enrollment by participants, concentrators, and completers (the definitions of each student category are included on page 12 of this report).

Table 7
CTE Enrollment at Regional CTE Centers
2013-2014 Academic Year

CTE Center	Participants	Concentrators	Completers	Total Enrollment
Chariho	204	172	127	503
Coventry	148	139	97	384
Cranston	236	205	176	617
Davies	229	220	159	608
East Providence	229	206	56	491
Newport	116	80	20	216
Providence	159	290	79	528
Warwick	230	117	82	429
Woonsocket	277	203	123	603
Total	1,828	1,632	919	4,379

NOTE: The Met is not included in this analysis because it does not offer traditional CTE programming; Data was self-reported to the Rhode Island Department of Education and may not be complete.

SOURCE: RI Department of Education

Table 8
CTE Enrollment at Comprehensive High Schools
2013-2014 Academic Year

High School	Participants	Concentrators	Completers	Total Enrollment
Academy for Career Exploration	38	1	31	70
Barrington High School	38	12	0	50
Burrillville High School	7	19	0	26
Central Falls High School	41	17	24	82
Central High School	29	25	32	86
Cooley Health and Science Technology High School	0	0	41	41
Hope Academy	174	39	93	306
Walsh School for the Performing and Visual Arts	53	106	32	191
Lincoln High School	156	84	15	255
Mount Pleasant High School	15	16	13	44
Mt. Hope High School	80	23	0	103
Portsmouth High School	147	38	24	209
Shea Senior High School	10	0	17	27
Smithfield High School	175	81	40	296
Tolman High School	88	93	85	266
West Warwick High School	0	37	19	56
Total	1,051	591	466	2,108

NOTE: Data was self-reported to the Rhode Island Department of Education and may not be complete.

SOURCE: RI Department of Education

Curriculum and Credentials

This section examines how many Rhode Island students completing a CTE program sequence earned industry-recognized credentials, postsecondary credit, or advanced standing in a registered apprenticeship or training program. RIDE policy states that all RIDE-approved programs must offer students the opportunity to earn one or more of these types of credentials. Table 9 displays the UCOA program categories used by RIDE, the credentials issued for each program, as well as the institution that issues the credential. It should be noted that it is unknown how many of each credential are issued annually or which programs offer credentials.

UCOA Program Categories	Credentials	Issuing Body
Arts (Visual & Music/Theatre & Performing Arts/Drama)	NOTIC Performing Arts Assessment	National Occupational Competency Testing Institute
	NOTIC Visual Arts Assessment	National Occupational Competency Testing Institute
Automotive (Diesel Tech. Collision Repair, Transportation & Aviation)	ASE Student Certification	National Institute for Automotive Service Excellence
	Certified Alldata Information Specialist	Alldata
	I-CAR	Inter-Industry Conference on Auto Collision Repair
	FAA Written Pilot's Exam	FAA
Biotechnology	NOCTI Agricultural Biotechnology Assessment	National Occupational Competency Testing Institute
Business Education (Entrepreneurship, Finance, Academy, Marketing)	AKS Concepts of Entrepreneurship and Management	Institute for the Assessment of Skills and Knowledge of Business (AKS Business Institute)
	AKS Concepts of Finance	Institute for the Assessment of Skills and Knowledge of Business (AKS Business Institute)
	AKS Fundamental Business Concepts	Institute for the Assessment of Skills and Knowledge of Business (AKS Business Institute)
	AKS Fundamental Marketing Concepts	Institute for the Assessment of Skills and Knowledge of Business (AKS Business Institute)
	NOCTI Accounting Advanced & Basic Assessment	National Occupational Competency Testing Institute
	NOCTI Accounting-Basic Assessment	National Occupational Competency Testing Institute
	NOCTI Business Financial Management Assessment	National Occupational Competency Testing Institute
	NOCTI Financial and Investment Planning Assessment	National Occupational Competency Testing Institute
Child Development and Education (Child Studies, Development, Early Childhood Learning)	NOCTI General Management Assessment	National Occupational Competency Testing Institute
	Child Development Associate Certification (CDA)	Council for Professional Recognition
	NOCTI Early Childhood Education and Care-Advanced Assessment	National Occupational Competency Testing Institute
	NOCTI Education and Training Assessment	National Occupational Competency Testing Institute
	Paraprofessional Assessment	Educational Testing Service
Computer Technology Systems (Cisco Academy, Computer & Game Design Tech, Interactive Digital, Media, Info Tech, Business Technology)	Rhode Island Early Learning and Development (RIELDS) Foundations Certificate	Rhode Island Department of Education
	CompTIA	CompTIA
	Cisco Certified Entry Networking Technician	Cisco
	Cisco Certified Technician	Cisco
	Internet and Computing Core Certification	Certiport
	NOCTI Business Information Processing Assessment	National Occupational Competency Testing Institute
Construction (Carpentry, Solar Heating, Facilities Management)	NCCER Level 1 & Level 2	National Center for Construction Education and Research
	NCEER Level 3	National Center for Construction Education and Research
	Code Council Certification	International Code Council
Cosmetology	RI Cosmetology Licenses	Rhode Island Department of Health
Culinary Arts and Hospitality (Travel & Tourism, Baker, Food Services, Hospitality, Pastry Arts)	ACF Certification	American Culinary Federation
	NOCTI Hospitality Management-Lodging Assessment	National Occupational Competency Testing Institute
	ProStart National Certificate of Achievement	National Restaurant Educational Foundation
	ServSafe Alcohol Certificate	National Restaurant Educational Foundation
	ServSafe Food Handler Certificate	National Restaurant Educational Foundation
	ServSafe Food Protection Manager Certification	National Restaurant Educational Foundation
Drafting (Architectural Design, Technology, CAD)	ADDA Certified Drafter	American Design Drafting Association
	Autodesk Certified User	Autodesk
	NOCTI CAD Assessment	National Occupational Competency Testing Institute
	NOCTI CAD-CAM Assessment	National Occupational Competency Testing Institute

Table 9 Continued
RIDE-Recognized CTE Credentials and Issuing Body

Electricity	NCCER Level 1 & Level 2	National Center for Construction Education and Research
	NCCER Level 3	National Center for Construction Education and Research
Engineering (Pre-Engineering, Electronics & Robotics)	Autodesk Certified User	Autodesk
	CompTIA	CompTIA
	ETA Certificates	Electronics Technicians Association, International (ETA)
	ISCET Electronics System Associate Levels 1-4	International Society of Certified Electronics Technicians
	NOCTI Pre-Engineering/Engineering Technology Assessment	National Occupational Competency Testing Institute
Environmental and Life Sciences (Includes Agriculture & Aquaculture)	NOCTI Natural Resources System Assessment	National Occupational Competency Testing Institute
	NOCTI Agricultural Biotechnology Assessment	National Occupational Competency Testing Institute
Fashion Merchandising	NOCTI Retail Merchandising Assessment	National Occupational Competency Testing Institute
	NRFF National Professional Certification in Sales	National Retail Federation Foundation
	NRFF National Professional Certification in Retail Management	National Retail Federation Foundation
	NRFF Professional Retail Business Credential	National Retail Federation Foundation
Graphic Design (Includes Digital Printing, Advertising Design & Digital Tech, Digital Media Production)	Adobe Certified Associate	Adobe
	Autodesk Certified User	Autodesk
	NOCTI Audio-Visual Communications Assessment	National Occupational Competency Testing Institute
	PrintEd	Graphic Arts Education and Research Foundation (GAERF)
Health Careers	Rhode Island Healthcare Licenses	Rhode Island Department of Health
HVAC and Plumbing	EPA Section 608 Technician Certification	ESCO Institute
	HVAC Excellence Certification	HVAC Excellence
	NCCER Level 1 & Level 2	National Center for Construction Education and Research
	NCCER Level 3	National Center for Construction Education and Research
Law, Public Safety and Security (Criminal Justice, Forensics)	NOCTI Criminal Justice Assessment	National Occupational Competency Testing Institute
	NOCTI Protective Services Assessment	National Occupational Competency Testing Institute
	NOCTI Security and Protective Services Assessment	National Occupational Competency Testing Institute
Manufacturing (Machine Technology)	NIMS Credential	National Institute for Metalworking Skills Credential (NIMS)
Marine Technology	NCCER Level 3	National Center for Construction Education and Research
	ASE Student Certification	National Center for Construction Education and Research
	NCCER Level 1 and Level 2	National Center for Construction Education and Research
Television Production/ Journalism	NOCTI Broadcasting and Journalism Assessment	National Occupational Competency Testing Institute
	NOCTI Television Production Assessment	National Occupational Competency Testing Institute

Source: RI Department of Education

Industry-Recognized Credentials (IRC)

According to RIDE, a recognized credential is defined as a specialized subset of certificates and provides portable, meaningful documentation that a student has mastered an industry-recognized and validated range of skills, met necessary training and education requirements, and demonstrated readiness to enter a specific industry. According to data provided by RIDE, 652 CTE students earned an industry-recognized credential during the 2013-2014 academic year.³ RIPEC was unable to determine which IRCs, and the number of each IRC, that were awarded to students based upon the data provided by RIDE.

Postsecondary Credits

RIDE defines postsecondary credits as credits that students earn through a district, school or program-guided agreement that includes dual enrollment, concurrent enrollment, AP and/or IB credit while enrolled in the program of study. These credits can often be applied by students towards their overall credit requirements or to waive introductory courses when they enroll in higher education. According to RIDE, 833 CTE students earned postsecondary credits during the 2013-2014 academic year.⁴ RIPEC was unable to determine which postsecondary institutions awarded credit based upon the data that was provided by RIDE.

³ Excludes The Met School.

⁴ Note that students may have earned multiple postsecondary credits; this number excludes The Met School.

Table 10
Credentials Earned by CTE Completers Before Graduation
2013-2014 Academic Year

CTE Center or High School	Number of Completers	Earned IRC*	Earned Postsecondary Credits	Earned Advanced Standing
Academy for Career Exploration	31	0	31	0
Central Falls High School	24	0	0	0
Central High School	32	0	9	0
Chariho CTE Center	127	115	126	44
Cooley Health and Science Technology High School	41	0	23	0
Coventry CTE Center	97	77	78	0
Cranston CTE Center	176	92	175	0
Davies CTE Center	159	147	117	30
East Providence CTE Center	56	42	41	0
Hope Academy	93	0	3	0
Walsh School for the Performing and Visual Arts	32	0	0	0
Lincoln High School	15	0	0	0
Mount Pleasant High School	13	5	9	0
Newport CTE Center	20	6	0	0
Portsmouth High School	24	0	0	0
Providence CTE Center	79	26	67	23
Shea Senior High School	17	0	0	0
Smithfield Senior High School	40	21	8	0
Tolman High School	85	0	0	0
Warwick CTE Center	82	60	63	12
West Warwick High School	19	0	19	0
Woonsocket CTE Center	123	61	64	7
Statewide Total	1,385	652	833	116

*Industry-Recognized Credentials

NOTE: The Met is not included in this analysis because it does not offer traditional CTE programming; Data was self-reported to the Rhode Island Department of Education and may not be complete; Students may be counted in more than one category

SOURCE: RI Department of Education

Advanced Standing in a Registered Apprenticeship or Training Program

RIDE defines advanced standing in a registered apprenticeship program as a school or program-guided agreement whereby students qualify for credit toward a registered apprenticeship while enrolled in the program of study, thereby reducing the amount of time or hours required to complete an apprenticeship. A high quality CTE program will provide opportunities for students to exit their program with advanced standing in a registered apprenticeship program. Ideally, the registered apprenticeship programs should align their programs to community college programs so that not only do students become registered apprentices, but they also acquire postsecondary education credits. According to RIDE, 116 CTE students earned advanced standing in a registered apprenticeship program during the 2013-2014 academic year.⁵ RIPEC was unable to determine the registered apprenticeship or training programs that students have earned credit towards based on the available data provided by RIDE.

Most of the CTE programs available in Rhode Island utilize at least some portion of national program curricula when one is available and depending on teacher expertise and certification. Programs that hold national accreditation, such as those provided by the National Automotive Technicians Education Foundation (NATEF) or the National Center for Construction Education and Research (NCCER), are required to adhere to the full industry-certified curriculum or they may lose their accreditation status.

⁵ Excludes The Met School.

However, the data available does not provide enough detail to determine which programs aside from those that are nationally accredited use portions or certain levels of the national curriculum. As the tables in this report indicate, program titles alone do not explain the variation in curriculum and levels, content hours and outcome metrics. Curriculum alignment may be lacking due to locally determined school schedules, number of contact hours per program and levels of curriculum available to students. A deeper analysis and inventory of the career preparation programs throughout the state will provide more details on the use of national curriculum, credentials earned and articulation agreements with institutions and the number of credits students can receive.

Work-Based Learning

All programs should offer students work-based learning opportunities for all students. Currently students’ ability to participate in work-based learning is limited by geography or transportation. For example, one program director explained to RIPEC that they can only offer students internships that are located on a bus line. Participating in work-based learning opportunities is an essential component of a high quality CTE program because it gives students exposure to their career interest in the workplace. The state should explore ways to expand access to work-based learning, such as internships, where students gain work experience in their career interest. Faculty externships should also be available to assist faculty to stay current in their field and experience workplace changes first hand.

Funding

Rhode Island CTE programs receive funding from four primary sources:

Federal Carl D. Perkins Act Funds

One source of funding for CTE programs in Rhode Island is the federal Carl D. Perkins Career and Technical Education Act of 2006. Federal funding provided under the Carl D. Perkins Act is intended to assist the state in its efforts to develop more fully the academic, career and technical skills of secondary and postsecondary students enrolled in CTE programs. Under the terms of the Act, the state is required to report certain information to the U.S. Department of Education to demonstrate accountability. The eight accountability measures for secondary schools are listed below:

- Academic Attainment in Reading/Language Arts;
- Academic Attainment in Mathematics;
- Technical Skill Attainment;
- School Completion;
- Student Graduation Rates;
- Placement;
- Nontraditional Participation; and
- Nontraditional Completion

Administration (5%)	\$274,737
Leadership (10%)	\$549,475
Secondary, Postsecondary, and Adult Programs (85%)	\$4,670,538
Total Allocation	\$5,494,750
SOURCE: RI Department of Education	

In FY 2014, Rhode Island received a total of \$5.5 million from the federal government through the Perkins Act. Funds received through the Perkins Act are allocated for three main purposes:

- Administration: 5 percent of funds are reserved for administrative costs associated with administering the Perkins Act. These funds are used by RIDE to develop the state plan required under the Perkins Act, to develop and implement the CTE accountability system, and to provide staffing necessary for operating the program. In FY 2014, the administration share of Perkins funds totaled \$274,737.
- Leadership: 10 percent of funds are allocated to RIDE for nine activities required under the Perkins Act. Examples of these activities include: funding programs for special populations, funding career training programs for incarcerated individuals, expanding the use of technology in CTE programs, conducting assessments to examine how the needs of special populations are being met by the CTE system, providing professional development opportunities to CTE teachers, and providing opportunities for students to enter nontraditional fields. In addition to funding required activities, these funds may be used for other permissible activities as permitted under the Perkins Act. In FY 2014, the leadership share of Perkins funds totaled \$549,475.
- Secondary, Postsecondary, and Adult Programs: 85 percent of funds are to be used to fund CTE programs at secondary or postsecondary institutions as well as adult training programs. Funds for secondary institutions are allocated to each of the ten CTE regions. After the funds are allocated to each CTE region, the school superintendents and the director of the CTE center for that region meet to determine the final distribution of funds. Generally, the majority of funds remain with the CTE center because it has the most CTE programming. However, individual school districts may receive funding to start new programs or make improvements to existing programs. This category of funding is also used to operate postsecondary programs at the Community College of Rhode Island (CCRI) and adult vocational training programs. In FY 2014, this category of Perkins funding totaled \$4,670,535. Table 12 displays the amount of Perkins Act funding that each of the ten CTE regions was allocated in FY 2014; it should be noted that this does not reflect the final distribution of these funds.

State Categorical Funding

A second source of funds for CTE programs is state categorical funding. For the last three fiscal years, the General Assembly has appropriated CTE categorical funds. The largest portion of these funds has been designated to offset LEA burdens for operating high-cost, RIDE-approved career preparation programs. The remainder of the categorical funds has been designated to help schools meet initial investments to create, expand, or improve CTE programs in support of high-priority industry sectors. In FY 2014, the General Assembly appropriated \$3.0 million in CTE categorical funding. Of this total, \$2,371,388 was allocated to offset high-cost programs while \$285,000 was allocated for programs in three industry sectors

**Table 12
RI CTE Regions Allocation of
Perkins Act Funds (FY 2014)**

CTE Region	Amount
Chariho	\$202,022
Coventry	\$212,414
Cranston	\$402,419
Davies	\$657,618
East Providence	\$242,830
The Met	\$30,549
Newport	\$192,240
Providence	\$1,119,354
Warwick	\$301,868
Woonsocket	\$422,797
Total Secondary Allocation	\$3,784,111

SOURCE: RI Department of Education

**Table 13
RI Charter School Allocation of Perkins
Act Funds (FY 2014)**

Charter School	Amount
The Greene School	\$2,701
Blackstone Academy	\$5,931
RIMA Blackstone Valley	\$31,794
Engineering Early College Academy	\$4,354
Highlander	\$16,084
Nowell Academy	\$4,374
Paul Cuffee	\$27,817
RI Nurses Institute	\$10,999
Village Green Virtual	\$9,646
Beacon Arts	\$5,713
Trinity Academy	\$7,493
Total Charter Allocation	\$126,906

SOURCE: RI Department of Education

(information technology, advanced medical careers, and pre-engineering/robotics). Table 14 displays the amount of state categorical funding that LEAs and CTE centers received to make investments in high priority programs while Table 15 displays the amount that LEAs and CTE centers received in state categorical funding in FY 2014 to offset the cost of high cost programs.⁶ The funding totals displayed in Table 14 represent the second year of a two-year award process.

Per Pupil Expenditures (Funding Formula):

A third source of funds is provided by the state to LEAs through the state funding formula to cover core academic costs. The formula, which was adopted in 2010, utilizes three key components to determine the amount of state funding that an LEA receives. The three components of the funding formula are the foundation amount, which is intended to represent the funds needed for a prototypical Rhode Island student to succeed, the “student success factor,” which accounts for additional supports needed by students, and the state share ratio, which takes into account each LEA’s wealth and ability to generate revenue.

Funds from Sending Districts

A key component of the state funding formula is the concept that the “money follows the student” - in other words, LEAs receive funding on the basis of their student population. This is an especially important consideration for students that enroll in CTE programs located outside of their home district. When a student chooses to enroll in a CTE program at a school outside of their home district, funds provided by the state, as well as local funds, follow the student to their new school district. The state funding formula alone does not provide sufficient funds to cover the cost of students enrolling in CTE.

**Table 14
RI CTE State Categorical Funding for High
Priority Programs (FY 2014)**

LEA	Amount
<i>Information Technology</i>	
Coventry CTE Center	\$25,000
East Providence CTE Center	\$25,000
Pawtucket (Tolman HS)	\$25,000
<i>Advanced Medical</i>	
Davies CTE Center	\$25,000
Lincoln	\$20,000
Providence (Juanita Sanchez HS)	\$25,000
<i>Pre-Engineering/Robotics</i>	
Bristol-Warren (Mt. Hope HS)	\$25,000
Cumberland	\$15,000
Foster-Glocester (Ponaganset HS)	\$25,000
North Kingstown	\$25,000
North Smithfield	\$25,000
Providence (PCTA)	\$25,000
Total	\$285,000

SOURCE: RI Department of Education

**Table 15
RI CTE State Categorical Funding for High
Cost Programs (FY 2014)**

LEA	Amount
Academy for Career Exploration	\$4,464
Barrington	\$3,274
Bristol-Warren	\$16,168
Burrillville	\$12,282
Central Falls	\$47,970
Charlho CTE Center	\$194,294
Coventry CTE Center	\$152,634
Cranston CTE Center	\$175,650
Davies CTE Center	\$357,105
East Providence CTE Center	\$149,984
Lincoln	\$33,945
The Met	\$329,982
Newport CTE Center	\$71,478
Pawtucket	\$40,333
Portsmouth	\$4,399
Providence	\$378,138
Smithfield	\$39,830
Warwick CTE Center	\$109,940
West Warwick	\$15,721
Woonsocket CTE Center	\$233,747
Total	\$2,371,338

SOURCE: RI Department of Education

⁶ Note: The FY 2014 total adds to less than \$3.0 million because several programs in high-priority sectors received funding in FY 2013 against anticipated funds from FY 2014.

**Table 16
CTE Funding by Source**

LEA	Perkins FY14 Allocation*	FY13 Net Per Pupil Expenditures**	FY14 Categorical
Academy for Career Exploration	N/A	\$16,138	\$4,464
Barrington	\$39,751	\$14,044	\$3,724
Bristol Warren	\$68,332	\$15,075	\$16,193
Burrillville	\$50,018	\$13,356	\$12,282
Central Falls	\$107,653	\$17,026	\$47,970
Chariho	\$57,070	\$16,403	\$194,294
Coventry	\$90,809	\$13,931	\$152,659
Cranston	\$257,947	\$14,036	\$175,650
Cumberland	\$71,768	\$12,140	\$15,000
Davies Career and Technical High School	\$24,982	\$18,300	\$357,130
East Greenwich	\$30,006	\$14,573	
East Providence	\$134,747	\$13,839	\$150,009
Exeter-West Greenwich	\$27,828	\$19,429	
Foster	\$6,414	\$15,063	
Foster-Glocester	\$17,674	\$16,181	\$25,000
Glocester	\$10,972	\$16,276	
Jamestown - Note	\$17,826	\$17,930	
Johnston	\$82,020	\$16,994	
Little Compton - Note	\$7,454	\$18,669	
Lincoln	\$55,286	\$16,454	\$33,965
The MET	\$30,549	\$17,094	\$329,982
Middletown	\$39,339	\$15,163	
Narragansett	\$24,144	\$18,887	
Newport	\$74,614	\$19,182	\$71,478
New Shoreham	\$2,402	\$42,527	
North Kingstown	\$73,250	\$14,894	\$25,000
North Providence	\$82,125	\$14,899	
North Smithfield	\$26,551	\$13,825	\$25,000
Pawtucket	\$315,796	\$13,098	\$40,358
Portsmouth	\$38,043	\$14,728	\$4,399
Providence	\$1,036,339	\$16,332	\$378,188
Scituate	\$27,392	\$14,264	
Smithfield	\$34,051	\$14,888	\$39,830
South Kingstown	\$57,034	\$17,828	
Tiverton	\$32,790	\$15,963	
Warwick	\$185,557	\$17,496	\$109,940
Westerly	\$61,372	\$18,506	
West Warwick	\$86,305	\$15,204	\$15,721
Woonsocket	\$268,747	\$12,808	\$233,747

*Represents the allocation of Perkins Act funds; not the final distribution

**Represents per pupil expenditures for all students in the school district

Note- Jamestown and Little Compton do not have high schools and pay tuition to send their students in grades 9-12 to high schools in other communities. This results in higher per pupil expenditure costs since ADM (Average Daily Membership) does not capture these students. Tuition payments are, however, included in the total expenditures. Adding the RADM (Resident Average Daily Membership) for these high school students going outside the district, the per-pupil expenditure in these districts is as displayed in this table.

Source: RI Department of Education

Career and Technical Education Demand – Industry and Employer Needs

To better understand which industry sectors may have the greatest demand for Rhode Island’s career and technical education system in the coming years, RIPEC has examined the sectors that several organizations have identified as priorities. These sectors do not represent the entirety of economic opportunity in future years, but they represent those parts of the economy that each group has highlighted as holding potential for future employment growth based on past trends and future projections. This report includes a matrix designed to show the industry sectors that each organization considers important to future economic growth in an attempt to demonstrate the demand that Rhode Island’s career and technical education system will be expected to meet in the coming years.

Table 17
Rhode Island High Priority Industry Sectors from Selected Sources

National Career Clusters	Governor’s Workforce Board	Commerce RI/ Fourth Economy	Governor Raimondo Jobs Plan
Agriculture, Food, and Natural Resources	Biosciences	Advanced Marine Vehicle	Advanced Manufacturing
Architecture and Construction	Construction	Biotextiles	Food Sciences
Arts, A/V Technology, and Communications	Defense	Culture, Fitness and Recreation	Health Sciences
Business Management and Administration	Health Care	Financial Services	Marine Industries
Education and Training	Hospitality and Tourism	Knowledge Providence	Tourism and Hospitality
Finance	Information Technology	Ocean and Defense Industries	
Government and Public Administration	Manufacturing	State Port Assets	
Health Science	Marine Trades	Tourism	
Hospitality and Tourism			
Human Services			
Information Technology			
Law, Public Safety, Corrections, and Security			
Manufacturing			
Marketing			
Science, Technology, Engineering, and Mathematics			
Transportation, Distribution, and Logistics			

SOURCE: National Career Clusters; Governor’s Workforce Board; Commerce RI; Fourth Economy Consulting; Gina Raimondo for Governor: Jobs Plan

The Governor’s Workforce Board, a governmental entity which partners with private sector employers to provide training grants and other programs designed to improve workforce development, has industry partnerships with seven sectors that it believes are particularly crucial to the state’s economic future. These sectors are bioscience, construction, defense, health care, hospitality (and tourism), manufacturing, and marine trades.

Rhode Island’s primary state economic development agency is the Rhode Island Commerce Corporation (formerly the Rhode Island Economic Development Corporation), or Commerce RI. The agency provides a variety of services to businesses located in the state or seeking to relocate to the state and conducts analysis of past and future economic trends. Commerce RI has identified five general industry sectors as having particular importance; these sectors are financial services, knowledge providence (representing research-based industries such as science, health care, and education), ocean and defense industries, state port assets, and tourism.

In addition to Commerce RI’s own highlighted industries, the agency also commissioned an economic report from the consulting group Fourth Economy. The final report by Fourth Economy, issued early in 2014, identified three market clusters that represent economic opportunities for the state. The three clusters are advanced marine vehicles, biotextiles, implants, and devices, and culture fitness and recreation.

A final source of information on industry sectors analyzed by RIPEC was the Jobs Plan issued by Governor Gina Raimondo when she was seeking election. In her plan, five industry sectors were identified as holding promise for employment growth in the future. These five sectors were advanced manufacturing, food sciences, health sciences, marine industries, and tourism and hospitality.

Alignment - Responsiveness to the Rhode Island Labor Market

Governor Raimondo, the GWB, Commerce RI and others have identified priority high-growth, in-demand industry sectors that should be the focus of the state’s education and training programs. As Table 18 illustrates, these different sources provide some degree of consensus in terms of the industries that they believe are important to Rhode Island’s economic future. In addition to the entities in the matrix, there are other agencies and programs that train individuals in some of the high growth sectors and should be included in the system alignment. These agencies and programs include Adult Education, Corrections, WIA funded programs and Job Corps.

Table 18
Alignment of Rhode Island High Priority Industry Sectors from Selected Sources

Governor's Workforce Board	Commerce RI/ Fourth Economy	Governor Raimondo Jobs Plan
x (Marine Trades) x (Construction)	x (Ocean and Defense Industries/State Port Assets; Advanced Marine Vehicle)	x (Marine Industries/Food Science)
	x (Financial Services)	
x (Health Care) x (Hospitality and Tourism)	x (Tourism; Culture, Fitness and Recreation)	x (Health Sciences) x (Tourism and Hospitality)
x (Information Technology) x (Defense) x (Manufacturing)	x (Ocean and Defense Industries)	x (Advanced Manufacturing)
x (Biosciences)	x (Knowledge Providence; Biotextiles)	

SOURCE: Governor's Workforce Board; Commerce RI; Fourth Economy Consulting; Gina Raimondo for Governor: Jobs Plan

Currently, Rhode Island has career preparation programs in all of the identified high priority sectors, but students may not be able to access the programs due to variations in delivery models, schedules, contact hours and transportation issues. In addition, further research should be conducted to determine if Rhode Island has the right mix of CTE programs to meet the needs of employers in the state and the interests of students. One barrier to fully understanding which industry sectors are high-priority is the lack of common definitions between each source of information. For the purposes of this report, RIPEC attempted to group similar industries together.

Table 19
CTE Program Availability for High Priority Industry Sectors

Program Category	1	2	3	4	5	Transportation Regions with Access
Biotechnology	x		x			2 of 5
Construction	x	x	x		x	4 of 5
Finance			x			1 of 5
Information Technology	x	x	x	x	x	5 of 5
Health Care	x	x	x	x		4 of 5
Hospitality and Tourism	x	x	x	x		4 of 5
Manufacturing			x			1 of 5
Marine Trades		x		x		2 of 5

Note: An "x" indicates that a CTE program in the listed program category is offered at a CTE center within the transportation region.

SOURCE: RI Department of Education

Table 19 illustrates the availability of CTE programs in selected high-priority industry sectors within each transportation region. If a CTE program in the high-priority industry sectors listed in each row exists at a CTE center located in the transportation region listed in the column, then an “x” is indicated. As this data indicates, program access varies between the different transportation regions. For instance, students living in any of the five transportation regions have access to an information technology program within their region. By contrast, only students living in transportation region 3 have access to a manufacturing program within their region. Furthermore, data limitations mean that program quality is unclear even in those instances where students have access to a particular program.

Summary

Enhancing the quality of public education systems, specifically career and technical education (CTE), is a critical step towards improving a region's workforce. While important strides have been made in recent years to improve Rhode Island's CTE system, including the new set of 2012 CTE regulations; publicly reported indicators suggest that there is a need to reform Rhode Island's approach to its CTE system. Legislation recently enacted by the General Assembly (H8204 Sub A as amended) promotes further focus on career and technical education in Rhode Island.

The data provided by RIDE included in this report suggests an opportunity to improve the quality, efficiency and effectiveness of the limited resources that exist for CTE. While the programs may (or may not) meet the needs of students, the diffuse and duplicative nature of the statewide programs makes it challenging for the employer community to provide direct resources and input concerning the ways in which these programs can meet labor market demands. Rhode Island can, and must, do more to improve this critical component of its public education system by elevating and improving the alignment, collaboration, accountability and innovation of Rhode Island's CTE system.

The data and information presented in this report suggests a need for further analysis of the current secondary and postsecondary CTE system. The board will also need to determine the future direction for the state to grow and expand CTE to meet the state's labor market needs especially in high-priority areas.

Due to the absence of common definitions and terminology, lack of in-depth knowledge about the curriculum and assessments used in each program, an incomplete picture of the CTE programs currently exists. Also, the variation in school schedules, number of contact hours per program and travel time back and forth makes it difficult to provide a well-informed description of the supply of CTE programs. A deeper analysis of the rigor and metrics for each program is also required in order to determine program quality across the state that might influence program availability. More details and further analysis are required before informed decisions about access, availability and quality of career preparation programs within CTE and transportation regions can be made. The Board of Trustees should also explore other methods of data collection to replace the primarily self-reported data that is currently used by RIDE.

There are at least three main areas that the Board of Trustees should focus on addressing as they begin their work:

Funding

There are several questions regarding funding for CTE programs that the Board of Trustees should consider as it seeks to improve the state's existing system. Is the current level of funding provided for programs sufficient to operate a high-quality CTE system that is responsive to student and employer needs? In addition, is existing funding being used in the most efficient and effective manner? Should incentives be put in place to overcome the barriers of funding, scheduling and transportation to create, expand and improve a comprehensive CTE system that is aligned to the needs of students, the business community and industry? The Board of Trustees should conduct further analysis of all available funding streams for the CTE system.

Alignment

The current education and workforce system is fragmented and not always aligned. A comprehensive CTE system needs to foster collaboration and coordination between secondary, adult and postsecondary education and training. In addition, a highly effective CTE system must engage business and industry as partners with CTE programs to design and implement high quality career and technical education. Is the

ongoing development of the state's Workforce Innovation and Opportunity Act unified plan an opportunity to encourage a blended model and to ensure alignment of all programs and services?

Employer Involvement

The state's CTE system is designed to provide students with the opportunity to earn credentials that will assist them as they seek employment after graduating from high school. It is also intended to ensure that the state's workforce has the skills necessary to meet the needs of employers. At the present time, it is difficult to determine the level of involvement that the business community has in shaping the CTE system. What steps can be taken to increase business community and employer involvement in the design and implementation of CTE programs?