Roadmap to Success

A Virginia Peninsula Strategic Plan for Career Pathways in Advanced and Precision Manufacturing Technologies

2012 - 2016

PENINSULA COUNCIL
For Workforce Development

Thomas Nelson
COMMUNITY COLLEGE

ROADMAP TO SUCCESS!

Virginia Peninsula Strategic Plan for Career Pathways in Advanced and Precision Manufacturing Technologies 2012 – 2016

I. BACKGROUND

In August 2010, the Virginia Peninsula was selected as one of three regions statewide to receive a **Career Pathways Demonstration Grant** by the Virginia Community College System to model the development of an integrated and coordinated career pathways system serving a primary high employment sector in the region. Funded by the Ford Foundation, the $75,000 Peninsula grant focused on the development of a comprehensive strategic plan for career pathways through a public-private partnership that engages the region's key stakeholders: businesses, secondary and higher education, adult education, workforce development and economic development.

The Region

The grant required each applicant to define its region for purposes of targeting primary sectors and key partners for a successful pilot project. The stakeholders defined the Greater Virginia Peninsula as the pilot region based on a history of region-wide business-education partnerships:

- The Virginia Peninsula contains six contiguous localities bordered on three sides by water—Cities of Hampton, Newport News, Poquoson and Williamsburg and the Counties of York and James City—and later added a seventh adjacent locality, Gloucester County, which also lies in Local Workforce Investment Area (LWIA) XIV.
- The Virginia Peninsula is the service region for the largest public postsecondary and workforce training institution in the area, Thomas Nelson Community College (TNCC), serving 17,000 credit and 13,000 noncredit students annually.
- It is the service district for the jointly operated regional education center, New Horizons Regional Education Centers (NHREC), and provides, among other services, technical and apprenticeship training for the six school districts in LWIA XIV.
- The Virginia Peninsula has a long-established history of public-private business and education partnerships that have won grants and earned national recognition for outcomes from the U.S. Department of Labor, the National Science Foundation, the U.S. Department of Education, the National Association of Workforce Boards and others.
- The six contiguous localities of the Virginia Peninsula entered into a 20-year partnership with the Virginia Community College System to build and fund a workforce center in Hampton, the Peninsula Workforce Development Center (PWDC), which in its 10th year, has served more than 40,000 individuals a year with training courses and services.
- The localities had a long standing, on-going partnership to collaboratively operate the region's one-stop system, known as Peninsula Worklink, which had consistently achieved or exceeded all its performance measures.

- The region's six public schools districts formed an active Regional Career and Technical Advisory Committee in 2003 and established dynamic and diverse individual system Career Pathways Plans coordinated with local industry through their Tech Prep Consortium.

Targeted Sector

Coordinated by the Peninsula Council for Workforce Development (PCFWD) and TNCC, the project focused on developing a sector-driven strategic planning initiative in manufacturing. The sector estimated 20,000 jobs would open over five years, 2012 to 2016. Specifically:

- 5 manufacturing firms announced relocation or expansion plans adding 5,000 skilled jobs
- 15,000 high skilled workers in precision manufacturing are slated to retire in this period

In private meetings with TNCC and PCFWD, individual companies expressed concern that potential workers lack the skills to gain jobs in advanced manufacturing. Moreover, they said the current workforce system is not geared to develop the range of skills needed to succeed.

The Targeted Population

The Virginia Peninsula is a region heavily impacted by reduction of jobs in the defense industry and by shifts of low skilled jobs overseas. A potential workforce was estimated to be up to 65,000 individuals that are low-skilled or whose skills do not match those needed for the new positions. For example, studies indicated the following data for the region:

- 35,000 residents seek work annually through the one-stop center (Peninsula Worklink)
- 50,000 Peninsula residents between ages 18 and 65 lack high school credential (VDOE)
- 10,000 new military Veterans will retire and elect to live in the region 2012-2016 (DOD)

Skill Gap

Although there would be available jobs in the sector and an available workforce, the region had clear indications of a major mismatch between the workers and their skills and the jobs and the skills required for those jobs, such as:

- 8 of 10 community college applicants require remedial math, 6 of 10 remedial reading
- Employer interview-to-hire ratios of "qualified referrals" averaged 1 in 11 or more
- Two employer surveys report 8 of 10 new hires lack required skills in one or more areas
    - Applied Math
    - Literacy
    - Workplace Skills
    - Technical Skills

Moreover, the skill gap was heightened by the realization that multiple skill-sets were needed for each job and confusion existed among employers and educators over the levels required in each of

these skills sets for the specific careers, especially in areas were technology had vastly changed the nature of the work. The worldwide economic crises had severely impacted company training budgets and the resources of the workforce and education systems were already stretched following some ten years of budget reductions.

Regional Meetings

In April 2010, TNCC convened a forum of four major manufacturers with secondary, postsecondary and workforce organizations to discuss the rumored growth in manufacturing, the reported skill gaps and possible strategies. Educators and businesses had vastly differing perspectives on the nature and depth of the skill gaps and agreed on the need for additional information. All agreed that a public-private solution was needed to implement effective solutions and expressed a willingness to work together. In May 2010, the PCFWD and TNCC convened a meeting of these four manufacturers, five economic and workforce organizations, two colleges, six school systems and the regional technical high school, four GED programs and one middle college to develop a proposal to:

1. Form a public-private collaborative for Career Pathways in Manufacturing
2. Conduct a thorough labor market analysis to identify impending job needs and skill gaps
3. Convene stakeholders to develop a comprehensive Career Pathways Strategic Plan
4. Work together to coordinate systems and acquire and assign resources

The strategy would help align secondary and postsecondary systems, build competencies needed into appropriate education and training, and collaboratively engineer and reengineer pathways to be more than entry ways, but superhighways to continuing education and career advancement. Together the group would seek effective use of existing resources in filling competency requirements where possible and appropriate.

The proposal was funded in July 2010, and the region launched the Virginia Peninsula Career Pathways for Adults and Youth to Careers in Advanced and Precision Manufacturing Technologies, under the guidance of the Virginia Community College System and with the technical support of the Workforce Strategies Center in New York. Additional funding was obtained to establish a website linked to Virginia Wizard, and to conduct a second appendix study to quantify emerging STEM (Science Technology, Engineering and Math) careers.

The Collaborative

Participants forged and formalized the initiative by forming a Collaborative and by signing a shared grant application. The Peninsula manufacturers, public schools, colleges, universities and community partners committed to combining their knowledge and where possible sharing resources to support the planning effort to develop a collaborative regional approach to meet the demands of the 21st century workplace. The Virginia Peninsula Career Pathways Grant Collaborative Members include:

MANUFACTURING

Alcoa Power and Propulsion
Canon Virginia, Inc.
Liebherr-America, Inc.
Newport News Shipbuilding

EDUCATION

Thomas Nelson Community College
Old Dominion University
College of William and Mary
Hampton University
New Horizons Regional Education Centers
Public school systems of the Cities of Hampton, Newport News, Poquoson, combined Williamsburg-James City County and the Counties of Gloucester and York

ABE-GED

Hampton
Newport News
Williamsburg-James City County
Thomas Nelson Community College Middle College Program

ECONOMIC AND WORKFORCE DEVELOPMENT

Peninsula Council for Workforce Development
Hampton Roads Economic Development Alliance
The Greater Peninsula Workforce Investment Board
The Greater Peninsula Workforce Development Consortium
Peninsula Worklink One-Stop System

Initiating a Demand-side and Supply-side Comprehensive Labor Market Study

This pro-active, region-wide business-education collaborative was convened for the purpose of developing a high performing career pathway for a strong and growing manufacturing sector. The group developed requirements for a labor market study that would investigate to a greater depth than previous studies. Specifically the study would identify competency levels needed in seven skill-set areas that the employers identified as critical to the coming jobs:

- Foundation Skills-Communication: Reading and Writing Literacy (7 levels)
- Foundation Skills-Computation: Applied Math (7 levels)
- Workplace Skills: Soft Skills (5 SCANS categories)
- Technical Skills: Specific tools/equipment and techniques (18 categories)
- Technology Skills: Computer related literacy and applications (5 categories)
- Professional Skills: Work–related interpersonal competencies (9 categories)
- Science Skills (3 levels)

A request for proposal was issued and the planning team met to review two qualified proposals. SOAR, Inc. of North Carolina was selected by the team. Together the Collaborative worked with the researcher to develop the following methodology:

1. Compile and Review Existing Data: Data for employer review would be compiled as a starting point, using the O*NET USDOL data base, Weldon Cooper Center Demographic Data for the Commonwealth and its regions, WorkKeys Profiles on file with TNCC, and additional data from the Virginia Employment Commission.

2. Compile List of Top 20 Manufacturers: A list of the top 20 manufacturers on the Virginia Peninsula was obtained from the Hampton Roads Economic Development Alliance, specifically those employing 150 or more people.

3. Engage Employers from the CEO Level: The Collaborative would utilize a personal contact from the TNCC President to the CEO of each company to describe the opportunity of an aligned career pathway system on the Peninsula and engage them in participating in the study. Each CEO was asked to identify the appropriate source-point at each firm to provide a confidential and accurate accounting of the company's manpower needs.

4. Complete On Line Company Profile: The researcher then contacted the source point with a special access code to complete their individual company profile. In each case, the source-point took the lead within each firm to assure the data was complete. The size of the company, primary business, number of full and part time employees, and anticipating hiring need for each occupation was identified in detail in the first survey.

5. Conduct One-On-One In Depth Interviews: Following completion of the Company Profile, the researcher contacted each firm and conducted an in-depth interview with the company's manpower planner and/or team to clarify the findings and specific data needed to refine the second on-line survey.

6. Complete On-Line Survey of Skill-Set Competencies: A second survey consisted of identification of the jobs and the entry level and advancement skills needed in the seven skill-set areas, with specifics on the requirements and levels required for each skill.

7. Identification of the Major Workforce Providers: The Collaborative identified the top providers of education and training on the Peninsula working with the Greater Peninsula Workforce Development Consortium.

8. Conduct On-Line Survey of Providers: Providers were contacted and asked to complete an online survey of the specific competencies offered of those identified as required by the manufacturers, as well as the certifications, certificates and degree programs offered.

II. THE PENINSULA SKILLS TO SUCCEED INVENTORY – AN INDUSTRY NEEDS ASSESSMENT

The comprehensive labor market study, known as the Skills to Succeed Inventory and conducted between the Spring and Fall of 2011, focused on jobs in green and advanced technologies in manufacturing on the Virginia Peninsula from 2012 – 2016, including how changes in the economy and the emergence of green jobs will affect this sector. The data forms the roadmap to develop a strategic plan to align programs, including GED and Middle College, to assist high school students and adults into those employment opportunities with the right skill sets.

Sector Participation

Of the 20 top manufacturers targeted, 14 participated in the study (a 70% response rate). Moreover, those 14 manufacturing companies represented 89.5% of the private sector manufacturing workforce of 28,000 in the region. These employers represented the following subsectors:

- Food
- Fabricated Metal
- Industrial
- Machinery/Equipment
- Misc.

The primary work functions of these manufacturers are in the area of the following:

- Plant Operation and Production
- Engineering
- Management
- Welding and Fabrication
- Maintenance and Repair
- Design and Product Development

Sector Strength

The Virginia Peninsula manufacturing sector is strong and getting stronger. Of the 14 participating employers, 8 will maintain operations at the same level for the next 5 years and 6 predict operational expansions ranging from 8% to 25%. All employers report challenges in acquiring a skilled workforce, as well as advancing the skills of the current workforce. They also indicate that their greatest threat in maintaining sector strength is their inability to locate and hire workers with the requisite skills.

Job Openings

These employers specified 11,150 job openings in 11 primary occupations throughout the Greater Virginia Peninsula. Some 3,000 positions per year require post-secondary education. The major skills gaps include job readiness, problem solving and decision making, teamwork, mathematical skills, communications and listening, interpersonal skills, automation, quality assurance and

supervisory skills. A compendium study captured as well the new careers requiring advanced skills include modeling and simulation technicians, nuclear energy technicians, non-destructive testing technicians, materials science technicians, green engineering technicians, and logistics process technicians.

Top Occupations

The Skills to Succeed Inventory presented the "Career Pathway Profiles" for the highest demand occupations, the numbers of openings in each per year, the education and technical skills requirements, the beginning and average wages, and the career pathways for advancement.
The 11 top occupations and job openings include:

- Pipefitters: 1,850
- Welders: 1,700
- Electricians: 1,700
- Fitters: 1,600
- Coatings Specialists: 1,300
- Machinists: 1,200
- Fabricators 950
- CNC/Robotics Ops.: 350
- Engineers/Eng. Technicians: 200
- Production/Account Managers 150
- Repair Technicians: 150

Skill Gaps

The study found employers citing the same major skill gaps in the current workforce:

- Teamwork Skills
- Math/Computational Skills
- Communication/listening Skills
- Automation/technology Skills
- Quality Assurance Skills
- Supervisory Skills

Current Partnerships

A critical area of the research was the extent to which the participating companies already partner with the **education** providers, such as working with:

- TNCC 10/14 (71%)
- New Horizons Regional Education Center 7/14 (50%)
- K12 High Schools 5/14 (36%)
- Employer Associations 4/14 (29%)
- WIA One-Stop 4/14 (29%)
- Old Dominion University 3/14 (21%)

Resource Investment

Even more important is the extent to which these companies are willing to invest the knowledge, money, infrastructure and human resources required to facilitate demand-driven career pathways. The results were exciting within the sector and to the education and training providers, recognizing that the full cooperation of public and private sectors is needed to meet such a demand for skilled workers. The following shows how many of the 14 respondents are willing to partner in career pathways design, development, and expansion:

- Support paid co-ops or internships 10/14
- Visit classrooms/meet with students 10/14
- Participate in joint pipelines/pathways 9/14
- Review national models/certifications 9/14
- Serve on curriculum, advisory group 9/14
- Share professional development 9/14
- Provide subject matter experts 8/14
- Mentor students/career cafes 7/14
- Establish apprenticeships 7/14
- Participate in career fairs 7/14
- Pay for pre-hire training 5/14
- Pay for scholarships 1/14

Publication and Dissemination

The results were published and disseminated in two documents: an 8 page *Executive Summary* and a 16-page *Career Pathways Profiles* which detailed the competencies needed for each career. In an effort to use the research to meet the workforce needs of the Greater Peninsula, the Collaborative has identified three priorities: 1) meet short-term needs encompassing minor skill gaps for dislocated workers and exiting military; 2) meet the mid-term needs of specialized skills for secondary and postsecondary youth and adult students and underemployed; and 3) meet the long-term needs of more intensive skill building and additional support services for out of school non-GED youth and high-risk in school youth.

III. PENINSULA PATHWAYS IN MANUFACTURING EXECUTIVE SUMMIT

The results were startling as they quadrupled the federal data, which admittedly is only as reliable as the degree to which the members of the sector are sharing their manpower plans. But to succeed the region needed to be alerted to the realities of the coming careers, commit to the alignment and re-engineering necessary to build real pathways, and be willing to access federal, state, local and private funding needed to fill gaps in programs, hire qualified instructors and provide equipment in the system. To this end, an executive leadership summit was held on October 17, 2011 at Thomas Nelson Community College. More than 400 Peninsula leaders were invited to attend, including executives of the 14 companies, college and university administrators and faculty, public school administrators, and elected officials at national, state and local levels. A total of 84 leaders, including Congressional representatives, attended a packed 3 hours session, at which they learned the findings of the study, heard an industry panel react to the results, and explored next steps in an open forum. The session was kicked off by Virginia Delegate and PCFWD President and CEO Matthew James and TNCC College President John Dever, who issued a Region-Wide Call to Action and an invitation to a two day strategic planning retreat to be held at the college in early winter.

IV. ADVANCED AND PRECISION MANUFACTURING TECHNOLOGIES STRATEGIC PLANNING RETREAT

A strategic planning retreat was convened on December 1 and 2, 2011 at the Peninsula Workforce Development Center (PWDC) with 44 leaders attending representing four companies, elected officials, three universities, the community college, six public school districts and the regional technical center, two private for-profit institutions, the Virginia Community College System, and numerous state and federal education and workforce agencies. Each individual was given an opportunity to share the hurdles they faced and their dream of an ideal career pathways system. A facilitator, Phil Pons, a doctoral intern from Old Dominion University, divided the participants into four diverse and representative groups and tasked them with developing four versions of a mission statement. There was remarkable continuity and they were easily combined into a single mission statement. The vision statement was created at the same time, as groups individually began to identify the unique opportunities of the region. This realization resulted in an unexpected outcome--an Inspirational Statement--that guided the brainstorming of ideas for further career pathway development. The group conducted an analysis of Strengths, Weaknesses, Opportunities and Threats (Challenges) to developing an ideal career pathways system, and captured their statements for the final plan. On the second day, Dr. Deborah George Wright presented two videos, one showing a partnership with the college and Hampton City Schools to populate manufacturing career pathways, and the second a look at an advanced manufacturing facility in Germany where individuals design their Volkswagen on the spot in a 21st Century glass and wood-floored robotics manufacturing environment. Then John Calver, TNCC Workforce Manufacturing Director and head of the Precision Manufacturing Center at the PWDC, facilitated the participants through several exercises and brainstorming of career pathways strategies and priorities. The following plan is the result of this comprehensive process engaging the members of the Collaborative and the community.

VIRGINIA PENINSULA STRATEGIC PLAN FOR CAREER PATHWAYS IN ADVANCED & PRECISION MANUFACTURING TECHNOLOGIES

Collaborative Name

VA Peninsula Career Pathways Collaborative in Advanced & Precision Manufacturing Technologies

Inspirational Statement

We recognize that we are a unique region. Because of the diversity of our population, industry sectors, and academic institutions; because of our nationally recognized business and education partnerships; and because our technology firms are among the most advanced in the world, we can do things no other region can do.

Mission Statement

The *Virginia Peninsula Career Pathways in Advanced and Precision Manufacturing Technologies* envisions a system designed to create a world-class technical workforce to meet the needs of advanced and precision-manufacturing industries of the Virginia Peninsula by developing and providing integrated career pathways for youth and adults.

Vision Statement

The Virginia Peninsula is a globally recognized hub for advanced and precision manufacturing because its workforce system produces a population of people that is STEM prepared and highly skilled to succeed and excel in a World Class manufacturing sector today and in the future.

Values

Virginia Peninsula Career Pathways Grant Collaborative values a system that:

- Promotes collaboration, cooperation, mutual benefit, and respect.
- Offers pathways into careers, not just pipelines into jobs.
- Creates opportunities for the people at each step.
- Integrates efforts and encourages a vibrant, diverse economic base..
- Values the diversity of our regional population and our educational institutions.
- Engages industry to partner with K-12, community colleges and universities.
- Provides knowledge experts, content, and funding for programs and students.
- Aligns systems and stackable, articulated credentials for advancement.
- Generates earn and learn workforce programs appropriate for adults and youth.

Purpose

The purpose of this plan is to develop a “Roadmap for Success” that is appropriate for the targeted populations and includes a template for career roadways, including the entering and exiting pathways, for the major occupations on the Virginia Peninsula in Advanced and Precision Technologies in Manufacturing.

Career Roadways

Expressways – These are occupational training and short-term certificate programs for workers who have minor skill shortages and therefore will be traveling a short distance at an accelerated speed. These include the victims of business closures, layoffs, and downsizings—the dislocated workers, as well as the exiting military and military veterans and retirees seeking to enter the workforce. Expressways are also appropriate for the current workforce needing training and credentialing for additional competencies and new technologies. Expressways recognize the current competencies of this workforce and feature such elements as:

- Recognition and award of credit or advanced standing for work experience.
- Testing, assessment and credentialing for current equivalent competencies and skills.
- Accelerated curriculum in 1 week to 8 week sessions.
- Distance and hybrid courses offering simulation and proctored testing.

Highways – These are credit and noncredit occupational certificate, diploma and degree programs for those traveling a longer distance, but also at a reasonable speed. Highways suit workers and prospective workers without experience but with the competency to learn quickly. They need knowledge and technical skill and the opportunity to apply these in a real world setting or work situation to be work-ready. Highways are appropriate for STEM secondary and postsecondary students as well as for those who are underemployed because their skills are outdated or they lack essential skill sets for advancement. Highways offer a variety of opportunities to gain cognitive and technical competencies as well as work experience. Common highways include:

- Apprenticeship programs
- Sector-driven career and technical programs
- Dual enrollment and early college programs aligned with colleges
- Articulated transfer and dual admissions transfer programs with universities
- Occupational certificates and degrees imbedding industry certifications
- Paid cooperative education and internships, on-the-job training and earn-learn programs

Byways - These are long term certifications, certificates and/or degrees that include developmental coursework for individuals are who may lack exposure to the workplace a successful academic and work experience, who face barriers to continuing their education, such as out-of-school youth, those without a high school credential, and at-risk in school youth. Byways offer many customized services for special populations to help hurdle the barriers and barricaded.

- Middle College Career Programs
- Adult Education to Career Programs

Entering and Existing Pathways

What makes a career pathway system successful is that each step leads to or retains opportunities. Pit stops along the way may lose valuable time but not lose progress along the pathway. This strategic plan will include development of On-Ramps to make entry and re-entry easy, and Off-Ramps to mark progress and assure the re-entry point.

On Ramps – These are customized entry ways into career pathways that are designed to meet the needs of special populations, including single parents, disabled, and long-term unemployed. They may include cohort or individual services that include child care or counseling and mentoring services, paired with financial aid, scholarships or grants. Examples include:

- Employment Pipeline Programs
- Bridge Programs
- Career Coaches in High Schools or Career Cafes
- Adult Career Coaches in One Stops, Community Centers, SNAP Sites
- Hire and Go Career Fairs

Off-Ramps – In adulthood, training and education though ideally could be continuous, is impacted when events in life interfere with learning and earning goals. Some stop outs are the result of expected events, like child birth or medical interventions, or military obligations. Others are unexpected, the result of family or personal emergencies, spousal relocation, or layoffs. Off-Ramps are credentials that indicate competency achievement, ideally industry or academically accepted outcome measures with accompanying credentials that are articulated and stacked along the career pathway to make stopping out painless and return to the same point easy.

Objectives, Goals, Strategies, Outcomes and Indicators

OBJECTIVE 1: Strengthen the ties between the industrial base and the educational institutions in the Peninsula area.

Goal 1: Establish a memorandum of understanding between Collaborative members that support the Career Pathways strategic plan.

Strategy: Memorandum of Understanding (MOU) developed that establishes each member's role in supporting the plan

Outcome: Willing members in the Career Pathways Plan Implementation are identified and engaged in MOU development and agreement

Performance Indicator: MOU signed by all Collaborative members

Goal 2: Foster mutual visits between business and education in order to increase awareness and build knowledge to ensure the success of the mission.

Strategy: Collaborative meetings continue on a bi-monthly basis to share knowledge and awareness of industry needs.

Outcome: Collaborative meetings are scheduled and members are informed of progress, shown data, and engaged in decision making

Performance Indicator: Collaborative meeting agendas and minutes posted online for information and historical record.

Goal 3: Develop and implement skill specific career pathways for the 11 identified occupations.

Strategy 1: Building upon currently available training in the identified areas, develop, modify or enhance training to meet specific needs for the 11 skill sets defined in the Skills to Succeed Inventory.

Outcome: Education and training gaps are identified and appropriate programs developed and implemented to fill the gaps.

Performance Indicator: Pathways are established in the 11 occupations

Strategy 2: Develop clear, stackable credentials for each pathway that are recognized by local business and industry, are appropriate for adults and enable employment.

Outcome: Credentials and articulated agreements are developed with education members that meet the needs of the adult worker.

Performance Indicator: Completed articulation agreements.

Strategy 3: Recognize the prior training, lifelong learning and work experience of adults to shorten the time to completion.

Outcome: Award credit and/or standing for prior knowledge and experience

Performance Indicator: Advanced standings are developed with education members and national agencies that meet the needs of the adult worker.

Strategy 4: Capitalize on our unique Collaborative: Share knowledge; share facilities; share resources.

Outcome: Develop resource sharing agreements between the education and business Collaborative members.

Performance Indicator: Resource sharing agreements are established with, and between, education and business Collaborative members.

Strategy 5: Create education and employer recognized work experiences for students (internships, job shadowing, mentoring) that provide technical application and experience in the employer setting for credit, pay or otherwise complement the curricula.

Outcome 1: Curriculum is developed collaboratively with business and industry that includes work experiences as a part of the curriculum experience.

Performance Indicator: A guide of curriculum with work experience that includes requirements, credit, pay if relevant, and outcome measures, is developed.

Outcome 2: Work experiences are identified at each industry site and shared with education members.

Performance Indicator: Centrally located information established for work experience sites for youth (i.e. Youth Career Café) and for adults (One Stop, SNAP Centers and College Career Centers).

Strategy 6: Create and establish sustainable funding for quick transition programs that facilitate completion of high school credential, technical training, work credentials, and a pathway to continue higher education.

Outcome 1: Develop and Expand "Plugged-in" and Middle College programs with employers that are specific to career pathways and aimed at GED near-completers, completers, and those requiring ESL and that provide entry to employment.

Performance Indicator: MOUs for Transition programs exist with the schools and the community college ending in credentials and employment or continuing higher education.

Outcome 2: Identify current and continuing funding for out of school youth and adults to fund their participation in quick transition programs.

Performance Indicator: Guides to transition programs and funding are available on line, in one stops, at career cafes, and in career centers in the schools.

OBJECTIVE 2: Build an effective mechanism to recruit and train a skilled workforce.

Goal 1: Identify Science, Technology, Engineering and Mathematics (STEM) opportunities for diverse populations and various training opportunities along the career pathway.

Strategy 1: Promote STEM Education on the Peninsula by incorporating STEM in normal communications and promotions of education, government, one-stops and agencies, and industry.

Outcome 1: Develop marketing materials and guidelines for promoting STEM.

Performance Indicator: Marketing materials and guidelines exist.

Outcome 2: Summer professional development for STEM educators is developed focused on project based learning and a credential offered for completion.

Performance Indicator: Lists of credentialed educators exist on websites.

Outcome 2: Develop curriculum for summer "paid" training in STEM (in collaboration with industry).

Performance Indicator: Summer training opportunities are posted on websites.

Strategy 2: Build on students' current natural interest and skills with technology/digital devices/social network by acquiring and making tools available to schools and colleges.

Outcome: Collaborative members have identified equipment and tools needed for different pathways and made it available to industry and educators and the list is updated annually for pathways.

Performance Indicator: List of technology available is promoted in marketing materials and technology desired is posted on websites.

<u>Goal 2</u>: Target students regionally to assist them in selecting the advanced manufacturing pathway as a part of their academic career plan.

Strategy: Businesses and educators collaborate in providing well publicized opportunities.

Outcome 1: An annual schedule of 'open house' and career fair opportunities at various locations in the Peninsula area is planned by the collaborative with education and business.

Performance Indicator: Registration of attendees at events and copies of materials used in marketing are on file.

Outcome 2: Promote career opportunities in local high schools utilizing school counselors and career coaches.

Performance Indicator: A career plan is developed for every high school student in freshman year and reviewed annually.

Outcome 3: Target and educate Parents to win support for career pathway skills; counter Parental attitudes – perception of manufacturing.

Performance Indicator: Career pathway Information videos and materials exist on school, college, government, and industry websites.

<u>Goal 3</u>: Create and expand work experience opportunities for youth and adults on the Peninsula.

Strategy: Expand mentorships/internship and apprenticeships for both secondary and postsecondary students to focus on deepening career readiness skills.

Outcome: Collaborative members develop additional mentorship, internship, paid coop, and apprenticeship programs in the regions schools and colleges**.**

Performance Indicator: A list of work-experience programs is posted on websites.

<u>OBJECTIVE 3:</u> Develop and institute a comprehensive career pathways financial plan to obtain financial resources and sustainability for career pathways.

<u>Goal 1</u>: Identify the financial needs of the all the education Collaborative members to implement the career pathway training needs.

Strategy 1: Work with education providers to identify the needed instructional staff, classroom infrastructure, lab space, equipment, software, and supplies needed to execute the pathways.

Outcome: A pathways infrastructure plan will be developed to identify the required elements of each pathway and the stakeholders for each initiative.

Performance Indicator: A record will be shared quarterly with the collaborative on progress in infrastructure for essential pathways.

Strategy 2: Identify federal, state, local and private resources needed to fund each pathway.

Outcome: A financial plan will be developed by the collaborative targeting sources for the acquisition and maintenance of infrastructure for each pathway, and the lead and stakeholders for each initiative.

Performance Indicator: The financial plan will be shared and updated at each meeting of the collaborative.

<u>Goal 2:</u> Define the roles of business and education in the responsibilities for sustaining the *Career Pathways Initiative.*

Strategy: Identify name, task, and time-frames for the sustainable development and implementation of this effort.

Outcome: An Action Plan will be developed by the Collaborative identifying the stakeholders, lead, action tasks, and timeframes to accomplish this initiative.

Performance Indicator: The action plan will be developed and updated at each meeting.

<u>Goal 3:</u> Expand visibility and desirability of careers in Advanced and Precision Technologies in Manufacturing.

Strategy 1: Develop a comprehensive marketing plan to educate and win financial support for the career pathway; include Peninsula community, City, State and Federal governments as well as philanthropic organizations.

Outcome: A regional marketing campaign for Advanced and Precision Technologies will be developed funded collaboratively by industry and education.

Performance Indicator: Copies of campaign materials will be posted to the website.

Strategy 2: Market specific career pathways and opportunities that emphasize 'career over job' as a selling point, as well as good salaries.

Outcome: Registrations in Advanced and Precision Technologies in Manufacturing will increase.

Performance Indicator: individuals will indicate at the time of registration the media in which they learned about the program.

Strategy 3: Actively promote the website, www.virginiapeninsulacareerpathways.com, through a marketing campaign, high school counseling offices, high school and adult career coaches, career café, college and university career centers, and one stop centers.

Outcome: Materials produced by and for each career information source will contain the website as well as the link to Virginia Wizard.

Performance Indicator: The number of views on the Career Pathways website will increase each year.

Strategy 4: Establish a specific public information program designed to appeal to City and State government legislators as well as to parents and business.

Outcome 1: A public information campaign will be developed that shows the ROI of career pathways—to students, to parents, to business, and to the taxpayer.

Performance Indicator: Copies of campaign will be linked to website

Outcome 2: Collaborative members will assure that the campaign is placed in appropriate media and presentations are scheduled by Collaborative to show the information at business, school board, parent, and municipal meetings.

Performance Indicator: A schedule of presentations is presented to the collaborative annually.

Measuring Success

An external evaluation of this effort is recommended. The value of the initiative should be documented and reported on a yearly basis as means to ensure continued support. An evaluation is also helpful to ensure the processes employed suit the needs of the business community. A well-documented evaluation will support necessary adjustments to the initiative if appropriate.

A Shared Future

This Strategic Plan for Career Pathways recognizes that significant and fundamental change to meet the needs for a skilled and educated workforce will only take place when we are able to align our resources. We must have a shared ***"Roadmap for Success"*** in order for the region to have future economic prosperity and growth.

This plan should be considered a "Call to Action" – where together, we commit to a shared vision of the future, take ownership of specific strategies, and align people and programs to attain the outcomes identified previously as performance indicators. This Strategic Plan for Career Pathways recognizes that the key stakeholders include business and industry, education, low-wage, low-skilled workers, students, parents, economic development and workforce development, elected officials and community based entities. All have some benefit from implementing the objectives set forth. The successful implementation of this strategic plan hinges on the active participation of all members. The program will not be sustainable without active leadership and regular participation of MOU members as it will take a number of years before the initiative becomes firmly entrenched as a result of a recognized return on the investment (Phillips, 2003; Rossi, Lipsey, & Freeman, 2004).

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For more information on the
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