

North Central Connecticut – A New Generation of Opportunity



Addressing the Region's Demographic Workforce Trends

EXECUTIVE SUMMARY

The Capital Workforce Partners Board of Directors is alarmed about trends in the region's workforce and potential implications for economic growth, income disparity, financial stability and quality of life in Connecticut's Capital Region.

The Board's review of recent studies by various analysts raised concern about:

- **The rapid aging and resulting imminent departure from the work force** of many current high/middle-skilled workers in sectors and occupations vital to the region's economy. Time is running out. The available labor force is shrinking, and there will be fewer people to fill available positions.
- **The lack of essential skills** – middle-skills, STEM skills, "soft" skills – and educational attainment among many young people in the regional talent pool who will be needed to replace workers who are aging-out. This shortfall is particularly acute in a set of distressed communities and among young Black and Latino males.
- **Best practices not taken to scale** - Specific strategies, in Connecticut and nationally that are documented capable of making a difference are not being systemically "scaled-up" in the Capital Region.
- **Policy leaders' lack of urgency** to rectify the looming mismatch between employers' needs to grow their businesses and the supply of current and future talent to meet those demands and sustain regional economic growth.

The Board created a *Special Ad Hoc Committee on Workforce Demographic Trends and Opportunities* to propose practical recommendations that would address demographic opportunities as "a call to action." The call to action would provide regional businesses with a more qualified, productive regional workforce for middle-skill jobs, it would reduce public expenditures in safety-net services by creating taxpayers and these workers would in turn stimulate local economies through the purchases of goods and services.

BACKGROUND

In recent months, the Board of Directors of Capital Workforce Partners – Regional Workforce Investment Board (WIB) for North Central Connecticut – had concerns that were crystalized by its review of information and analysis provided by Orlando J. Rodriguez's February 2012 report *Connecticut's Changing Demographics Foreshadow Declining Workforce Income*, for Connecticut Voices for Children. Largely in response to the challenges identified in that report, the Board established a Special Ad Hoc Committee on Workforce Demographic Trends and Opportunities (members listed in Appendix B).

The Committee was charged to **propose practical recommendations to increase the number of Connecticut taxpayers employed in middle-skill jobs, reduce safety-net public expenditures, and expand economic opportunity by giving businesses a qualified, productive workforce.**

Key information the Committee reviewed, in addition to the cited study, included:

- **Megatrends Report**, by Ron Schack (Charter Oak Group) for CWP's Strategic Management Committee, April 2012
- **Connecticut Economic Outlook: May 2012**, by Fred Carstensen (UConn)
- Orlando Rodriguez (CT Voices for Children) CWP Board Presentation, September, 2012
- Ken Gronbach Presentation to the CWP Ad Hoc Committee, December, 2012
- Several national workforce development studies, including work produced by the National Skills Coalition and National Association of Workforce Boards
- Labor Market Research conducted by Capital Workforce Partners

This white paper highlights the Committee's key observations about facts, trends and implications derived from these sources. These findings are followed by an overview of best practice strategies that have proven effective in addressing identified challenges. The paper concludes with a series of recommendations, consistent with the best practices, proposing practical actions to make essential changes in public policy, improve management and coordination of the workforce/talent system, and promote public awareness and support for change.

KEY OBSERVATIONS

Changing Workforce Demographics and Income Disparity

In February 2012 Connecticut Voices for Children released **Connecticut's Changing Demographics Foreshadow Declining Workforce Income** by Orlando J. Rodriguez, a study that significantly impacted the CWP Board's strategic thinking. Key information about changing workforce demographics and projected income levels in Connecticut and the region includes:



Workforce Demographics:

- In 2010, 14% of CT's population was 65 and older, increasing to 22% by 2030.
- The pool of potential workers in CT will shrink by 5.6% from 2010-2030.
- In 2010, CT had 66 non-workers for every 100 workers. By 2030 this dependency ratio will increase to 82 non-workers for every 100 workers, due to a rapidly aging population.
- By 2030, non-Hispanic whites will account for 58% of CT's working-age population, with minorities accounting for 42%.
- Average income for whites is higher than for minorities, reflecting comparatively lower levels of educational attainment and higher unemployment rates for Blacks and Hispanics.
- CT's economy is losing higher-income workers (older, more educated whites), while adding lower-income workers (younger, less educated minorities).

Workforce Income:

- Between 2004-2010, wages for whites increased while Hispanics and non-Hispanic Blacks experienced a net decrease in income.
- Total income for the working age population was \$104.8B in 2010, peaking at \$107B in 2015, declining to \$100.4B in 2030 as the number of workers decreases. Income earned by new workers does not offset income loss from retired higher-income workers.
- If income disparities are not eliminated, and recent income growth trends continue, average per capita income will peak at \$30,269 in 2015 and decline to \$27,410 by 2030.
- If income disparities were eliminated, the peak in per capita income for the working age population occurs in 2020 at \$34,493, and worker per capita income remains above the 2010 level (\$29,988) into 2030 (\$33,511).
- To avoid reduced worker income levels in the future, the earnings potential of the lowest paid workers – predominately Hispanic and non-Hispanic Black – must be increased.

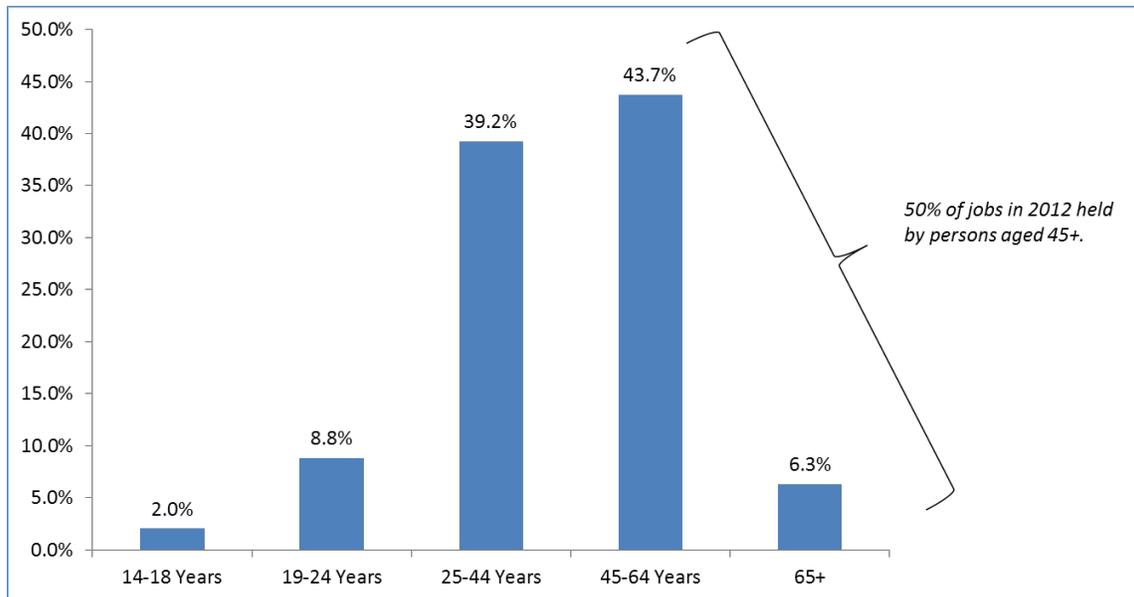
These trends suggest that over the next twenty years – absent effective strategic intervention – the Capital Region will experience:

- Significant upsurge in the number and percentage of non-workers (many fixed income retirees), increasingly dependent on a shrinking number of workers (taxpayers)
- Decline in per capita income (adjusted for inflation)
- Resulting downward pressure on (income-generated) state tax revenues
- Resulting upward pressure on state spending, largely due to higher health care costs associated with an aging population

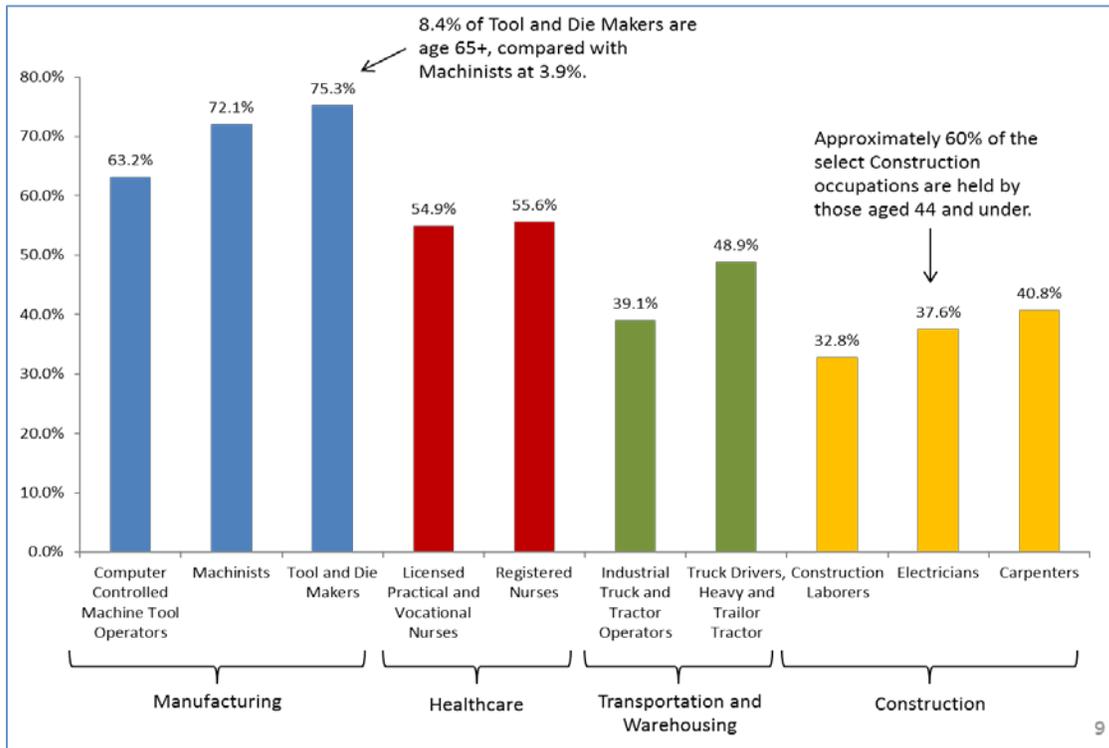
NORTH CENTRAL REGION JOBS / LABOR FORCE DEMOGRAPHICS

The chart below shows that the workforce in the North Central Region is aging rapidly. Workers aged 45 years and older hold fifty percent of the region's jobs in 2012.

North Central CT Workforce – % Jobs Held by Age



Present Sector Occupation Demographic Status



The chart above shows the concentration of workers 45 and older in middle skills jobs in sectors crucial to the region's economy. Many will retire in the next 5-10 years. Employers are concerned about their ability to recruit and develop the talent to run their business in the region. Mike Polo, President of AdChem Manufacturing Technologies, estimates that half of Connecticut's current 180,000 manufacturing jobs will need replacement workers by 2020.

Connecticut Department of Labor data of 2008-2018 employment and growth data for select occupations in three key sectors – Allied Health, Advanced Manufacturing, and Construction/Green Technology (plus Transportation/Warehousing, and Finance/Insurance) shows a rapidly aging skilled workforce nearing retirement age, simultaneous with job growth, resulting in anticipated need for experienced, skilled “replacement” workers (see **Appendix C**).

IMPLICATIONS

These workforce-related demographic trends will greatly impact the economy and the quality of life in the North Central Region. They underscore the importance of providing both current workers and the emerging workforce with essential middle-skills and STEM skills to support business expansion and income growth. Following is an overview of significant information (derived from sources cited earlier) the Committee believes should drive and inform workforce development strategy at both state and regional levels.

Dislocated Workers/Middle Skill Jobs

The region's workforce system faces a steady stream of dislocated workers, not yet of retirement age, who require re-training to compete in today's job market. Simultaneously, an array of middle-skill jobs exist, affording workers the opportunity to achieve self-sufficiency, if the system can target training in the middle-skills required, in key industries, focusing on advanced manufacturing, health care, construction, energy/green technology and other emerging sectors.

Target Populations

The region's aging workforce and low labor participation rates create a need to target underutilized segments of the region's potential labor force. Long-term unemployed, including TANF participants, ex-offenders and disconnected youth will be essential to fill job openings caused by the upcoming retirement wave. Significant training and support services will be needed to enable these groups to become gainfully employed.

Low-Skill Adults

There is a significant need in the region for ESL training/instruction for adults whose English proficiency is inadequate to succeed in post-secondary training or as viable replacement middle-skill workers. Ten percent of the region's 18-64 year olds speak English less than "very well." Approximately 70% of Hartford residents fall below functional literacy levels, emphasizing the immediate need for accelerated and contextualized training and instruction.

Future Workforce

The region's pool of potential workers is not ready to replace the middle skill workers who are leaving the workforce. Low-graduation rates, low reading and math skills, and delayed remediation at the post-secondary level are well documented. These realities must be addressed to produce the talent to meet workforce replacement demands.



Employer Expectations

The foregoing trends will impact many of the region's employers, who (unrealistically) expect a ready pool of prepared, middle-skill workers to replace those who are leaving. Some employers – in retail, hospitality, food service, etc. – seek low-skill, low-wage workers, placing demands on the workforce system that cannot be ignored. However, the system should focus on the middle-skill jobs and related skills that both drive the region's economy and provide opportunity for financial security.

System Realignment

The synchronized efforts of numerous partners and programs are essential to address the needs of employers, provide workers with living wage jobs, and support a robust regional economy. The workforce/talent system, K-12 system, higher education, and business community all have roles to play. However, systems are not aligned or share strategic priorities. Differences in institutional culture, investment in current programs, turf, and limited awareness and understanding of underlying problems are all barriers to alignment. Collaboration occurs sporadically. These important megatrends require a truly united approach. This pathology must change.

Resource Alignment

Significant resources are expended each year on a broad spectrum of education and workforce strategies across an array workforce/talent, education and economic development stakeholders. These resources are fragmented across various efforts and programs that are not strategically aligned to address the challenges discussed above. To the extent feasible, these resources should be focused and leveraged to prepare today's workers to replace retiring middle-skill workers, and prepare youth for success in post-secondary education and the workplace.

The Committee's assessment of these facts and trends led to the conclusion that policy and administrative actions are urgently needed to alleviate middle-skills deficits of the current regional adult workforce, assure the career readiness of the region's future workforce, and build public awareness in the region to support necessary changes.

I. BEST PRACTICES – EFFECTIVE LOCAL/REGIONAL AND STATE STRATEGIES

The Committee reviewed strategies implemented in Connecticut and nationally that have had a demonstrable impact on the workforce and income-related realities facing the Capital Region, as described in the preceding section. Our review considered best practices generally falling into three broad categories (summarized below):

- Developing the Future Workforce/Youth Talent
- Developing Middle-Skills in the Adult Workforce
- Supportive Strategies to Engage/Retain Skilled Workers

A. Developing the Future Workforce/Youth Talent (linking workforce development with education at secondary and post-secondary levels)

- **Career academies/21st century skills development:** Linked to career growth areas and core curriculum standards, including 21st century skills development. Focusing on targeted industry sectors emphasizing strong linkages to employers, promoting college placement and career-bridging efforts. Career academies provide facilities, equipment and other physical assets to support school-to-career after-school programs, co-attendance programs with higher education institutions and businesses.
- **STEM skills:** Greater focus on Science, Technology, Engineering and Math (STEM) skills as a feature of high school instruction and learning.
- **Post-secondary bridge/Middle-college programs:** High school-to post-secondary bridge programs, including middle-college programs, show positive outcomes. One of the emerging career pathways best practices is providing high school students opportunity to earn college credits, leading to a credential or contributing to an associate degree.
- **Alternative and vocational schools:** Re-emergence of attention to and growing investment in these programs that target vocational sectors and careers.
- **Employer engagement:** Employers taking significant steps to engage in these efforts as vital partners supporting future workforce talent development.



B. Developing Middle-Skills in the Adult Workforce

- **Contextualized learning:** This strategy combines adult literacy instruction with technical training and job supports (i.e., subsidized work experience, case management services, etc.) in an accelerated schedule targeting job growth sectors. Most often organized as the Integrated Basic Educational Skills Training (IBEST) model. Evidence suggests that this type of training, combined with paid work experience, leads to sustainable careers. IBEST uses effective contextualized learning/instruction model to address the middle skills gap. Moving from siloed, stand-alone community college, workforce and adult education programs to more comprehensive, coordinated, accelerated contextualized learning models demonstrates strong positive results, in Connecticut and nationally.
- **“Skills-Up” initiatives:** Middle skills training programs in the context of increased community college and post-secondary credential programs.
- **Sector-based focus:** Driving employment and training/workforce development programs to industry sectors with growing job opportunities in key occupations.

- **Targeting under-utilized populations:** Providing specialized job training and placement services for military veterans, the long-term unemployed, ex-offenders and other under-utilized people as a source of talent to help meet employers' needs.

C. Supportive Strategies to Engage/Retain Skilled Workers

- **Attracting/retaining skilled young talent:** Development/expansion of Young Professionals Networks, providing local/regional networking opportunities for young people (talent) to build personal/professional relationships strengthen their connections to an area. Intentional development of ecological, innovative, cross-disciplinary networks for exchange of ideas and resources.
- **Affordable worker housing:** To induce young adults/emerging workers to reside in areas anticipating workforce shortages/needs due to demographic changes.
- **Re-engaging older workers:** Third-Age initiatives, re-engaging retiring workers with valuable skills to return to the workforce to mentor future/young workers in the workplace.

II. RECOMMENDATIONS

The Committee's goal is to propose practical recommendations to increase the number of Connecticut taxpayers employed in middle-skill jobs, reduce safety-net public expenditures, and expand economic opportunity by giving businesses a qualified, productive workforce.

The Committee's review of critical demographic and economic facts, trends, and best practice strategies, generated a set of recommendations falling into five broad categories:

1. Middle-Skills of the Region's Incumbent Workers
2. Career Readiness of the Impending Regional Workforce
3. Systemic Coordination via Regional P20 Councils
4. Early-College for Middle-Skills
5. Public Awareness to Support Change

...Increase the number of Connecticut taxpayers employed in middle-skill jobs, reduce safety-net public expenditures, and expand economic opportunity by giving businesses a qualified, productive workforce.

The proposed actions associated with these recommendations include address policy-focused legislative efforts, system-focused administrative initiatives, and public awareness-focused communication activities.

Recommendation 1: Middle-Skills of the Region's Workers in Job Growth Sectors

This paper describes the projected impacts of imminent retirements from middle-skills jobs and current openings in sectors critical to the regions' economic growth. Action is needed to focus investments in effective strategies that improve the skills of today's current (adult) workers, and strengthen the capacity of the workforce/talent system to engage the full range of partners and resources to address identified priorities. The Committee offers the following actions to increase training and education resources to develop middle-skills credentials of the region's adult workforce, helping to meet employer demand to fill vital middle-skills jobs in key growth sectors.

- **1.A. Sector-focused middle-skills training for currently employed workers:** State support should be increased to expand training capacity and requisite infrastructure to prepare sufficient numbers of adult workers to meet regional middle-skills demand in manufacturing, health care and other key sectors, coordinated among various stakeholders by the regional workforce investment boards. **(Policy focus/Legislative action)**

State support should be increased for training to build the skills of the current regional workforce, consistent with nationally recognized, employer-validated industry credentials. The current State Incumbent Worker Training Program and 21st Century Skills Training Program should be consolidated to improve efficiency and maximize impact. **(Policy focus/Legislative action)**

1.B. Training for targeted job openings: Resources should be increased to accelerate provision of middle-skills/STEM skills training for – and raise the labor force participation rates of – un-/under-employed low-skill workers and special populations (military veterans, long-term unemployed, ex-offenders) in high-unemployment communities, to help employers in key sectors fill current job openings. **(Policy focus/Legislative action)**



1.C. Contextualized learning: State resources should be increased to expand implementation of contextualized learning strategies for low-skill adults – combining adult literacy skills instruction with work-related skills training. The Integrated Basic Education and Skills Training program (IBEST) is the preferred model. Coordination authority for contextualized learning initiatives at the regional level should be clarified. Resources should be provided to implement IBEST and increase Individual Training Accounts and scholarships for contextualized learning. Use of college tuition funds for contextualized learning programs should be permitted. These proven efforts need to be brought to scale. **(Policy focus/Legislative action)**

1.D. Career pathways: State authorization should be provided to establish regional partnership consortia (modeled on the Capital Region Adult Literacy Partnership) to direct use of relevant resources at the regional level – including WIA Titles I and II, community college tuition assistance, adult education funds – supporting career pathway programs that integrate adult basic education with occupational skills training for low-skill adults. Connecticut should model the Maryland Workforce and Career Pathways Act (see Appendix F). **(Policy focus/Legislative action)**

1.E. Adult workforce education/literacy: The Capital Region Adult Literacy Partnership should be authorized to coordinate resources intended to serve low-skill adults (WIA Titles I and II, community college tuition assistance, adult education funds) in the north central region, investing in best practice industry credentialing and contextualized learning strategies focused on industry growth sectors. **(System focus/Administrative action)**

Recommendation 2: Career Readiness of the Impending Regional Workforce:

Ensure that all high school students in the region acquire the career readiness skills and competencies needed to access and succeed in employment upon graduation, as a feature built into their program of instruction and learning.

2.A. Career academies/themed high schools in growth sectors: Increase the number of secondary school career academies/themed high schools in the region focused on key sectors, as a key element of a comprehensive middle-skills/early-college strategy, to increase the rate of high school graduation and attainment of associate degrees within six years. **(System focus/ Administrative action)**

2.B. High school focus on middle-skills, STEM and career competencies: State support to implement innovative sector-targeted/STEM-focused strategies bridging high school and middle-college should be increased, including: theme-based schools, magnet specialty schools and tech-prep programs aligning middle-school and high school instruction with college credit opportunities, emphasizing key job growth industry sectors; increased school engagement by employers from emerging growth sectors; use of existing educational facilities as collaborative employment education/training centers. **(Policy focus/Legislative action)**

2.C. High school career readiness preparation: Connecticut should adopt the ten-year youth employment plan proposed during the current 2013 General Assembly session, to ensure career readiness preparation in the core educational curriculum for all K-12 students, ensuring attention to currently underserved Black and Latino youths. Workforce intermediaries and employers should be engaged to leverage resources, support summer employment opportunities, provide internships and expand school-to-career readiness opportunities.

(Policy focus/legislative action)

Pending high school reform efforts in Connecticut should be pursued, updating career development programming to assure that all high school students – future participants in the region’s workforce – develop career competence and acquire critical 21st century skills.

(System focus/Administrative action)

Require acquisition of 21st century skills – soft (“professional”) skills and work readiness skills – in high school. Use state summer youth employment program funds innovatively to support college preparation and career readiness programs that combat the annual loss of skills over summer months. ***(System focus/Administrative action)***

2.D. Innovative strategies for “hard-to-serve” students: Expand vocational themed small scale high schools (as opposed to large-scale comprehensive high schools), featuring project-based learning, producing graduates ready for careers in key sectors (manufacturing, health care, construction, energy, etc.), focusing on disconnected youth from high unemployment communities, including students not accepted into technical high schools or magnets.

(System focus/Administrative action)

Recommendation 3: Systemic Coordination via Regional P20 Councils

Systemic improvements are needed to coordinate strategy, align resource investments, and streamline management to ensure that the workforce/talent-education-economic development “system” functions in a coherent, coordinated manner, utilizing best practices to address shared priorities and achieve shared results in producing a skilled and educated regional workforce. State action is required to develop a seamless, coordinated continuum of programs and services in the region – from pre-school through higher education and long-term training – to develop skills and credentials valued in the workplace, essential for regional economic growth.

3.A. Regional P-20 Councils: State authorization and administrative support should be provided for regional P20 councils to coordinate a continuum of early childhood/K-12/higher education/workforce training/economic development programs and services, to maximize the number of skilled workers with post-secondary degrees or equivalent credentials.

(System focus/Administrative action)

3.B. Alternative pathways to college: Empowered regional P20 councils should invest in career pathway programs offering college credit for workforce-related educational and skills-based instruction, enabling participants to gain occupational credentials for key sectors.

(System focus/Administrative action)

Recommendation 4: Early-College for Middle-Skills:

Implement middle-skills/early college strategies in high unemployment communities with significant school attrition rates, to increase the number of high school graduates and their acquisition of an associate degree. There should be an increase in programs in the region that provide seamless educational pathways from middle school-to high school-to timely attainment of an associate degree or equivalent credential, focusing on middle-skills valued by employers, essential for career advancement.

(System focus/Administrative action)

4.A. Early-College strategies in high unemployment communities: Early-College/Middle-Skills initiatives, focusing on sectors critical to economic growth and facing future talent shortages, should be implemented at scale in communities with large concentrations of youth, to help increase the availability of new workers with necessary academic and career readiness skills to advance in productive careers. Regional P20 councils should play a key role in coordinating these efforts. **(System focus/Administrative action)**

4.B. College credit for middle-skills training: Training in middle-skills that meets nationally industry-validated specifications leading to acquisition of nationally recognized credentials should be awarded appropriate college-level credit by the public higher education system. **(System focus/Administrative action)**

Recommendation 5: Public Awareness to Support Change

The actions outlined above are needed immediately to address present opportunities and those likely to unfold over the next 10-20 years, reflecting the demographic projections discussed earlier. Broad public understanding of the opportunities presented by impending demographic/income changes is essential. As retirements increase with fewer skilled workers available to take their places, the importance of the Committee's recommendations must be understood by the residents, businesses and taxpayers of the region, to gain vital support.

5.A. Public information campaign: Implement the proposed multi-stakeholder regional "call to action" public awareness campaign embodied in CWP's proposed Communications Plan (see Appendix E). **(Public awareness/focus/actions).**

Highlights of that Plan include:

- Marketing Booklet/short version of the white paper to promote the Committee's assessment of opportunities and support for its recommendations
- A survey to measure/assess current levels of awareness of the issues
- Print and e-media program targeting multiple audiences – young and old, local officials, legislators, businesses/employers, etc. Sample tactics include social media outreach, op-ed with the Hartford Courant, articles with local Chamber of Commerce newsletters, etc.

INTEGRATION WITH CAPITAL WORKFORCE PARTNERS STRATEGIC BUSINESS PLAN

Committee recommendations are intended to inform the Board's thinking about the 2013-2014 CWP Strategic Business Plan. The Committee's goal *(to propose practical recommendations to increase the number of Connecticut taxpayers employed in middle-skill jobs, reduce safety-net public expenditures, and expand economic opportunity by giving businesses a qualified, productive workforce)* and the recommendations included in this paper are consistent with Capital Workforce Partners (CWP)'s Results-Based Accountability (RBA) strategic planning methodology and RBA results framework.

CWP's Strategic Business Planning RBA process identified broad, population-level results. All CWP-supported strategies, related-investments, programs and services contribute to achieving these community-level results embraced by CWP to shape its strategic planning:

- A robust regional economy
- Self-sufficient adults
- A regional workforce that meets employers' needs
- Youth prepared for post-secondary education and employment

Population-level indicators to assess contribution toward achieving these results include: unemployment rate, on-time high school graduation rate, percentage at 200% of poverty, ratio of business starts to

closings, etc. The Committee’s recommendations will contribute significantly to “turning the curve” in addressing these results. *See Appendix D for more information.*

The recommendations are intended to contribute to accomplishing the (Board-adopted) community-level outcome of “Improving the Region’s Healthy Economy.” Impacts would be assessed/measured in two dimensions:

- Increased number of individuals who meet the middle-skills needs of the region’s employers
- Increased number of youths prepared for post-secondary education and employment in middle-skill jobs and STEM-related jobs/careers.

Capital Workforce Partners’ Strategic Business Plan will address and assess relevant success factors, to determine the impact of these recommendations on the demographic/economic trends described earlier.

III. Conclusion

In recent years, Capital Workforce Partners has worked with numerous regional stakeholders to develop a set of **regional workforce-education-economic development** indicators to assess the impact of an array of strategies. Over the past five years, the collective efforts of these stakeholders have had no discernible impact on most of these indicators have not changed. Without a concerted effort to implement the recommendations and actions in this paper, little will change, in a positive direction. As Orlando Rodriguez warned CWP’s Board, failure to act effectively means that in the next two decades the Capital Region:

- Will have a significant upsurge in non-workers (many fixed income retirees), increasingly dependent on a shrinking number of workers (taxpayers)
- Will experience a decline in per capita income (adjusted for inflation)
- Will see resulting downward pressure on (income generated) state tax revenues
- Will face upward pressure on state spending, largely due to higher health care costs associated with an aging population

The Committee’s recommendations and actions reflect our conviction that now is the time to address the opportunities discussed in this report. We believe it is possible to increase the number of taxpayers employed in middle-skill jobs, reduce public expenditure in safety net services, and expand economic opportunities by providing businesses with a qualified workforce. We look forward to collaborating with the CWP Board, staff and our numerous state and local, private sector, government and non-profit partners to make the recommendations and their impact a reality.

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APPENDIX A: GLOSSARY of Selected Terms

APPENDIX B: Members of CWP Special Ad Hoc Committee on Workforce Demographic Trends and Opportunities

APPENDIX C: 2008-18 Employment Growth Data for Selected Occupations

APPENDIX D: Proposed Progress and Outcome Measures

APPENDIX E: Proposed Communications Action Plan

APPENDIX A: GLOSSARY of Selected Terms

Purpose of the Ad Hoc Committee: The purpose of the newly proposed Board Ad Hoc Committee is to identify workforce development challenges and opportunities related to the demographic trends for the north central region. Associated strategies will be developed followed by a priority ranking process and further developing critical success factors in response to the short-and long-term demographic opportunities and challenges facing Connecticut and the north central region.

Middle Skills: Middle-skill” jobs are those that generally require some education and training beyond high school but less than a bachelor’s degree. These postsecondary education or training requirements can include associate’s degrees, vocational certificates; significant on-the-job training, previous work experience, or some college, but less than a bachelor’s degree (see Holtzer and Lehrman, Brookings Institution, 2009).

STEM Skills: STEM education is an approach to teaching and learning that integrates the content and skills of science, technology, engineering, and mathematics. STEM Standards of Practice guide STEM instruction by defining the combination of behaviors, integrated with STEM content, which is expected of a proficient STEM student. These behaviors include engagement in inquiry, logical reasoning, collaboration, and investigation. The goal of STEM education is to prepare students for post-secondary study and the 21st century workforce.

I-BEST: Integrated Basic Education and Skills Training is an accelerated contextualized learning program where adult education and technical skills training are co-taught in a job-sector classroom and workplace environment.

Maryland Workforce and Career Pathways Act: Passed in 2012, the purpose of the program is to provide grants for career pathways to eligible groups for the purpose of allowing individuals from target populations to participate in effective academic and employment training to obtain industry-recognized credentials for sustaining gainful and quality employment in the state. <http://mlis.state.md.us/2012rs/bills/hb/hb0869f.pdf>

Capital Region Adult Literacy Partnership: formed in 2009 to respond to a need for the dozens of adult literacy organizations in the Capital area to coordinate their services as part of a uniform, comprehensive system to improve the outcome of adult learners to be job-ready.

The CETC Annual Plan: This 2012 Annual Plan is the Connecticut Employment and Training Commission’s work to synthesize the best thinking developed over the past year by its respective committees and workgroups into a single document as a workforce/talent development policy/strategy blueprint for action in the year ahead. The strategies and recommendations are a mix of proposed policy initiatives, administrative/executive actions and funding/resource-dependent options.
<http://www.ctdol.state.ct.us/OWC/CETC/2012AnnualPlan.pdf>

The P-20 Council: The P-20 Council supports collaboration among four sectors - early childhood, K-12, higher education and workforce training - to create an effective education and career pathway that maximizes the number of skilled people in Connecticut with a postsecondary degree or other credential.
<http://www.ctregents.org/initiatives/p20>

Ten Year State Youth Employment Plan: a new, burgeoning effort by state youth employment stakeholders to support an updated statewide approach for 14-21 year-olds to gain employment and career competency outcomes, through a comprehensive, multi-year state sponsored youth employment program.

APPENDIX B: Members of CWP Special Ad Hoc Committee on Workforce Demographic Trends and Opportunities

| Name | Affiliation |
|-------------------------------|---|
| Wyrot Ward Chairperson | Ex-Chairperson, Capital Workforce Partners Board of Directors |
| Jeremy Race Co-Chairperson | Vice President, Junior Achievement |
| Charles Smith | Chairperson, CWP Board of Directors Director, CPA, CPC, SPHR J.H. Cohn LLP |
| Tim Fisher | Lawyer Past President of Connecticut Bar Association |
| Sharon Palmer | Commissioner, CT Department of Labor |
| Lyle Wray | Member, CWP Board of Directors Chair, CWP Strategic Management Committee CEO and President of CRCOG Chair, Strategic Management Committee CETC |
| Cathryn Addy | President, Tunxis Community College |
| Mark Scheinberg | President, Goodwin College |
| Dick McAloon | Former VP of Human Resource, Hartford Hospital |
| Robert Santy | CERC |
| Steve Cassano | Chair, North Central Consortium of Chief Elected Officials Member, CWP Board of Directors |
| Mike Polo | ACMT President |
| Paula Gilberto | Vice President, United Way |

APPENDIX C: 2008-18 Employment Growth Data for Selected Occupations**Connecticut Department of Labor Employment and Growth Data for
Select Occupations from 2008-2018**

| Occupation Title | Employment | | Annual Openings 2008-2018 | |
|---|------------|--------|------------------------------|--------|
| | 2008 | 2018 | Total | Growth |
| Healthcare | | | | |
| Healthcare Practitioners and Technical Occupations | 31,127 | 35,078 | 1,021 | 396 |
| Registered Nurses | 12,194 | 13,846 | 377 | 165 |
| Licensed Practical and Licensed Vocational Nurses | 2,811 | 3,019 | 108 | 20 |
| Advanced Manufacturing | | | | |
| Production Occupations | 35,402 | 33,195 | 666 | 24 |
| Machinists | 4,272 | 4,135 | 56 | 0 |
| Computer-Controlled Machine Tool Operators, Metal and Plastic | 1,226 | 1,270 | 29 | 5 |
| Construction | | | | |
| Construction and Extraction Occupations | 20,619 | 20,684 | 416 | 41 |
| Construction Trades Workers | 16,227 | 16,306 | 314 | 33 |
| Carpenters | 3,333 | 3,370 | 44 | 3 |
| Construction Laborers | 2,731 | 2,978 | 42 | 24 |
| Electricians | 2,652 | 2,547 | 64 | 0 |
| Transportation and Warehousing | | | | |
| Transportation and Material Moving Occupations | 32,617 | 32,681 | 857 | 84 |
| Truck Drivers, Heavy and Tractor-Trailer | 4,694 | 5,072 | 118 | 34 |
| Industrial Truck and Tractor Operators | 1,357 | 1,351 | 41 | 1 |

APPENDIX D: Proposed Progress and Outcome Measures

| | Recommendations/Actions | Proposed Progress Measures | Proposed Outcome Measures |
|----------|---|--|---|
| 1 | Middle-Skills of the Region's Incumbent Workers | | |
| 1A | Sector-focused middle-skills training for currently workers | <ul style="list-style-type: none"> Number and percent of job training programs targeted to special populations (disaggregated by population type) Number and percent of job training programs located in/designed for urban area residents Percent of employers reporting job openings filled within 90 days Number and percent of job training programs targeted to special populations (disaggregated by population type) Number and percent of job training programs located in/designed for urban area residents Percent of employers reporting job openings filled within 90 days Total incumbent worker training dollars (trend over time to detect increase) Percent of all E&T training dollars devoted to incumbent worker training | <ul style="list-style-type: none"> Number of individuals enrolled in job training programs Number completing job training programs Number placed in middle skill jobs from job training programs Number of individuals enrolled in job training programs Number completing job training programs Number placed in middle skill jobs from job training programs Percent receiving training entering employment Percent receiving training earning above 200% of poverty Increase in labor force participation rate of underserved population. Percent of those participating in incumbent worker training that retain employment one year following training Percent of those participating in incumbent worker training that have wage gains one year following training |
| 1B | Training for targeted job openings | | |
| 1C | Contextualized learning | <ul style="list-style-type: none"> Number and percent of individuals in adult education, workforce programs and community college programs participating in contextualized learning The Capital Region Adult Partnership be authorized as the North Central Regional Pilot for the Contextualized Training | <ul style="list-style-type: none"> Number and percent of adult education, workforce program and community college students employed or enrolled in post-secondary education six months after graduation Number and percent of graduates placed in middle skill jobs Number of individuals enrolled in job training programs Number completing job training programs |

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| | | <p>Consortium</p> <ul style="list-style-type: none"> • Number and percent of middle and high schools in the region offering contextualized learning • Number and percent of middle and high school students in region participating in contextualized learning • Number of instances of utilization of existing investments for contextualized learning (by type of investment) • Total existing dollars leveraged for contextualized learning • Instances of new contextualized learning programming created with re-programmed existing dollars | <ul style="list-style-type: none"> • Number placed in middle skill jobs from job training programs • Number and percent of adult education, workforce program and community college students employed or enrolled in post-secondary education six months after graduation • Number of individuals enrolled in job training programs • Number completing job training programs • Number placed in middle skill jobs from job training programs • Number and percent of HS graduates employed or enrolled in post-secondary education 6 months after HS graduation • Number and percent of adult education, workforce program and community college students employed or enrolled in post-secondary education 6 months after graduation |
| 1D | Career pathways | | |
| 1E | Adult workforce education/literacy | <ul style="list-style-type: none"> • Recognition of the Capital Region Adult Literacy Partnership as the critical Adult Literacy Partnership in this region • Development of integrated intake, assessment and monitoring tools (Number of regions adopting integrated tools) • Seamless alignment to community college | <ul style="list-style-type: none"> • Number and percent of those served by adult education/adult literacy programs that attain a credential • Number and percent of those served by adult education/adult literacy that attain middle skills employment |
| 2 | Career Readiness of the Impending Regional Workforce | | |
| 2A | Career academies/ themed high schools in growth sectors | <ul style="list-style-type: none"> • Number and percent of theme based schools, magnet specialty schools and tech prep programs that align middle-secondary school to college credit options, especially in job growth sectors (disaggregated by type of program and by job sector) • Number and percent of students in these programs that have an identified vocational goal • Number of new themed schools • Number of new co-attendance programs | <ul style="list-style-type: none"> • Percent of 9th graders graduating from High School • Percent of 9th graders graduating with an associate’s degree in 6 years (disaggregated by population type) • Number and percent of High School graduates employed or enrolled in post-secondary education 6 months after High School graduation • Percent of 9th graders graduating from High School • Percent of 9th graders graduating with an associate’s degree in 6 years (disaggregated by population type) • Employer Engagement |
| 2B | High school focus on middle-skills, STEM and career compe- | <ul style="list-style-type: none"> • Number of businesses working with schools • Number and percent of business in critical emerging growth sectors that are working with schools | <ul style="list-style-type: none"> • Number and percent of High School graduates employed or enrolled in post-secondary education 6 months after High School graduation |

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| | tencies | <ul style="list-style-type: none"> • Number and percent of schools that have at least one sponsor business in a critical emerging growth sector • Number and percent of existing educational facilities used as collaborative employment/education centers • Number and percent of students at those facilities receiving employment oriented programming • Average dollars devoted to collaborative employment/education/training at each site | <ul style="list-style-type: none"> • Number and percent of job openings in critical emerging growth sectors filled by students coming from these programs • Percent of 9th graders graduating from HS • Percent of 9th graders graduating with an associate’s degree in 6 years (disaggregated by population type) • Number and percent of HS graduates employed or enrolled in post-secondary education 6 months after HS graduation |
| 2C | High school career/work readiness preparation | <ul style="list-style-type: none"> • Number and percent of middle and HS students receiving soft skill/career competency development • Number and percent of schools integrating soft-skill career competency development into their curriculum • Longer term funding for summer youth programming secured • Creation of new strategies for measuring skill attainment • Number and percent of high schools implementing new strategies • Number and percent of high schools implementing re-freshed career development planning approach • Number and percent of HS students participating in career development planning • Number of HS students with identified career development goals | <ul style="list-style-type: none"> • Percent of 9th graders graduating with an associate’s degree in 6 years (disaggregated by population type) • Number and percent of HS graduates employed or enrolled in post-secondary education 6 months after HS graduation • Percent of youth participating in summer youth programming staying in school • Percent of youth participating in summer youth program graduating from HS • Percent of youth participating in summer youth program graduating with an associate’s degree (by age 21) • Creation of new strategies for measuring skill attainment • Number and percent of high schools implementing new strategies • Number and percent of HS graduates employed or enrolled in post-secondary education 6 months after HS graduation • Percent of 9th graders graduating from HS • Percent of 9th graders graduating with an associate’s degree in 6 years (disaggregated by population type) |
| 2D | Innovative strategies for “hard-to-serve” students | <ul style="list-style-type: none"> • Number and percentage of Black and Latino youths receiving soft skill/career competency development | <ul style="list-style-type: none"> • Percent of Black/Latino 9th graders graduating from High School on-time. • Percent of Black/Latino 9th graders graduating with an associate’s degree in 6 years (disaggregated by population type) • Number and percent of Black/Latino HS graduates employed or enrolled in post-secondary education 6 months after High |

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| | | <ul style="list-style-type: none"> Number of new small learning Centers/Academies created Number and percent of hard to serve students enrolled in small learning centers/academies | <p>School graduation</p> <ul style="list-style-type: none"> Percent of 9th graders graduating from HS Percent of 9th graders graduating with an associate's degree in 6 years (disaggregated by population type) |
| 3 | Systemic Coordination via Regional P20 Councils | | |
| 3A | Regional P-20 Councils | <ul style="list-style-type: none"> P-20 like council implemented Percent of identified partners participating Percent of identified individuals participating | <ul style="list-style-type: none"> Number of stakeholders from four sectors - early childhood, K-12, higher education and workforce training, participating on Regional Council Capital Region Action Plan developed Plan Implemented |
| 3B | Alternative pathways to college | <ul style="list-style-type: none"> Number and percent of students participating in alternative pathways to college | <ul style="list-style-type: none"> Number and percent participating in career pathways that enroll in post secondary education Number and percent participating that complete an accredited two year degree |
| 4 | Early-College for Middle-Skills | | |
| 4A | Early-college strategies in high unemployment communities | <ul style="list-style-type: none"> Number of Early College Centers/Academies created Number and percent of hard to serve students enrolled in small learning centers/academies Number of municipalities implementing middle college strategies Number of students in municipalities with high unemployment participating in middle college programs | <ul style="list-style-type: none"> Percent of 9th graders graduating from HS Percent of 9th graders graduating with an associates degree in 6 years (disaggregated by population type) Number/percent of participating students earning college credits Number/percent of participating students that stay in school Number/percent of participating students that graduate from HS Number/percent of participating students that earn a two year accredited degree |
| 4B | College credit for middle-skills training | <ul style="list-style-type: none"> Number of new community college credential programs created Number and percent of community college students enrolled in credential programs | <ul style="list-style-type: none"> Percent of community college students attaining a credential after two years of enrollment |
| 5 | Public Awareness to Support Change | | |
| 5A | Public information campaign - communications plan | <ul style="list-style-type: none"> Percent of partners indicating on survey that they are aware of the upcoming demographic trend Percent of employers indicating on survey they are aware | <ul style="list-style-type: none"> Number and percent of concrete policy changes or new strategies taking this issue into account Number of new legislative proposals taking this issue into |

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| | | <ul style="list-style-type: none"> of the implications of the upcoming demographic trend • Number of media mentions of issue • Number of social networking website mentions of issue | <ul style="list-style-type: none"> account • Number of new pieces of legislation passed taking these issues into account |
| | "Call to Action" Plan | <ul style="list-style-type: none"> • (See ATTACHMENT C for specific measures and outcomes) | |

APPENDIX E: Proposed Communications Action Plan

| Increase Public Awareness about the “upcoming demographic trend” with CETC in partnership with the Workforce Investment Boards. | | |
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| PRINT and E-MEDIA | | |
| TACTIC | MEASUREMENT | OUTCOME |
| 1. MARKETING BOOK-LET – produce a marketing booklet, short form of the thorough report. | Booklets Distributed | Increased readership, multiple audiences |
| 2. ARTICLE - Hartford Courant’s Fresh Voices (age 30 or under authors) | Courant Readership | Increased general comprehension of the issues of Courant readership |
| 3. EDITORIAL - Approach the Editorial Board of the Courant to reconsider a feature and ongoing dialogue on the work the committee has done. | An Editorial Written | Increased general comprehension of the issues of Courant readership |
| 4. WHITE PAPER adjusted for articles in local media, added to website blogs, shared via Linked In groups and tweeted. | Traditional media placements; Social Media placements Likes, comments and retweets | Increased general comprehension of the issues of multi-media readership – will reach a younger populous via social media |
| 5. BUSINESS COMMUNITY - A shorter article to be shared with the region’s Chambers of Commerce | # Chambers who place in their newsletters | Increased comprehension of the issues by area businesses |
| 6. LEGISLATIVE OUT-REACH - Share findings with North Central Legislators and local elected officials via Constant Contact | # Opens; responses | Increased comprehension of the issues by regional legislators and local elected officials |
| RADIO | | |
| 1. WNPR - Pitch to WNPR’s Where We Live with John Dankosky and WTIC’s Ray Dunaway Show. | WNPR and WTIC Listener-ship; Anecdotal feedback | Increased general comprehension of the issues. |

| VIDEO / TV / WEB | | |
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| 1. Record a :30 video, about the work of the committee and referring to the white paper. Post on You Tube. Last 5 secs to direct viewers to the white paper. Post on Websites. | # Views; Hits to White Paper | May reach the broadest demographic, age wise, to increase comprehension of the issues |
| 2. Pitch to Channel 3 CBS Sunday Morning | CBS Sunday Morning Show Viewership; Anecdotal feedback | Increased general comprehension of the issues of CBS viewership (older population) |
| 3. Pitch to Stan Simpson Show Fox 61 | Fox 61 SS Show Viewership; Anecdotal feedback | Increased general comprehension of the issues of Fox 61 viewership |
| EVENTS | | |
| 4. Present findings at CETC Meeting | Opportunity to share with the group | Increased general comprehension of the issues of CETC |
| 5. Present findings at any applicable state hearings | # testimonies; legislators on committee | Increased general comprehension of the issues of legislators |
| 6. Consider a class at DOL's Learns and Works in May - an all-day seminar in Old Saybrook for Workforce Professionals | Class held; # attendees | Increased general comprehension of the issues of workforce professionals statewide |
| 7. Work of the Ad Hoc Committee will be recognized at the annual Workforce Stars event | # attendees | Increased general comprehension of the issues of all in the workforce system in the region |
| OVERALL IMPACT | | |
| 1. Create survey to measure awareness / comprehension | Survey responses | Measurement of all the above tactics |

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