

## **Integrated Analysis of Report Card Data**

The Report Card of Employment and Training programs presents information on budget, service levels, demographics, and key outcomes for xx employment and training programs. In this analysis, this information is presented in the context of strategic themes developed by the Connecticut Employment and Training Commission (CETC) and articulated in its annual report, the Connecticut Employment and Training Strategic Plan, PY2005.

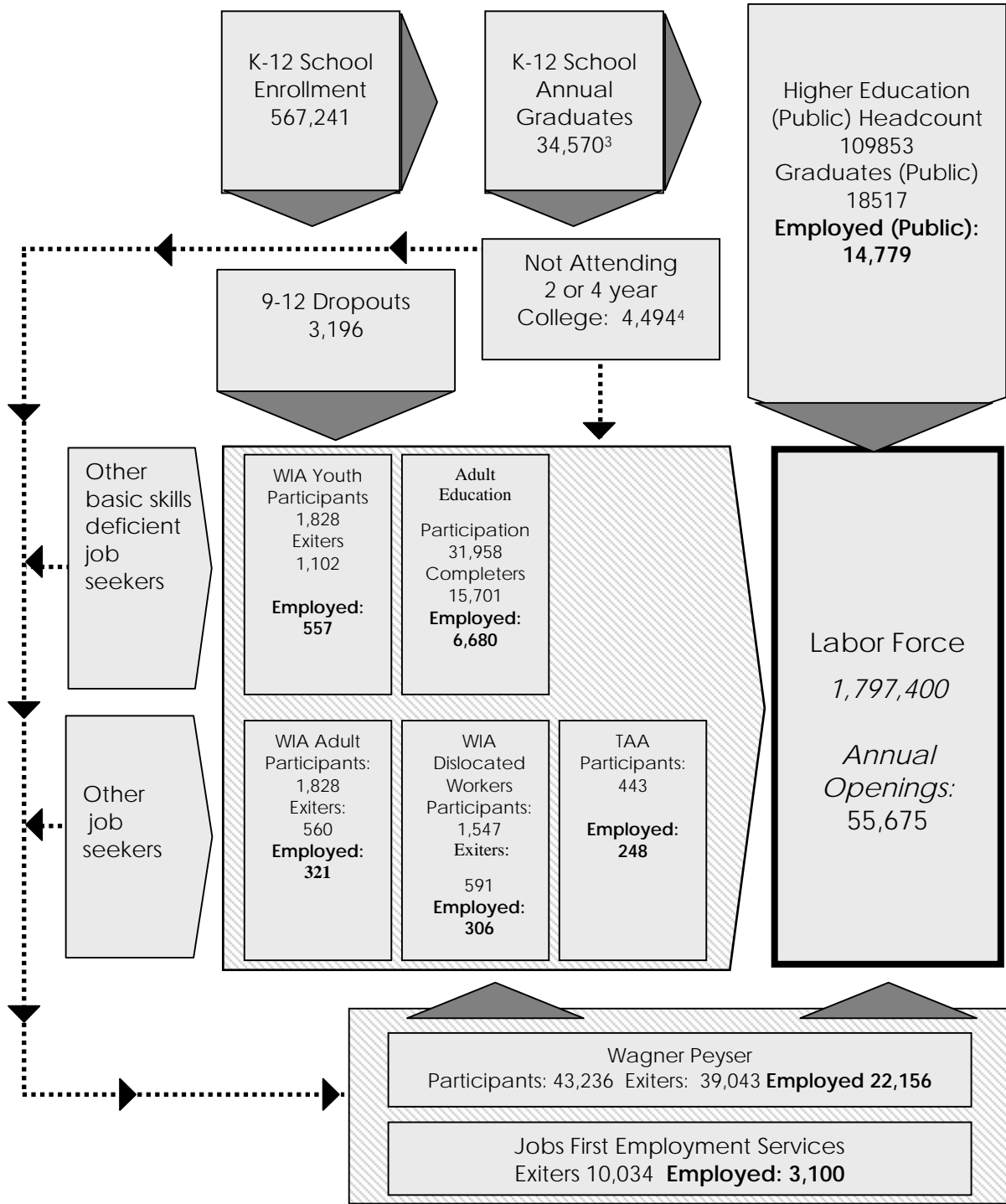
These themes can be broadly described as supporting the pipeline of talent to meet employer, enhancing the skills of workers needed to foster economic competitiveness, and helping workers achieve wage levels that allow for self-sufficiency.

The program outcome data presented in this report card should be viewed in the context of the overall employment picture in Connecticut. The Connecticut labor force was 1,797,400 in 2005. The three-year average median household income was 55,952.

### **The Pipeline**

There are many inputs to the job pipeline, as depicted in Figure 1. The education, employment and training systems contribute many of these inputs, including high school graduates, graduates from higher education programs such as community colleges, the state university system, and the University of Connecticut, and individuals prepared for work through Workforce Investment Act, Adult Education, and Jobs First Employment Services. Wagner-Peyser employment services assist many of these individuals, and others looking for work, with their work search. Figure 1 shows the movement of individuals from high school, to higher education, and into the labor force. The upper left area of the diagram shows the number of individuals leaving Connecticut's public high schools (either graduating or dropping out). Drop-outs either enter the workforce, move into another employment and training program (such as Adult Education or Jobs First) or both, while graduates either move to the workforce, CT higher education, another employment and training program, or attend school or work out of state. The diagram also shows the number of individuals enrolled in CT higher education programs, as well as the number of individuals served and exiting other CT employment and training programs. Please note that many individuals may be working at different times during their receipt of employment and training services. Finally, the diagram shows the number of individuals entering the workforce out of each employment and training program, including higher education, each year. At the macro level, the output of these systems compares well with the overall number of annual projected job openings. The diagram clearly shows the relative contributions of the programs to meeting employer demand.

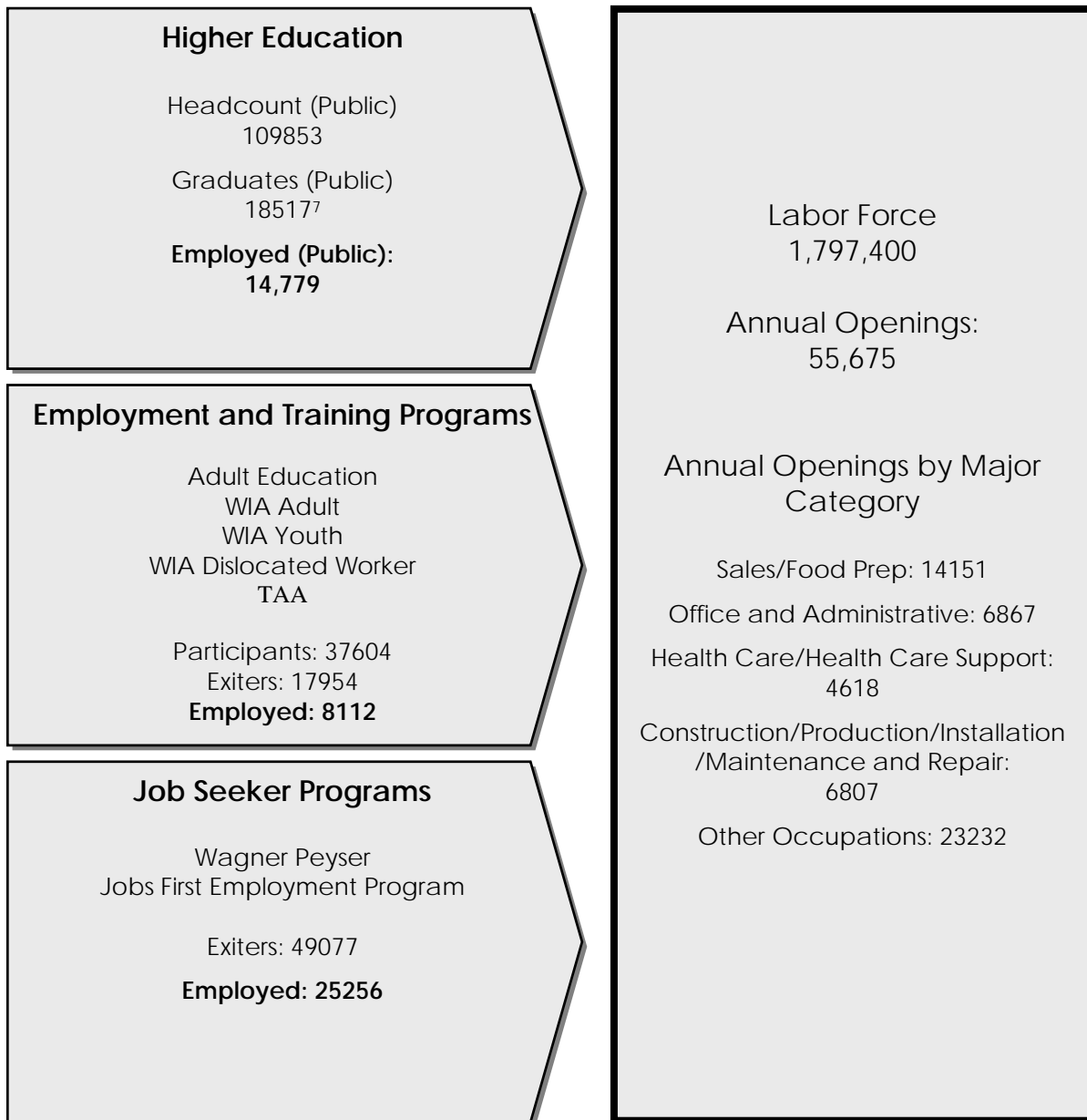
Figure 1. Employment and Training Pipeline, PY 2003-2004<sup>12</sup>



**Notes:**

1. Numbers in bold show likely direct contributions to labor force; numbers represent an annual snapshot of participation, output, and entry into employment.
2. Diagram is intended to be inclusive but not absolutely comprehensive. Arrows represent likely paths; many possible paths have been omitted for ease of display. Information from program year 2003-2004.
3. 87.3% of School-Age Students Are Enrolled in Public Schools
4. 57% high school graduates attend 4 year (27% attend in CT); 20% attend 2 year colleges (17% in CT)

Figure 2. Simplified Employment and Training Pipeline, PY 2003-2004<sup>56</sup>



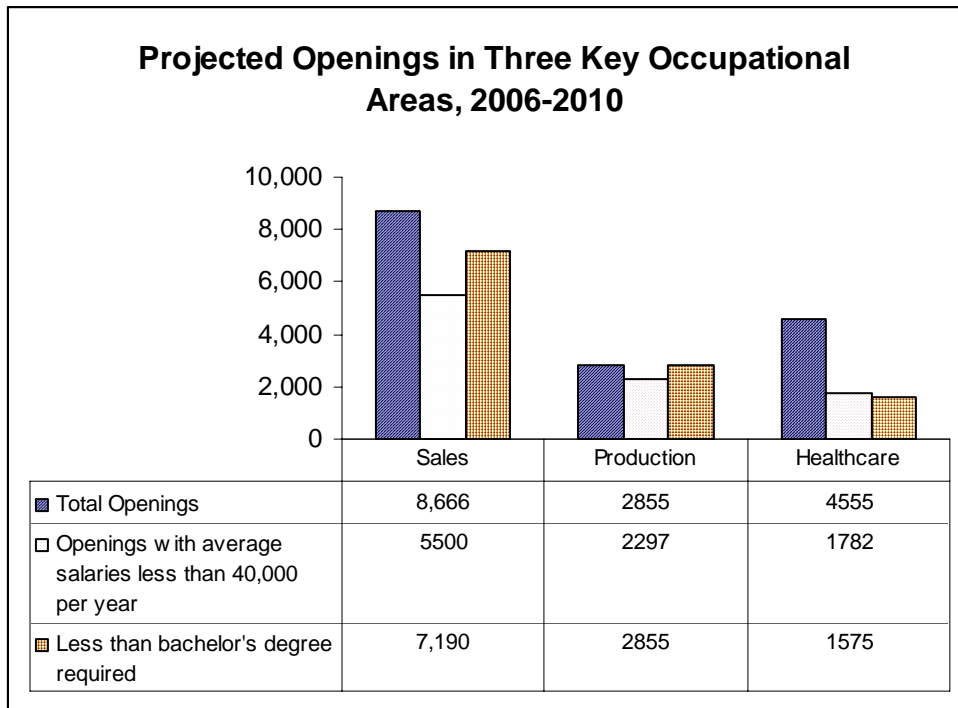
**Notes:**

5. Numbers in bold show likely direct contributions to labor force; numbers represent an annual snapshot of participation, output, and entry into employment.
6. Diagram is intended to be inclusive but not absolutely comprehensive. Arrows represent likely paths; many possible paths have been omitted for ease of display. Information from program year 2003-2004.
7. Graduation numbers reflect only those included in report card analysis.

A simplified version of the pipeline is shown in Figure 2. This version emphasizes the connection between the employment and training system and the labor market. Note that 48,147 individuals<sup>1</sup> were employed following employment and training services, occupying a considerable portion of the annual job openings.<sup>2</sup> The diagram also shows the occupational areas that represent the largest proportion of job openings. Note that sales/food service, health care, office and administrative, and construction, production, installation and repair represent fully one-half of all the job openings available in the state.

Chart 1 shows the projected annual openings in three key occupational areas. It is clear from the chart that the three areas differ greatly in the total number of openings, the number of the openings that require less than a bachelor's degree, and the number of the openings that have average salaries less than \$40,000 per year. This suggests that employment and training policy and programming needs to understand and adapt to these differences in order to support employer demand in these areas.

Chart 1. Projected Openings in Three Key Occupational Areas



<sup>1</sup> There is some duplication in employment counts across programs, particularly co-enrollment between each of the employment programs and Wagner-Peyser.

<sup>2</sup> The current report card process does not allow for an examination of the distribution of weekly wages across programs, which could be compared to the distribution of average wages paid by different available occupations. Also, information on the occupations of those employed after receiving employment and training services is not consistently available across programs.

While the number of individuals entering employment following employment and training services compares well with the overall number of job openings, there are several factors to consider. Is employer demand being met in all occupational areas? Will the jobs that are available for job seekers pay them enough to allow them to be self sufficient? Despite the encouraging numbers of individuals entering employment following employment and training services, are there large numbers of people who are not successful, or unable to receive services?

A closer look at the projected job openings reveals that large numbers of job openings (62.4% of all projected openings) pay \$40,000 a year or less.

**Table 1. Projected Annual Openings by Wage Level, 2006-2010**

<b>Projected Annual Openings By Wage Level, 2004-2010</b>			
<b>Average Annual Wages</b>	<b>Total Projected Annual Openings</b>	<b>Percent of Total Openings</b>	<b>Total Occupations Represented</b>
Less than \$25,000	19220	35.7%	60
\$25,000 to \$40,000	14382	26.7%	108
\$40,001 to \$75,000	16338	30.4%	137
\$75,001 or Higher	3861	7.2%	30

There are also real differences in the types of occupations in demand when examined using different criteria. Table 2 shows the top 10 occupations in demand, ranked by number of openings, while Table 3 shows the top 10 occupations in demand ranked by the fastest growing occupations. Almost all of the occupations in demand when ranked by numbers of openings pay wages under \$25,000, while the wages are considerably higher for occupations in demand when ranked by the fastest growing occupations.

**Table 2. Top 10 Occupations in Demand (Number of Openings) 2012<sup>3</sup>**

	<b>Annual Openings</b>	<b>Annual Salary</b>
Cashiers	27143	\$18,866
Retail Salespersons	2314	\$25,750
Waiters and Waitresses	1764	\$18,034
Registered Nurses	1181	\$57,283
Combined Food Preparation and Serving Workers	1070	\$18,866
Janitors and Cleaners, Exc. Maids and Housekeeping Cleaners	904	\$23,899
Customer Service Representatives	820	\$32,864
Sales Representatives, Wholesale and Manufacturing	775 *	
Stock Clerks and Order Fillers	765	\$23,504
Office Clerks, General	737	\$27,062

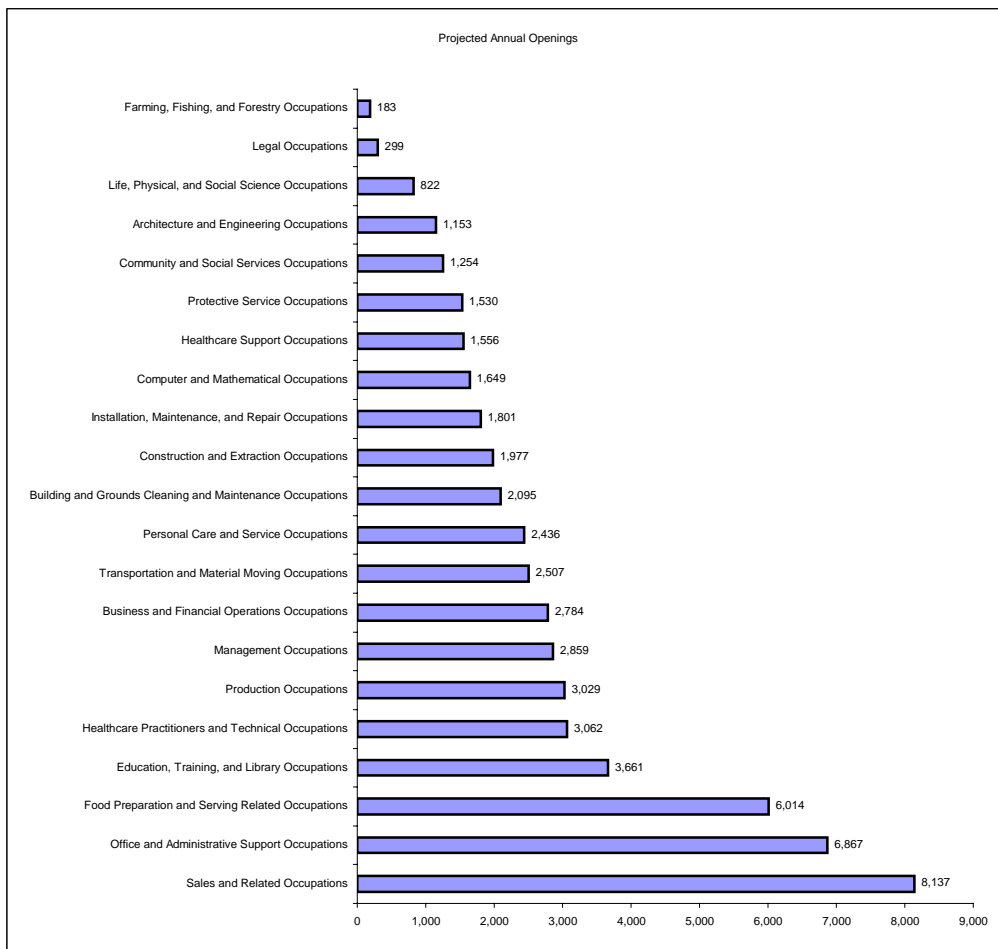
<sup>3</sup> Source: CTDOL Office of Research, Occupational Forecast, at <http://www.ctdol.state.ct.us/lmi/misc/occsindemand.htm>

**Table 3. Top 10 Occupations in Demand (Fastest Growing) (2012 Forecast)**

	Projected Growth	Annual Openings	Annual Salary
Personal Financial Advisors	48.50%	153	107078
Personal and Home Care Aides	48.50%	356	21611
Medical Assistants	46.40%	303	30014
Network System and Data Communication Analysts	40.40%	143	72051
Radiation Therapists	39.60%	46	51293
Physician Assistants	38.10%	43	73091
Self-Enrichment Education Teachers	36.20%	97	38854
Environmental Engineers	35.90%	41	67995
Producers and Directors	35.30%	44	65718

The projected annual number of job openings, by occupational area, is shown in Chart 2. As can be seen, the largest numbers of job openings are in the sales, office and administrative support, and food preparation areas.

**Chart 2. Projected Annual Openings By Occupational Area, 2006-2010**



## Meeting Employer Demand

As mentioned earlier, it is important to assess not only the numbers of individuals coming out of our employment and training system, but whether the preparation they are receiving is consistent with employer demand. One way of assessing this is to determine whether the kinds of degrees are being earned by those enrolled in higher education match up with employer demand. Table 4 shows the degrees conferred by type of credit program at public higher education institutions in Connecticut.

**Table 4. Degrees Conferred By Credit Program<sup>4</sup>**

Program Area	2001	2002	2003	2004	2005
Health/Life Sciences	3838	3899	3956	4253	4588
Liberal Arts/General Education	2522	2676	2777	2936	3165
Education	3395	3317	3619	3476	3718
Science/Engineering/Technology	3160	3218	3512	3496	3690
Social Sciences	5248	5398	5929	6003	6161
Social and Public Services	2009	2049	2174	2339	2354
Humanities/Arts/Communications	3629	3847	4156	4473	4410
Business	5886	6094	6376	6683	6496
Total	29687	30498	32499	33659	34582

Table 5 shows the degrees conferred by degree types that are recognized as in demand by employers. Chart 10 shows the gap between degrees conferred and projected annual openings in engineering and computer science. There is clearly a gap in the number of engineering degrees conferred and the projected number of openings. This is also true for computer science and the natural sciences. It is harder to assess whether the higher education system is preparing enough individuals in more generalized areas, such as liberal arts and humanities, since these areas can be mapped to multiple areas of demand, but the linkages are much weaker.

**Table 5. Degrees Conferred by Degree Type In Demand Occupations<sup>5</sup>**

Bachelor's Degrees	2001	2002	2003	2004	2005
Engineering	469	399	478	488	543
Computer Science	259	279	292	340	337
Natural Sciences	1072	1120	1116	1123	1104
Business	2376	2634	2855	3064	2989

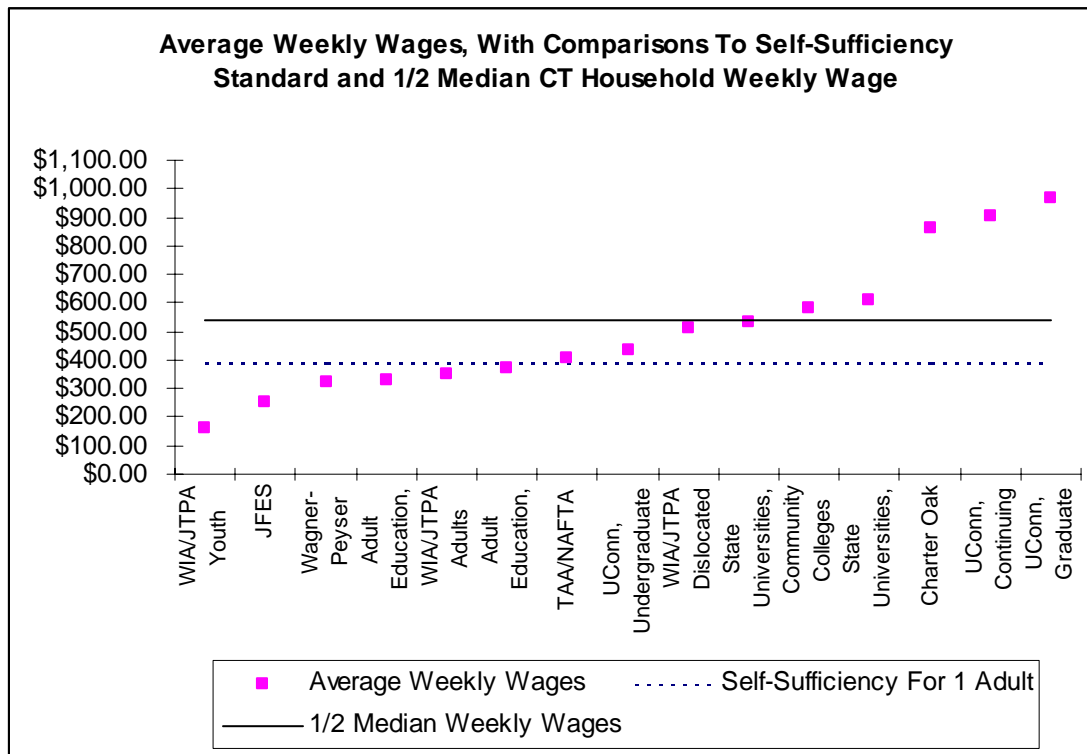
<sup>4</sup> Source: Higher Education Counts, Achieving Results 2006 Report, CT Department of Higher Education

<sup>5</sup> Source: Higher Education Counts, Achieving Results 2006 Report, CT Department of Higher Education

## Self-Sufficiency

One of the strategic goals of the employment and training system is to assist workers in achieving wage levels that allow them to be self-sufficient. The Connecticut Self-Sufficiency report for 2006 establishes the amount of income necessary to be self-sufficient, by different family sizes for each region of the state. For one adult, the weekly wage needed to be self sufficient ranges from \$284 in Hartford to \$520 in Upper Fairfield County. Across the state, the average self-sufficiency weekly wage for one adult is \$390. Chart 6 shows the average weekly wage level for exiters for each of the programs represented in this report card, compared to the average self-sufficiency weekly wage for one adult. Also shown on the chart is one-half of Connecticut's median household weekly wage, \$538. Average weekly wages for several programs are below the average self-sufficiency level for one adult, while the average weekly wage for community college and other higher education programs is well above ½ the median household weekly wage.

Chart 3. Average Weekly Wages, By Program<sup>6</sup>



<sup>6</sup> <http://www.census.gov/prod/2005pubs/p60-229.pdf>; Connecticut Self-Sufficiency Report, 2005

## So What?

The primary goal of this analysis is to show the linkage between the labor market and the employment and training system, using multiple data sources. The pipeline diagram (Figure 1) shows the different inputs into the employment and training programs and the relative contribution of each to the labor pool. **It is clear that the employment and training system serve a large number of people who do become employed and fill openings employers need to have filled.**

When these contributions are examined in the context of projected available openings, it is apparent that most openings (62.4% of all projected openings) pay \$40,000 a year or less, and that a considerable number of the jobs obtained by individuals receiving employment and training services provide a wage of \$40,000 a year or less, and many provide a wage of \$25,000 a year or less. An examination of the average weekly wage by program (Chart 3) provides additional evidence that this is the case.

While data are not consistently available on the occupations of those employed following employment and training services, it is possible to look more closely at how participants are prepared to meet employer demand. While the higher education system, for example, are preparing a significant number of individuals for careers in science, technology and engineering, there is clearly a gap between employer demand and the number of individuals currently being prepared for such occupations. However, demand for these occupations remains proportionately much smaller than demand for low-wage, low skill workers.