Executive Summary

The Tompkins County

Labor Market Region Study

This study analyzes the current labor market, reports the findings of an employer survey, and provides an economic forecast for the Tompkins County labor market region.

Prepared for

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CHMURA ECONOMICS & ANALYTICS

1. Executive Summary

Tompkins County, New York, is located in the central part of the Finger Lakes region in upstate New York. Once part of the industrial heartland of America, upstate New York suffered population and employment losses over the past few decades. Tompkins County is an anomaly in that it has experienced modest but steady growth in the past decades. Though manufacturing has declined, the strong education sector has kept the county from suffering employment and population losses. In 2007, Tompkins County had a total employment of just over 50,000 while the seven-county labor market region employed just over 165,000.

Over the next ten years, an estimated 16,000 workers will be needed in Tompkins County to fill new jobs and to replace workers who have retired or moved on to alternative occupations. Over the same period, an estimated 15,000 graduates with degrees from local high schools, community colleges, and colleges and universities are expected to enter the workforce for the first time and fill some of the positions. Assuming the skills of the graduates match the needs of local businesses, another 1,000 workers will still be needed to fill positions. However, since a skills mismatch exists in Tompkins County that is significantly more prevalent than in the nation, that figure will be substantially higher.

Tompkins County Labor Market Region
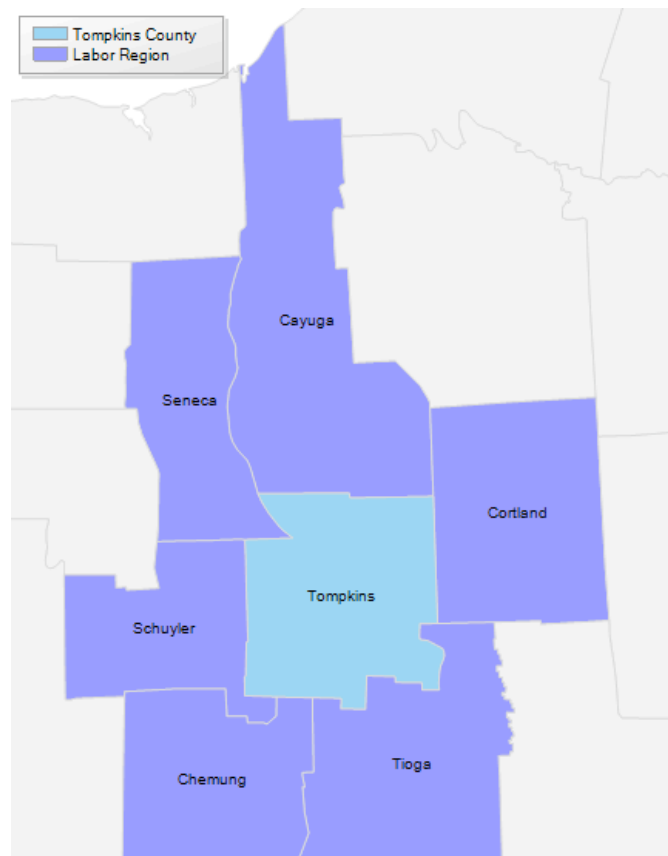
This report analyzes the Tompkins County Labor Market Region (also referred to as "the region"), which is defined here as the counties of Cayuga, Chemung, Cortland, Schuyler, Seneca, Tioga, and Tompkins. The analysis endeavors to:

- Characterize current labor demand and labor supply
- Forecast economic and labor trends to identify key issues that require strategic action
- Identify and provide perspective on related issues such as commuting patterns and housing

The analysis was conducted from September through December 2007. This study was accomplished through the collection and analysis of data and included focus groups in combination with a regional employer survey conducted expressly for this purpose. Highlights from the study are noted below and are followed by a summary of JobsEQ™ and the Local Business Portal—two web-based tools that are available to continue monitoring the labor market conditions of the region.

1.1. Statistical Highlights

Employment in the labor market region is projected to expand an annual 0.82% over the next ten years.

By sector, the greatest number of new jobs are expected in health services (+431 jobs annually), education (+210), and professional and business services (+347). The only major sector decline is expected in manufacturing (-56 jobs annually).

Projected labor shortages in the labor market region are mostly concentrated in basic-skilled service occupations.

Annual gaps where supply does not meet demand are expected to be highest in healthcare support occupations (52 jobs), building and grounds clearing and maintenance occupations (52), food preparation and serving related occupations (41) and personal care and service occupations (41). Some of these shortages, however, can be reduced by projected surpluses in other basic-skilled occupations such as office and administrative support occupations and production occupations.

A mismatch of skills supplied and demanded points to a larger percentage of underemployed in Tompkins County when compared with the national average.

Tompkins County has a surplus of workers with high and medium skills and a shortage of workers with basic skills. In 2006, close to half the positions created by Tompkins County firms needed workers with a minimum of basic skills (short to long-term on-the-job training) while 18.1% required medium skills (experience in a related occupation, postsecondary vocational award, or associate's degree) and 32.7% called for high skills (four-year degree or greater). High-skilled workers composed 40.3% of the labor supply while medium-skilled workers composed 33.9% of the supply. The result was potential underemployment for 23.4% of the workforce. Such workers are likely candidates to migrate out of the area in search of more suitable work. This problem exists to a lesser degree in the Tompkins County labor market region.

High housing costs in Tompkins County exacerbate the shortage in basic-skilled occupations.

In 2000, the median home value in Tompkins County was $24,000 to $34,000 higher than surrounding counties in the labor region. Lack of affordable housing in the county limits the ability to attract resident workers for basic-skilled, low-wage jobs. Housing costs also boost the cost of living in the Ithaca metropolitan area higher than in the Buffalo-Niagara Falls, Rochester, and Syracuse metropolitan areas. A higher cost of living, in turn, puts upward

pressure on wages. In fact, a number of employers in the labor market region reported difficulty in paying wages sufficiently high to attract and keep employees.

A household needed an income of $43,306 to own a median-valued home of $138,800 in Tompkins County in 2005.[1] Consequently, an estimated 46% of the households could afford a median-priced home in Tompkins in 2005 compared with 25% in New York and 42% in the nation. Despite the relatively high percentage of home affordability, some of the occupations with a high number of workers needed in the next decade will not be able to afford homes in Tompkins County. For example, Tompkins labor market region workers in education, training, and library occupations made an average annual income of $37,476 in 2006 while those in food preparation and serving related occupations made $15,676.

Trends in age cohort population growth are stressors on the labor market.

Between 2000 and 2005, the 35-44 aged cohort fell from 12.8% of total population to 10.5% in Tompkins County and from 15.5% to 13.1% in the labor market region. These declines were more pronounced than in either New York State or the nation and may be signs of lack of opportunities at higher pay and skill levels. On the other hand, workers approaching retirement in the 55-64 cohort grew over the same period in Tompkins County and the labor market region, a trend found throughout the nation as the baby boomers have moved into this cohort. Though this cohort makes up a smaller percentage of population in Tompkins than in the nation (8.4% compared to 10.2%), excluding college students from the mix makes the relative size of the cohort more comparable. Many employers are anticipating high replacement demand that will need attention.

In-migration leads population growth trends but out-migrants post higher wages than in-migrants.

A national study[2] shows that the variance in in-migration rates largely drives net migration flows. The average number of out-migrants varied little in Tompkins County over the last eleven years when there was population growth or decline, but the average number of in-migrants was much higher in the years when population grew compared to declining years: 3,284 in-migrants per year compared to 2,895. Internal Revenue Service data report higher average annual adjusted gross income for out-migrants compared to in-migrants into Tompkins County, a result consistent with the large student population of the region. Nevertheless, a lack of job opportunity in the region in high-wage and high-skilled professions may be preventing the region from attracting and keeping more high-skilled workers.

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[1] This assumes a 10% down payment on the house, 6.17% conventional 30-year fixed mortgage rate, and no more than 33% of income per month goes toward housing payments.

[2] Deitz, Richard. "A Brain Drain or an Insufficient Brain Gain," *Upstate New York At-a-Glance,* Federal Reserve Bank of New York, Buffalo Branch. August 2007.

1.2. Labor Market SWOT[3] Analysis

1.2.1 Strengths

The education sector provides a stable employment base, stimulates consumer spending, encourages population growth, and boosts quality of life.

Many of Tompkins County's labor market strengths are attributable to its strong educational institutions, particularly the presence of a world-class university like Cornell. The education sector accounts for 20% of the regional workforce. Education employment is unlikely to fluctuate like manufacturing did in the 1980s or the high-tech industries in the late 1990s. As a result, the region fared better than the national average during the last recession. Thousands of students, many from outside the state, bring millions of dollars in consumer spending to the region each year. This spending supports a host of industries from restaurants and real estate to other retail establishments in Ithaca and the surrounding region.

Other surrounding communities in the Finger Lakes region may also provide natural beauty, but only Ithaca can also offer the rich arts and cultural activities associated with Ithaca College and Cornell University. As college towns are becoming increasingly popular for retirees, it is not surprising that the population growth of Tompkins County is ahead of every other county in the region. The population growth of the county even outpaces that of New York State.

In general, the region has a highly-skilled labor force.

Because of its postsecondary offerings, Tompkins County has a highly-skilled workforce. Many students choose to stay in the region after graduation resulting in a high percentage of residents with college and graduate degrees. This creates opportunities for industries requiring knowledge workers and entrepreneurial activities. However, the skills embodied in the residents do not necessarily match the skills demanded by firms in the region.

Overall vacancy and employee separation rates are relatively low.

In the sample of local business participating in the employer survey, the vacancy rate was 2.3% in the labor market region in October 2007 compared to 2.9% in the nation. The survey found a 1.4% separation rate in the labor market region in October 2007 compared to 3.4% in the nation. Nevertheless, some employers reported difficulty in finding and keeping workers in certain occupations.

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[3] SWOT is an acronym for strengths, weaknesses, opportunities, and threats.

1.2.2. Weaknesses

The region is somewhat isolated geographically.

No major interstate highways pass through the region and the only commercial airport is relatively small. The paucity in infrastructure may limit the region's ability to attract businesses. For example, manufacturing companies usually prefer interstate access for transporting suppliers and products. In a global economy, access to commercial air service is a necessary condition for corporate headquarters. An isolated location may limit the potential of the region to land a big plant or corporation. Nevertheless, these traditional infrastructures are less important for industries such as software design and professional and consulting services.

The cost of living in Tompkins County is higher than in nearby regions.

The most recent cost of living index for the Ithaca metro area was 109.0 compared to 99.1 in Syracuse.[4] The high cost of living makes it harder for basic-skilled workers to live closer to their workplace. Consequently, when workers live in outlying areas, commuting and traffic become issues as the region has no interstate highways.

1.2.3. Opportunities

The student population, immigrants, and underemployed can help fill workforce needs.

The biggest workforce shortage in the region is in the basic-skilled service sectors. The pool of college students currently enrolled in the region is a potential source for part-time, basic-skilled jobs. However, availability and seasonality limit the impact of student workers. Immigration can help fill some needs as the region already has a significant international community. Although underemployment is a problem for the region, these skilled laborers can benefit local industries if jobs become available that need their skills.

Universities and colleges can bolster economic and workforce development.

The presence of Cornell University, Ithaca College, and the local community college, TC3, provide great opportunity for the region. All three increase the level of education of the regional workforce and provide the skills and knowledge to support the expanding technology-driven sectors. TC3 is responsive to local labor market needs, offering classes and training tailored to local industry demands. Further, Cornell's research has already generated a number of locally located technology businesses. Continued expansion of commercialization activities will allow the region to retain more graduates by providing job opportunities. Residential growth can further stimulate the region.

The region is better equipped than other counties to attract residents such as early retirees. The Finger Lakes region of upstate New York possesses attractive natural amenities. The presence of the university also provides necessary arts and cultural amenities for the region to be attractive for retirees. The workforce implication is that more healthcare and leisure services would be needed to serve the retirees, however, which could exacerbate the current shortages in these occupations.

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[4] Source: ACCURA.

1.2.4. Threats

Tompkins County has a surplus of high-skilled workers and a shortage of basic-skilled workers.

In 2006, the industry mix in Tompkins County required a labor force made up of 49.1% workers with basic skills, 18.1% workers with medium skills, and 32.7% workers with high skills. This compares to the actual supply in Tompkins County of 23.4 percentage points less workers with basic skills, 15.8 points more workers with medium skills, and 7.6 points more workers with high skills. Underemployment was also acknowledged to be a workforce issue by focus group participants.

Tompkins County Skills Mismatch, 2006

	Industry Mix Requirement	Supply of Workers
High	32.7%	40.3%
Medium	18.1%	33.9%
Basic	49.1%	25.7%
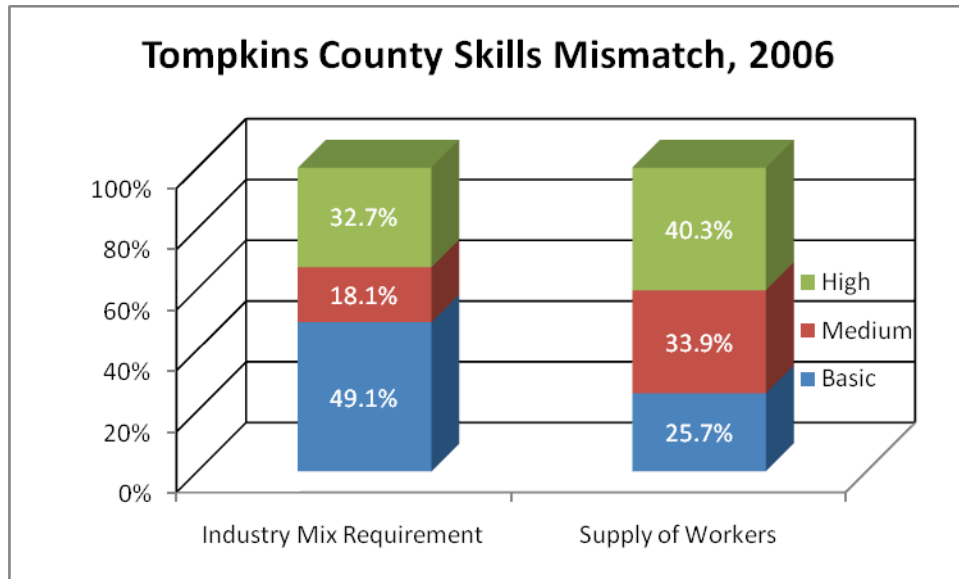
Forecasts and the business survey show that labor supply exceeds demand for a number of high-skilled occupation groups—education, management, and business and financial operations. On the other hand, labor shortages are mostly concentrated in basic-skilled service occupations such as food preparation and serving-related occupations, healthcare support occupations, and personal care and service occupations.

Other trends and conditions compound the skills mismatch in Tompkins County.

National occupation growth trends will drive continued occupation gaps in the region while the ability of the local workforce to fill these needs is restricted by the region's unique conditions. The high cost of living in Tompkins County and limited affordable housing and transportation infrastructure dampens the ability to attract basic-skilled workers. In addition, a lack of industry depth and breadth constrains the employment of the surplus high-skilled workers, resulting in underemployment or a brain drain. The ability of the region to further industry development is hampered by a lack of transportation infrastructure such as interstate highway and limited air service. An increasing number of retirees, as more baby boomers move into retirement age, could further strain the availability of skills and experience in the workforce.

1.3. JobsEQ® and the Local Business Portal

As part of this study, JobsEQ and the Local Business Portal are being brought into service in Tompkins County and the labor market region for continued monitoring of labor market conditions.

JobsEQ is a web-based software system located at www.jobseq.com. It is designed for use by professionals in workforce development, economic development, and education as well as employers and job-seekers looking for information about the labor market.

JobsEQ combines data from many different sources into a single, easy-to-use tool. It is used for analysis, workflows, tracking, and reporting.

Timely data, such as employment, wages, and firm statistics, are updated quarterly. Industry data are described by the North American Industry Classification System (NAICS) codes and analyses of these data are provided at various industry levels. Occupation data are described by the Standard Occupations Codes (SOC) and are fully O*Net compliant. Output tables and graphics are user-friendly and customizable. The entire package is intuitive and supported by comprehensive documentation. No special technical resources are required by users. Training and continued support are provided by Chmura.
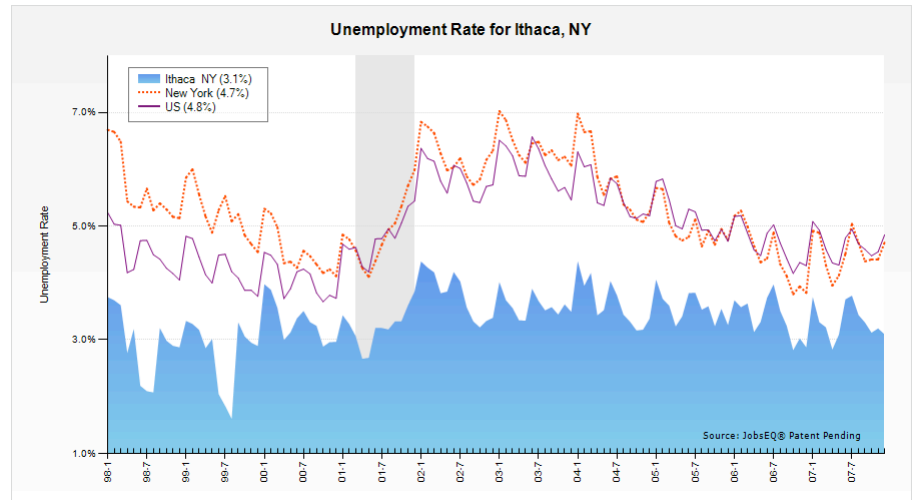
JobsEQ is organized into analytic groupings. Summary descriptions of analytics within each group follow below.
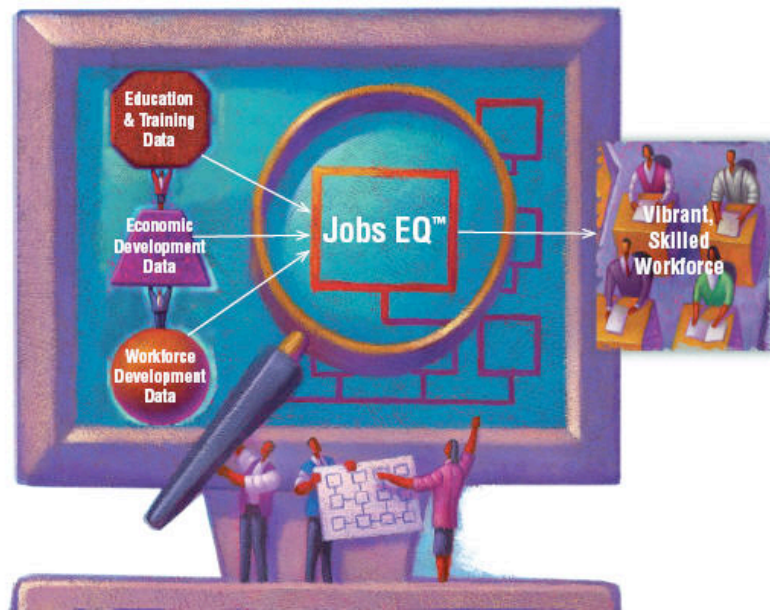
1.3.1. Career Analytics

Willing and Able – The *Willing and Able* tool enables the user to examine an occupation and view related occupations that are realistic and desirable options for a job-seeker. Analysis is conducted via comparative skills (based on O*Net skill sets) as well as comparative wages.

Alternative Industries and **Alternative Occupations** – These two tools are linked to the *Willing and Able* tool and show occupation and industry employment options that are overlaid with growth forecasts. The projections enable the user to conduct a sophisticated analysis of the short- and long-term outlook for a given career move. Using local data, forecast industry and occupation growth are shown.

NAICS Code	Industry Title	Current Empl	Expected Industry 10Yr Growth Rate	Expected Occ 10Yr Growth Rate	Estimated 10Yr Occupation Net Change
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	607	-2.0 %	4.7 %	3
3219	Other Wood Product Manufacturing	1,176	17.2 %	15.5 %	3
5613	Employment Services	13,747	45.2 %	50.6 %	2
4441	Building Material and Supplies Dealers	4,738	13.8 %	11.5 %	1
4422	Home Furnishings Stores	1,563	13.8 %	13.1 %	0
4421	Furniture Stores	1,487	13.8 %	8.1 %	0
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Abilities Gap – An analysis of attribute differences between two occupations (based on SOC codes) with a graphic display of attributes of greatest deficiency. This shows how realistic a career change may be and where the most retraining may be required.
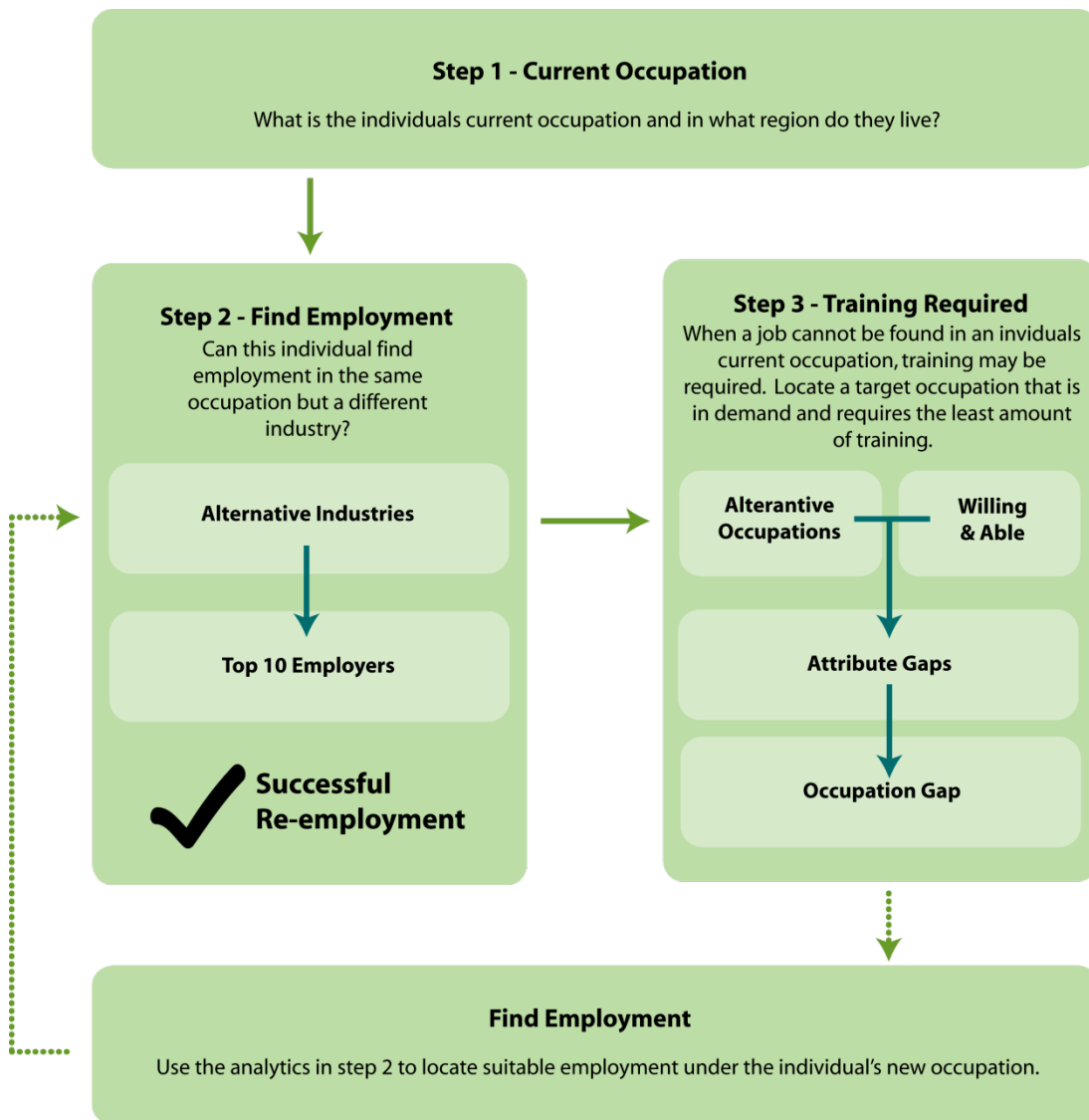
Career Training Ladders - Career paths that may be followed as individuals increase their knowledge and capabilities. The ladders are supplemented with regional employment figures as well as links to occupation descriptions.

Farm Labor Contractors	(2)	Animal Breeders	(12)
Farmers and Ranchers	(0)	First-Line Supervisors/...	(103)
Food Batchmakers	(232)	Fish and Game Wardens	(72)
		Gaming Managers	(8)
		Gaming Supervisors	(66)

Agricultural and Food S...	(52)	Animal Control Workers	(31)
Agricultural Equipment ...	(77)	Farming, fishing, and f...	(0)
Tree Trimmers and Pru...	(284)	Logging Workers, All O...	(27)
		Slaughterers and Meat ...	(67)

Farmworkers and Labo...	(339)	Agricultural Workers, A...	(45)
Food and Tobacco Roa...	(125)	Farmworkers, Farm an...	(109)
Forest and Conservatio...	(18)	Fishers and Related Fis...	(1)
		...ultry, and	(168)

Occupation Details – For all occupations, based on the Standard Occupation Classification (SOC) codes at the six-digit level of detail, this listing includes a description of worker attributes, average wages by industries employing that occupation, and training programs that support that occupation.

Occupation Staffing – A listing of which industries most employ a given occupation. The analysis is based upon regional data.

In combination, the career analytics can be used in a workflow that allows for successful navigation through the many options that may be available to an individual or group. An example of such a workflow is below. Applied as such, this intelligence system makes the market transparent to the workforce to improve participation and, as a result, improve industry benefits.

Step 1 - Current Occupation

What is the individuals current occupation and in what region do they live?

Step 2 - Find Employment

Can this individual find employment in the same occupation but a different industry?

Alternative Industries

Top 10 Employers

✔ **Successful Re-employment**

Step 3 - Training Required

When a job cannot be found in an inviduals current occupation, training may be required. Locate a target occupation that is in demand and requires the least amount of training.

Alterantive Occupations

Willing & Able

Attribute Gaps

Occupation Gap

Find Employment

Use the analytics in step 2 to locate suitable employment under the individual's new occupation.
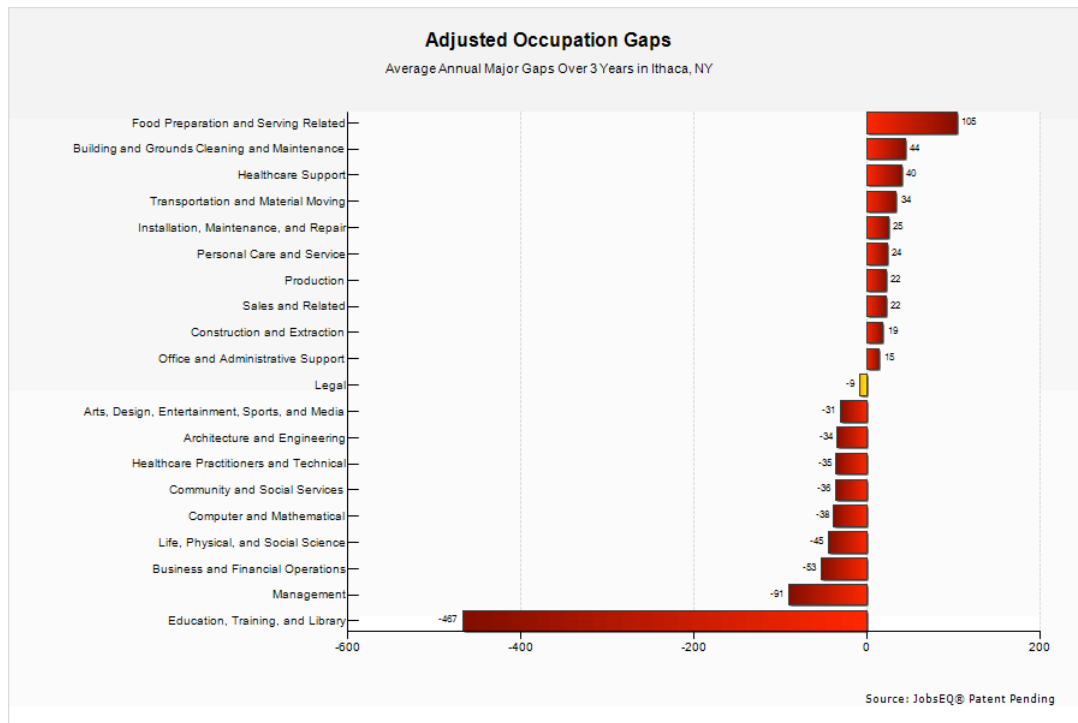
## 1.3.2. Policy and Economic Development Analytics

What-If Scenario – A function whereby the user examines the employment and occupation impact of a firm relocation—either into or out of a given region. If a firm is entering a region, this tool allows the user to examine the number of jobs by occupation that will need to be filled. Also shown is the current supply of each occupation in the region, including: current employed in each occupation, current unemployed in each occupation, and current extended employed and unemployed—the size of the regional labor force in occupations closely related enough to fill that occupation need.

Gaps – Using current employment and unemployment data, industry and occupation growth forecasts, regional population demographics, and occupation turnover assumptions, this analysis reveals forecast surpluses and shortages in a region's supply of occupations. Gaps are forecast for the short-term as well as the long-term. The Local Business Portal allows regional, real-time inputs into short-term needs; the interface allows local business people to enter their current occupation needs into the predictive modeling system, which will then be accessible by workforce developers.

Clusters – A graphic analysis of a given region's industry clusters. The employment size of each cluster is compared to the national average. Wages and the projected growth for each cluster are also displayed. The tool allows a region to gauge its competitive advantages. It also provides a "big picture" view of the region's industry mix.

Adjusted Occupation Gaps
Average Annual Major Gaps Over 3 Years in Ithaca, NY

Occupation	Gap
Food Preparation and Serving Related	105
Building and Grounds Cleaning and Maintenance	44
Healthcare Support	40
Transportation and Material Moving	34
Installation, Maintenance, and Repair	25
Personal Care and Service	24
Production	22
Sales and Related	22
Construction and Extraction	19
Office and Administrative Support	15
Legal	-9
Arts, Design, Entertainment, Sports, and Media	-31
Architecture and Engineering	-34
Healthcare Practitioners and Technical	-35
Community and Social Services	-36
Computer and Mathematical	-38
Life, Physical, and Social Science	-45
Business and Financial Operations	-53
Management	-91
Education, Training, and Library	-467

Source: JobsEQ® Patent Pending

Desirability Index – An index which gauges the wellness of fit between a firm and a region based upon occupation, employment, unemployment, wage, and growth forecast data.
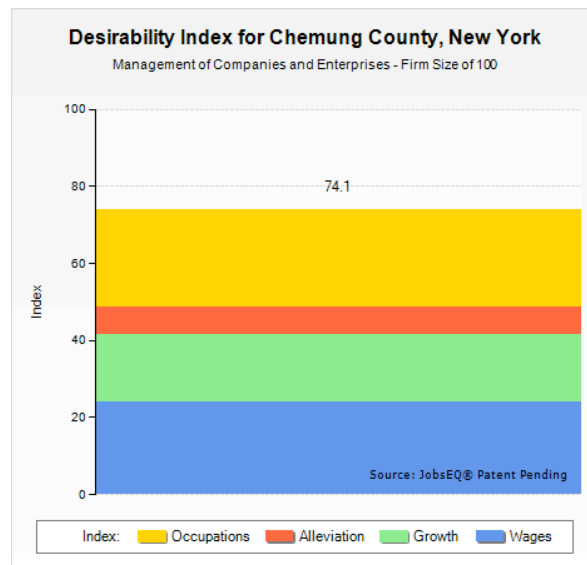

1.3.3. Labor Analytics

Total Wages, *Annual Average Wages per Worker*, *Percent Change in Employment* – These functions share a common presentation and layout. Data for these analytics are updated quarterly. Each analysis can be modified by region and industry level. A historic chart is produced and can include state data and peer region data for comparison.

Unemployment Rate – The *Unemployment Rate* chart allows for monthly tracking of the unemployment rate for each county unit within the region.

Mobility Index – Outputs allow for an examination of forecast industry and occupation growth in a region and how the two interact. It is so named because it indicates occupation mobility within the regional industry mix.

Ad-Hoc Reports – Customizable reports based upon wages, workers, and characteristics of the unemployed.
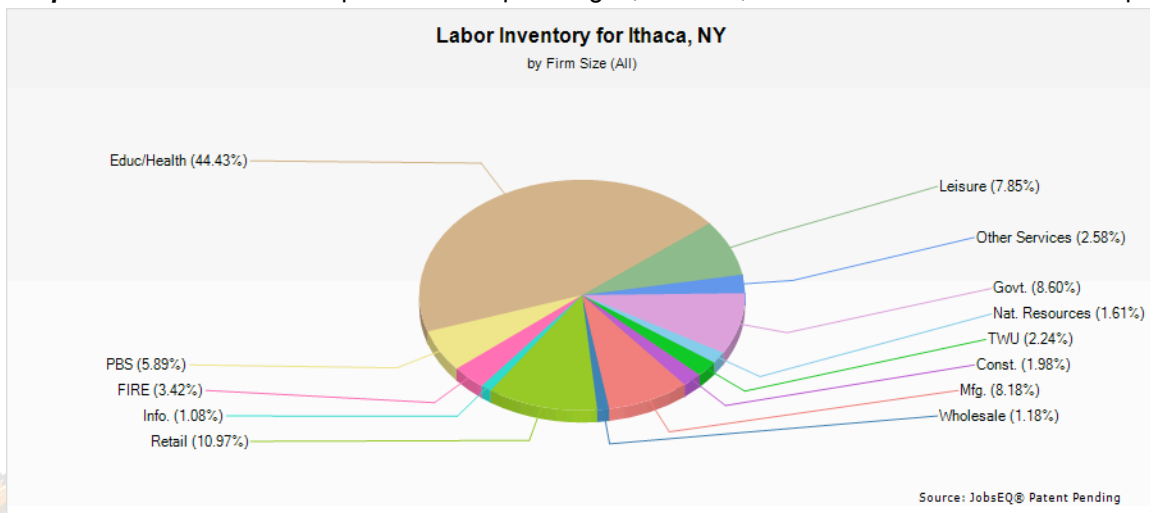
Labor Inventory – Analysis and graphic display of a region's employment mix based on industry type, firm size, and occupations.

Maps – Interactive display of variables at the county/city level of detail. Included variables are commuting data, unemployment rate, employment growth, and rural scale.

Emerging Workforce – Projections of the first-time entrants into the workforce by number and educational attainment.

1.3.4. Local Business Portal

The Local Business Portal of JobsEQ allows businesses to enter their short-term labor needs which in turn become input data reflected in JobsEQ analytics. For example, the *Gaps* analytic reflects business vacancy data in its analysis of supply and demand of the local workforce.

Occupation Profile?
Need to hire? Use this tool to research occupations in your local labor market. Just select an occupation and click *Go*.

Occupation:
Chemical Engineers   [🔍] [Go]

The portal also gives employers a streamlined view of the data available in JobsEQ. Through the Occupation Profile tool, employers are given instant access to data describing the occupation in the workforce, including:

- Annual occupation gaps in the region (supply vs. demand)
- Occupation concentration by county in the state
- Average wages by industry sector
- Alternative occupations in the region that can fill the need of the targeted occupation
- Commuting patterns

The JobsEQ business portal completes the workforce pipeline, getting the needs of the business to the training providers and in turn, to the workers.