

Targeting Sustaining Upgrading

Communities, Call Centers, and Careers



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Project Goal: To provide an analysis of the geography of career paths and career opportunities in the financial service cluster in the Pittsburgh area. Also, the implications of this geography for the strategies the FSC is pursuing to promote economic opportunities for disadvantaged workers in the region.

Outline: This project can be divided into the following sections:

- Research of finance, insurance and real estate companies in Allegheny County
- Mapping of the companies and call centers
- Mapping of the workforce
- Identifying the industry and workforce characteristics
- Identifying threats from overseas outsourcing and making suggestions

Abstract: One of the five priority clusters identified in Pittsburgh is the financial services cluster. It is comprised of companies in finance, insurance and real estate, often referred to with the acronym as 'FIRE' sector businesses. Our group did research to find more of these institutions in Allegheny County. By then mapping these companies and also call centers we identified some clustering of these businesses outside of the traditional locale of the central business district. Additionally we mapped by Census block different variables focusing on elements such as: education level and transportation use, to gain a clearer picture as to the population demographics within the county. We also looked at figures on the financial services cluster in Pittsburgh (i.e. - workforce wages compared to national and Pennsylvania pay rates), targeted potential career paths and the necessary skills to succeed in these jobs. Finally we will discuss the threats from the increasing trend of outsourcing business service jobs to developing countries and make suggestions for how to sustain financial service job growth locally.

➤ **Where are the Financial Service Jobs?**

Financial Service Cluster Research

Company Research Methods:

The research of companies in the financial services cluster involved compiling an Excel spreadsheet of 88 companies. This was accomplished by looking through company directories and the phone book. (See attached list)

Some Shortcomings in the Collection:

Although most were personally contacted (50 of the 88) not all companies were called. This contact was in order to determine if the firm had a centralized call center.

Not a total look at all companies in the area, since some are extremely small employers. There is a focus on medium to larger size companies.

Research in the cluster proved that the minority rather than the majority operated call centers in the area.

A Commonality:

Decentralized call centers (“at branch”, receptionist, or corporate switchboard) because some companies just don’t have a high volume of customer calls to warrant a centralized call center.

Contacted companies possessing customer service centers in the region:

NSD Bancorp
IBT Bancorp
ATM Corporation
PNC Bank
Mellon Bank
Standard Bank
General American
Highmark Insurance
I Mortgage

Other Notes from Calling These Firms:

Sky Bank, MedAmerica and Eureka Financial all outsourced jobs to other U.S states. GA Financial used AVL and Key Personnel temp agencies to hire their 20-30 employees.

Conclusions of Research:

Identification of a few more financial service companies that could potentially be involved with future cluster initiatives

Call center information was obtained by calling more than half of the listed financial service firms rather than simply looking at company databases.

Possible Extensions to this Work:

The research could have extended to calling all of the listed companies to gain more insights on those in the listing. Compilation of all of the financial services firms to spatially see if there is more evidence of clustering.

Mapping Call Centers and Financial Service Companies

Two sets of data are used to create job opportunity maps: financial service company dataset and call center dataset. More than 80 percent of the companies are mapped automatically using “geocoding address” function in ArcMap. Others are mapped manually based on the searching results from online map on Yahoo website. Map 1 – 9 in Appendix A show the maps created. The background of the maps includes county boundary, roads, and landmark polygons layers from US Census 2000 data. Combining with the maps of workforce, which will be described in the next section, these maps can be used to connect local workforce to the jobs opportunities.

Mapping Financial Service Companies

Totally 88 financial service companies are collected in this project. Except 12 companies, which are out of our study area, others are mapped using ArcGIS software. Based on the map created, we can see three financial service company clusters in the county: downtown cluster, northern cluster, and eastern cluster. Four maps (see Appendix A: map 1 – 4) are made: one map for the whole area and three maps for each cluster.

Because of the time limitation of this project, the number of call center jobs in each company is not mapped. In stead, the companies are categorized as:

- Yes: have call center jobs, but no information about where are these jobs;
- Yes, same site: have call center jobs in the same site as the company;
- Yes, at branches: have call center jobs in company branches;
- Yes, hire from temperate agencies: have call center jobs, but hire workers from temp agencies;
- Unknown: no information about whether the company has call center jobs or not.

Mapping Call Centers

The call center dataset used in this project is collected by a previous project. In this project, some call center addresses are corrected for mapping purpose. Totally 51 call centers in Allegheny County are mapped.

9 call centers in financial service sector are identified based on the financial service company dataset described in the previous subsection. Some financial service sector call centers are not mapped because they are located outside of Allegheny County. Appendix A (map 5 - 9) shows the resulting call center maps. The call centers in financial service section are identified using red color. Call centers in other sectors are in green color. The size of the symbol is proportioned to the approximate number of employees in each call center. From these maps, we can see the largest cluster in the downtown area and other smaller clusters in the southwestern, northern, and eastern parts of the county.

➤ **Where is the Workforce for Financial Service Jobs?**

Identifying and Mapping the Workforce

One important part in developing this project, is to spatialize (map) a lot of available data to get a better sense of not only the workforce of Allegheny county but to understand how the different variables affect the overall workforce locations and trends. Once all the variables are collected, the work of mapping these factors out in a significant and understandable manner is as important as the data itself.

Mapping the workforce is very important to understanding the workforce since we live in a three dimensional world. By spatializing the data, we can get a strong understanding the distribution of the workforce and the factors that affect it, not in some simple downtown vs. suburbs sense but in a detailed location to location basis. By spatializing this data, we can begin to compare one specific locale to another or find the peaks and valley of any and all the variables considered.

First, we used data from the 2000 census to supply numerous variables by census tract. We at first downloaded as all variables that we felt had significant effect on the workforce or helped in understanding the spatial distribution. Of all the data available, we selected the following variables:

- Percentage of Workforce that Carpooled to Work
- Percentage of Commuters who used Public Transportation to travel to Work
- Percentage of the Workforce who had a High School Diploma
- Percentage of Personal Incomes that were less than \$10,000
- Percentage of Households that did not have access to a car
- Percentage of Households under the Poverty Level
- Income Per Capita
- Total Population
- Percentage of the Workforce that is Unemployed
- Mean Travel time to Work

We selected all these variables since they all factor into the overall workforce picture. We made simple maps of all of these factors individually but felt that more work was needed to allow for a better understanding of the situation. As a result, three main maps were generated using most of the variables above. By specifying “ideal” criteria in the case of each variable, we can generate a map displaying how close each census tract is to fitting the criteria of each map. Our three maps focused each on separate ideas. Our first map was to display the overall financial conditions of each tract to highlight areas of disparity and poverty. Our second map is focused on the mobility and ability of the workforce to travel long distances to jobs. Our third and final map is a map of census tracts that we feel should be areas of focus for workforce initiative programs.

Our first map was generated using the following criteria for an “ideal” community in poverty:

- Per Capita Incomes of \$ 0 - \$ 15,000

- Percent of Personal Income of Less than 10,000 over 25%
- Percent of Households below the Poverty level over 30%

This generated Map 1A attached to the back of this report

By examining this map, you can see most of the poverty areas over downtown though there are some outliers to consider. If we take a closer look at the downtown areas we can make a lot of judgments relating to the downtown company cluster. The map of this area is attached Map 1B.

With this map we can find some of the more impoverished areas of downtown in relation to the call centers and company locations.

Our second map was generated using the following criteria for the “ideal” mobile workforce of a community.

- Households that do not have Access to a Car under 15%
- Percentage of the Workforce that uses Public Transportation to Commute to Work over 30%
- Mean Travel Time to Work over 35 minutes

These criteria were made to generate a map that illustrated the areas of highest mobility in terms of distance from work and home. By generating this map (Map 2a) we can see how the mobility of the workforce in general. In contrast to what one might think, the map suggests that the downtown workforce is more mobile than the suburbs because they rely and have access to more public means of transportation and have longer commute times to travel through the city.

A detailed downtown map (Map 2b) is attached to this report goes to further illustrate this better.

The criterion for the third and final map generated is as follows:

- Percentage of People in the Workforce with High School Diploma over 80%
- Households with Income less than \$10,000 over 25%
- Percentage of Unemployment over 10%
- Total Population over 4000 people

These criteria were generated as a best fit of the ideal subjects of workforce initiative programs. By highlighting these communities and adding the company and call center locations, a lot of direct links can be made between communities to call center jobs. This an, if not the most, important map created because it allow for these direct connection areas. The overall map (Map 3a) shows the location of the best community for being targeted for the Workforce Initiative Program. A more detailed map of the downtown areas and the financial company cluster is also included in this report (Map 3b)

Included in this report, I’ve also included individual map of each single variable used in these maps for direct comparison to the multivariate map of better understand the workforce since the multivariate maps will point out areas that fit the criteria but don’t explain why the areas that don’t fit the criteria in terms of the variables.

➤ **Characteristics of Financial Service Job in Pittsburgh**

Career Paths & Possibilities in Pittsburgh's Financial Sector

Entry-Level:

Entry-level financial service positions do not require any type of post-secondary degree, but often require on-the-job experience or training. In addition to the training, these positions demand a menagerie of basic skills, including: effective oral and written communication skills, quantitative skills, customer service skills and computer skills. In interviews with call center representatives in the Pittsburgh region, the primary emphasis for entry-level skills was computer skills. A number of Windows programs were stressed, including familiarity with spreadsheets (Excel), word processing (Word) and databases (Access).

Entry-level inbound call center positions in the Pittsburgh region offer wages from \$8 to \$12.50 an hour. These positions also offer copious benefits, such as: medical and dental insurance, 401k, stock options and performance incentives. Customer service representative is a growing occupation in the Pittsburgh metropolitan area. There are over 17,000 people employed as customer service representatives in the Pittsburgh MSA, and there are over 200 openings for this occupation in 2004 for the Pittsburgh MSA. Nationally, the customer service representative occupation is predicted to increase 24% from 2002-2012.

The average annual wages for customer service representatives in the Pittsburgh MSA are \$16,793 (entry-level), \$26,051 (average) and \$30,620 (experienced). There is significant room for monetary advancement as a customer service representative, with experienced workers making almost twice as much as entry-level workers. In concert with benefits, the potential wage increases make customer service representative jobs more appealing than fast food and cashier/sales jobs that have similar entry-level wages but lack monetary advancement and benefits.

There are many career path scenarios for entry-level employees. Inbound call center experience is adaptable to occupations with similar skill sets. These are primarily office and administrative support occupations. The following is a table of occupations that share many of the same skill sets as inbound call center occupations. The data is specific for the Pittsburgh MSA and is courtesy the Bureau of Labor Statistics (bls.gov).

Occupation Title	Employment	Median Hourly	Mean Hourly	Mean Annual
Office and Administrative Support Occupations	199,340	\$11.18	\$12.23	\$25,440
Switchboard Operators, Including Answering Service	2,390	\$8.32	\$8.80	\$18,310
Bill and Account Collectors	3,420	\$11.88	\$12.91	\$26,850
Billing and Posting Clerks and Machine Operators	3,950	\$11.81	\$12.59	\$26,180
Bookkeeping, Accounting, and Auditing Clerks	11,930	\$11.50	\$12.16	\$25,290
Payroll and Timekeeping Clerks	1,290	\$13.38	\$13.70	\$28,490
Tellers	7,390	\$10.20	\$10.53	\$21,890
Brokerage Clerks	390	\$14.12	\$14.16	\$29,440
Correspondence Clerks	500	\$12.69	\$12.92	\$26,870
Customer Service Representatives	17,020	\$11.07	\$12.34	\$25,660
File Clerks	2,130	\$9.50	\$10.09	\$20,990

Interviewers, Except Eligibility and Loan	2,660	\$8.66	\$9.41	\$19,570
Loan Interviewers and Clerks	990	\$12.81	\$13.16	\$27,380
New Accounts Clerks	960	\$10.61	\$11.12	\$23,140
Order Clerks	1,950	\$11.80	\$12.12	\$25,210
Human Resources Assistants, Except Payroll and Timekeeping	1,260	\$14.13	\$14.88	\$30,950
Receptionists and Information Clerks	12,240	\$8.33	\$8.81	\$18,330
Shipping, Receiving, and Traffic Clerks	5,190	\$10.69	\$11.34	\$23,590
Stock Clerks and Order Fillers	14,260	\$7.84	\$8.74	\$18,180
Secretaries, Except Legal, Medical, and Executive	20,420	\$10.67	\$11.07	\$23,020
Data Entry Keyers	4,270	\$10.49	\$10.50	\$21,840
Word Processors and Typists	2,290	\$12.45	\$13.00	\$27,050
Insurance Claims and Policy Processing Clerks	1,670	\$16.27	\$17.37	\$36,130
Office Clerks, General	24,550	\$9.50	\$10.20	\$21,220
Telemarketers	4,820	\$9.14	\$11.41	\$23,730

Some of these occupations are not desirable career paths for a customer service representative. Some occupations, such as receptionists, pay lower and have less room for advancement than customer service representatives. Other occupations, such as telemarketers, are shrinking, often due to outsourcing. There are three occupations that are appropriate for customer service representative career paths that are experiencing growth in the Pittsburgh MSA, offer ample wages and the potential for significant wage increase. These occupations include: bill and account collectors, insurance claims and policy processing clerks and tellers.

Bill and account collectors locate and notify customers of delinquent accounts and solicit payment. There are 3,420 employees in this occupation in the Pittsburgh MSA, with 50 or more openings projected for 2004. Nationally, the growth rate for this occupation for 2002-2012 is predicted to be 24.5%. Bill and account collectors in the Pittsburgh MSA have average annual wages of \$19,929 (entry-level), \$27,663 (average) and \$31,531 (experienced).

Insurance claims and policy clerks process new policies and modify existing policies. There are 1,670 employees in this occupation in the Pittsburgh MSA. According to the Three Rivers Workforce Investment Board, there are no estimates on the number of hirings, but there is

significant hiring activity for this occupation taking place. Projected growth rate national for 2002-2012 is 3.6%. Insurance claims and policy clerks have average annual wages of \$24,503 (entry-level), \$37,153 (average) and \$43,478 (experienced). Although this occupation is only experiencing modest growth, the excellent wages make this occupation a priority.

Tellers receive and pay out money. There are 7,390 tellers in the Pittsburgh MSA. There are projected to be over 200 openings in the Pittsburgh MSA for 2004, and the national 2002-2012 growth rate is 9.4%. The annual wages are \$15,745 (entry-level), \$21,714 (average) and \$24,698 (experienced). A teller is a priority occupation due to its explosive growth in the Pittsburgh region.

Professional Level:

Professional level financial occupations require a Bachelor's Degree or higher. In addition, they require a different set of skills from entry-level occupations. These skills include: critical thinking and decision-making, management of financial resources, advanced math skills, expertise in the financial field, risk analysis and presentation skills.

There are four primary occupation types that are adaptable to the professional-level skill set. These include: management occupations, business and financial operations occupations, computer and mathematical occupations, and sales occupations. Within each of these occupation types is an occupation that is appropriate for the professional-level employee, offers ample wages and wage growth, and is experiencing occupational growth within the Pittsburgh MSA.

A table of potential management occupations:

Occupation Title	Employment (1)	Median Hourly	Mean Hourly	Mean Annual (2)
Management Occupations	64,660	\$30.54	\$35.61	\$74,070
Marketing Managers	1,600	\$34.11	\$36.51	\$75,930
Sales Managers	2,810	\$35.18	\$38.41	\$79,890
Administrative Services Managers	2,980	\$22.57	\$28.92	\$60,150
Computer and Information Systems Managers	2,540	\$39.18	\$39.30	\$81,750
Financial Managers	6,490	\$27.58	\$32.53	\$67,660

Among management occupations, the priority occupation is financial managers, who plan and coordinate financial activities. There are 6,490 financial managers employed in the Pittsburgh MSA with 100 or more openings projected for 2004. The 2002-2012 projected growth rate nationally is 12.4%. The average annual wages are \$39,123 (entry-level), \$69,698 (average) and \$84,985 (experienced).

The following is a table of potential business and financial operations occupations:

Potential Business and Financial Occupations:

Occupation Title	Employment (1)	Median Hourly	Mean Hourly	Mean Annual (2)
Business and Financial Operations Occupations	35,620	\$21.56	\$23.63	\$49,160
Accountants and Auditors	6,000	\$20.93	\$23.84	\$49,580
Credit Analysts	340	\$18.48	\$20.16	\$41,920
Financial Analysts	1,130	\$24.39	\$28.68	\$59,660
Personal Financial Advisors	1,050	\$22.34	\$27.35	\$56,890
Insurance Underwriters	690	\$22.48	\$23.81	\$49,520
Financial Examiners	210	\$27.43	\$28.72	\$59,740
Loan Counselors	150	\$21.60	\$24.43	\$50,810
Loan Officers	1,300	\$16.42	\$18.65	\$38,800

Accountants and auditors is the priority occupation in this occupation type. They examine accounting records, give advice and prepare statements. There are 6,000 employed in the Pittsburgh MSA with 100 or more projected openings for 2004. Nationally, this occupation is projected to increase by 19.5% from 2002-2012. The average annual wages are \$30,417 (entry-level), \$49,169 (average) and \$58,548 (experienced).

The following is a table of potential computer and mathematical occupations. These occupations are important because they can extend beyond the financial sector, increasing their versatility and employability.

Potential computer and mathematical occupations:

Occupation Title	Employment (1)	Median Hourly	Mean Hourly	Mean Annual (2)
Computer and Mathematical Occupations	20,860	\$25.37	\$26.39	\$54,880
Computer Programmers	4,260	\$25.47	\$26.86	\$55,860
Computer Systems Analysts	3,320	\$28.73	\$29.12	\$60,570
Database Administrators	920	\$23.26	\$24.76	\$51,500
Network and Computer Systems Administrators	2,160	\$23.15	\$23.68	\$49,260
Network Systems and Data Communications Analysts	1,070	\$25.45	\$27.05	\$56,270
Public Relations Managers	600	\$26.25	\$28.79	\$59,880

Within this occupation type, the priority occupation is computer systems analysts. Systems analysts analyze data processing problems in electronic platforms. There are 3,320 employed in the Pittsburgh MSA with 100 or more openings projected for 2004. Nationally, the 2002-2012 projected growth rate is an astounding 39.4%, ensuring that this will be a demand occupation for years to come. The average annual wages are \$41,628 (entry-level), \$61,033 (average) and \$70,736 (experienced). This occupation has a very high entry-level wage and has a large margin for advancement.

A table of potential sales occupations:

Occupation Title	Employment (1)	Median Hourly	Mean Hourly	Mean Annual (2)
Sales and Related Occupations	113,040	\$8.91	\$13.13	\$27,310
First-Line Supervisors/Managers of Retail Sales Workers	9,300	\$13.79	\$16.35	\$34,000
First-Line Supervisors/Managers of Non-Retail Sales Workers	2,070	\$23.11	\$27.56	\$57,330
Insurance Sales Agents	3,590	\$17.73	\$25.07	\$52,150
Securities, Commodities, and Financial Services Sales Agents	2,820	\$22.01	\$29.61	\$61,590

The priority occupation within this occupation type is securities, commodities, and financial services sales agents. These agents buy and sell securities and commodities in investment and trading firms. There are 2,820 employed in the Pittsburgh MSA with 50 or more openings projected in 2004. The average annual wages are \$32,256 (entry-level), \$63,021 (average) and \$78,403 (experienced).

➤ **Sustaining Financial Service Jobs in Pittsburgh**

The threatening trend of overseas outsourcing

Call center jobs have been growing in Pittsburgh region, and financial service has been identified as one of the five priority industry clusters in Southwestern Penn by the regional economic development officials. In this project, we have collected data about local employers, mapped employers and workforce, as well as analysis the skills requirement of financial service jobs. Workforce development agencies can use this information to better serve both the employers and workers in this cluster. However, to sustain financial service job growth in the region, there is another factor that is too important to ignore, namely that the accelerating trend of outsourcing call center jobs to developing countries in the era of the new economy.

After the first wave of outsourcing manufacturing jobs to overseas between 1987 and 1997, customer service jobs in the U.S. have been threatened by the second wave of outsourcing since 1990s. Under this trend, any job that involves mostly "...sitting at a desk, talking on the phone and working on a computer..." is at risk.

Foreign Affairs magazine projected that the U.S. will lose a total of 3.3 million service jobs to overseas outsourcing between 2000 and 2015, and financial service is one of the two sectors to be hardest hit. Today, 20% of financial services companies have already outsourced some jobs. And the trend is accelerating. Outsourcing put financial service jobs in the U.S. at risk.

Outsourcing business service jobs to developing countries has happened in Pittsburgh region. For example, iGate, a local company in Pittsburgh, has six Indian centers doing back office work for major American companies. Reese Telecommunications, a Pittsburgh-based call center operator, has closed a call center in Indiana County and moved the jobs to Mumbai, India. Moreover, Indian companies such as Tata are knocking on doors looking for call-center business in Pittsburgh.

Under such trends, it is important for the economic development agencies to understand why U.S. companies outsource financial service jobs to developing countries and develop appropriate policies to sustain call center job growth locally.

Why overseas outsourcing?

Supported by the Internet and telecommunication technologies, and the increasing use of English and US standards in business and commerce, driving by the obvious benefits to US employers and the unending corporate pursuit for productivity improvements inside America, more and more U.S. companies have begun to export business service jobs, which can be performed anywhere, to English Speaking developing countries, such as India, Malaysia, Philippines, and South Africa. Overseas outsourcing of service jobs has become a major threat to the U.S. call center workers.

The major push factor of outsourcing is that the cost of the workers in developing countries is far less than that in the U.S. For example, in the U.S., a telephone operator's wage is US from \$7 - \$12.57 per hour; in India, it is only about \$1.00. Despite the telecommunication and administration costs, U.S. companies can save at least 40% if they export the jobs to the developing countries. Another important push factor, which is often overlooked, is the passion of overseas workers in this type of jobs. The same jobs, which are often considered to be boring and low income in the U.S., are respectful in the developing countries. By going overseas, the work can be done with higher quality by a stable, low-cost workforce, who is well trained and satisfied with the salaries. A lower wage scale is even more attractive if it comes with a well educated labor force.

Suggestions about sustaining financial service jobs in the region

Because of the general high consuming level in the U.S., it is very difficult, if not impossible, for the U.S. call center workers to compete with the workers in developing countries by lowering the wages. As a result, it is more promising for the U.S. workers and regional economic development agencies to win the competition through improving the quality of work done by the local workers and reducing employers' office and hiring costs.

To sustain jobs in the region, it is important to improve the quality of work done by the local workers. Local workers speak neutral accent American English and are familiar with the U.S. culture. These inherent advantages provide the necessary resources for a high quality work. Compared with the workers in oversea countries, it is easier for Pittsburgh's workers to communicate with their customers. Moreover, there are plenty of low income workforces in the region. However, traditionally, Pittsburgh's call center workers are less motivated and do the jobs with little passion. In addition, the education level of local call center workers is low compare with the workers in developing countries. As a result, the quality of work done by U.S. call center workers is far from being satisfactory to employers. The key to improve the quality of work by local call center workers lie in education.

First, to sustain call center jobs in the region, it is necessary to improve public education in the region. By doing this, the general quality of the local workforce can be improved to compete with the well trained workers in the developing countries.

Second, job training programs that can help call center workers obtain necessary skills in their jobs are needed. There training may include computer skills, customer psychology, and particular domain knowledge related to different industry sectors.

Third, job training programs that can help call center workers move up the career ladder are needed. One of major disadvantage of U.S. call center workers is the lack of motivation and hence passion in the job. This type of trainings provides opportunities for the local workers to move up for better jobs. For example, a potential path may be from ordinary call center jobs, to IT call center jobs that require higher skills, and to management positions in call centers that have even higher skill requirements. With the opportunity to move up, the motivation of local workers can be improved. Hence the quality of work.

Forth, special trainings are also needed to help local call center worker to relief the stress in the job. Monitored by the employers and talking most time to customers, call center workers usually need to work a long time under great pressure. This type of training can help workers to better deal with stress in the job. It can also lower the current high turn over rate and help employers to reduce the cost of hiring new workers.

Finally, local economic development agencies can also make policies to strengthen call center job training and help retain the job in the region. For example, human-capital investment tax credit can be instituted to provide employers greater incentive to retrain workers. More attention can be paid to small and medium size employers. Large companies are important, but they are also most likely to outsource job overseas. Based on our research, there are many call center jobs in small and medium size employers. However, they have less resource for job trainings. Economic development agencies provide trainings to serve the needs of these employers and improve the quality of workforce in general.

While it is important for local call center workers to improve the quality of job and motivation through education and job training, it is also beneficial for local employers to make effort to retain the jobs locally. By hiring local workers, the prestige of the company can be improved. Several approaches can be employed by the employers to reduce the office and hiring

costs. U.S. is rich in technology and data, and local employers can make use of these resources to select appropriate location for their businesses, for example, locating the call centers in low income neighborhood or rural areas to reduce the cost of workers and office space. In addition, experiences in developing countries can be borrowed to retain workers in the job. For example, because call center workers are usually do not have enough transportation abilities between job and work, employers can provide company shuttles like most call center companies in India.

➤ **Summary**

In this project, a wide variety of information are collected, mapped, and analyzed in order to improve the quality of work in financial service cluster in Allegheny County in Pittsburgh region and sustain the job growth in the future. We have collected data about financial service companies, mapped these companies as well as call centers in entire business service industries, searched for clusters, mapped the local workforce, tried to connect workforce to jobs, and analyzed the skill requirements of different job positions in financial service cluster. The threat to financial service jobs by oversea outsourcing is also identified, and suggestions are made to help sustain job in the region. The information provided by this project can help local economic development agencies to promote economic opportunities for disadvantaged workers in the region.

➤ **Sources**

www.bls.gov Bureau of Labor Statistics

Three Rivers Worforce Investment Board

➤ **Appendix A: Maps**