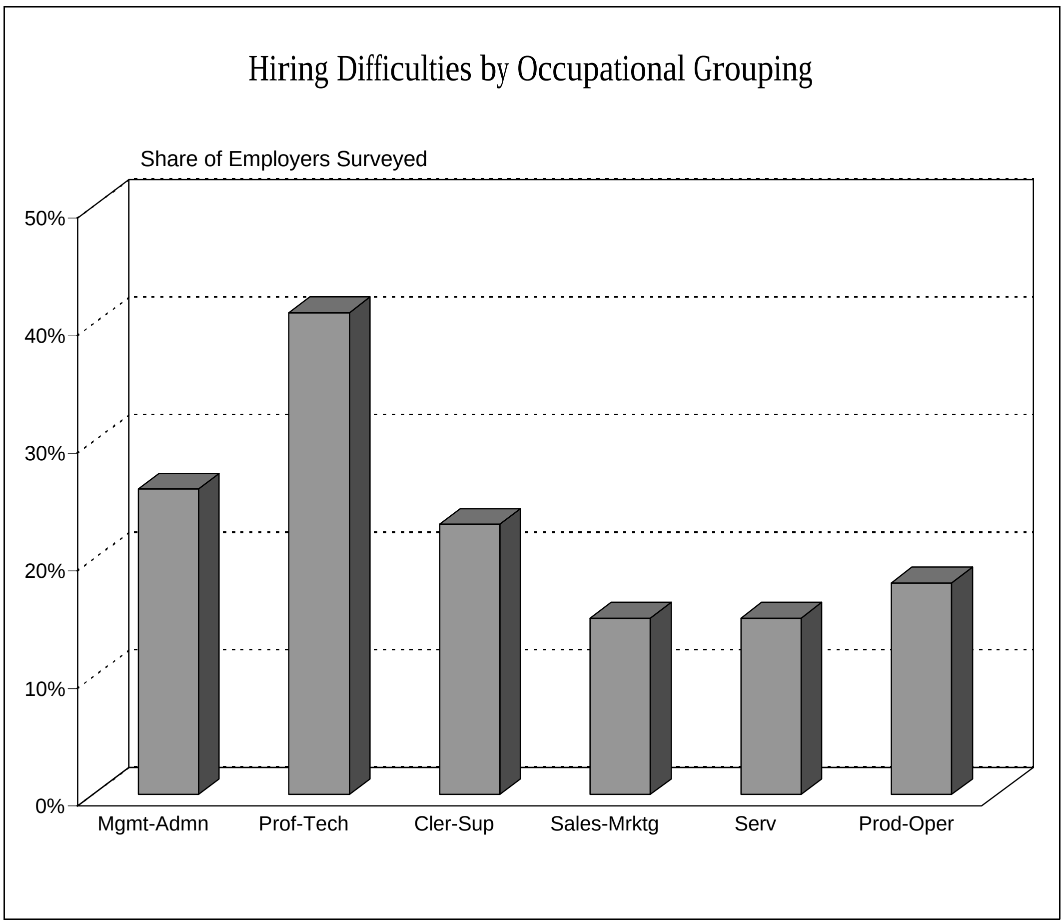
Studies in Industry and Employment

Labor and Skill Shortages in Washington: Findings from the LMEA Supply-Demand Survey



Washington State Employment Security
Labor Market and Economic Analysis Branch
Carver Gayton, *Commissioner*

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Labor and Skill Shortages in Washington: Findings from the LMEA Supply-Demand Survey

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Labor Shortage: Perception or Reality?

"The Work Goes Wanting"
(*The News Tribune*, 6-18-97)

"Businesses Feeling Labor Pains"
(*Wenatchee World*, 6-15-97)

"Labor Shortage Spurs High Tech Wage Hikes"
(*The Business Journal*, 6-21-97)

"Employment Agent Battles a Labor Shortage"
(*Seattle Post-Intelligencer*, 8-7-97)

"Retailers Find Hiring Hard in Hot Economy"
(*Puget Sound Business Journal*, 8-8-97)

"Temp Agencies Struggle to Keep Up With Demand"
(*Puget Sound Business Journal*, 8-15-97)

"Labor Rate Remains Tight in County, State"
(*The Columbian*, 8-20-97)

"Eastside Job Listings Grow"
(*Eastside Journal*, 8-23-97)

"Hiring Gets Tougher for Local Employers"
(*Seattle Times*, 8-26-97)

The headlines would seem to say it all. Recent stories about the hiring difficulties faced by Washington employers like Boeing, Microsoft, and others offer strong empirical evidence that a labor shortage is confronting those major employers and other industries, particularly in the central Puget Sound region. Can the same be said, however, about other employers in other industries in other parts of Washington? Simply put, yes. A couple of the headlines themselves give evidence of this with reports on the situation in the Wenatchee (Chelan and Douglas counties) and Vancouver (Clark County) areas.

Nationally, Manpower Inc., the nation's largest temporary help supply firm, surveyed 16,000 companies in nearly 500 cities across the U.S. and found that 30 percent were currently expanding their work forces. A Manpower executive said that the need for workers is so widespread that there seems to be carry-over demand caused by the inability of companies to find the people they needed in earlier quarters. Specific to Washington, that same Manpower survey revealed that among metropolitan areas, Seattle would be second only to Atlanta with respect to the share of employers planning to expand their permanent work forces in the fourth quarter of 1997 with 42 percent of employers acknowledging hiring plans. Elsewhere around Washington, Olympia will challenge Seattle with 40 percent of its employers expected to hire permanent workers. A healthy 33 percent of Tacoma's employers are expected to hire permanent workers while in eastern Washington, Spokane and the Tri-Cities employers posted 23 percent and 17 percent shares, respectively.

Beyond the Manpower survey, there is additional evidence of labor market tightness nationally. For starters, the U.S. jobless rate is also near historic lows. There is evidence of recent real wage growth. The Conference Board's index of help wanted ads is at an all-time high. And work week hours and overtime hours are both up. Moreover, Washington's unemployment rate has dipped to a seven-year low, down almost two percentage points from a year ago with most of the central Puget Sound region tracking well below the national average.

The Labor Market Supply-Demand Survey

Expanding upon the labor shortage theme, the Labor Market and Economic Analysis (LMEA) Branch of Employment Security sought to explore whether employers in other industries and geographic locations were having similar difficulty finding qualified applicants to fill current job openings. In other words, was this perceived labor shortage a regionally-isolated or industry-specific phenomenon or was it a statewide and industry-wide phenomenon. Toward that end, LMEA designed and distributed a non-scientific survey to three groups: (1) Major Employers, (2) College Placement Centers, and (3) Employment Security Job Service Centers.

The intent of this multi-question survey was to attempt to assess the current hiring environment at different points of contact between employers and job seekers. A written survey was used with each slightly tailored to the aforementioned groups. The LMEA survey took the additional step of assessing the strategies employers have used to address the labor shortage as well as which have or have not been effective. Again, this was not a scientific survey. It was merely intended to provide a snapshot of current labor market activity from several viewpoints.

Major Employers

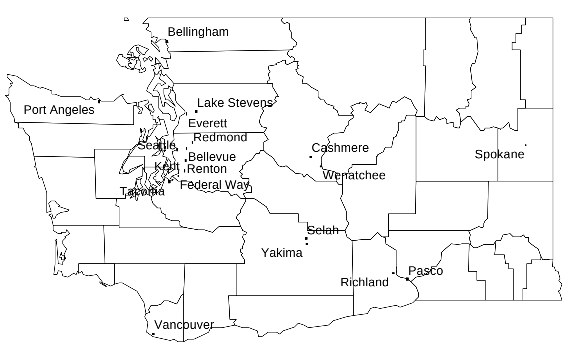
The employers surveyed were selected from a list of the 100 largest firms in Washington based on the size of their work force. While recognizing that small- and medium-sized firms are important, it was surmised that if large employers found it difficult to find applicants, the same would be true for small- and medium-sized firms in those same industries. This point was driven home repeatedly in news stories as small- and medium-sized employers recounted the challenges they faced competing with large employers for skilled workers. Thirty-eight (38) employers from different industries and geographic locales were surveyed. Of those 38 employers, 24 responded for an overall response rate of 63 percent.

Industry Distribution. *Figure 1* illustrates the distribution of the 24 firms by major industry divisions. One out of three firms came under the services heading, giving it the most significant presence. One-fourth of the firms was classified under manufacturing. Just over one-fifth of the firms were in wholesale and retail trade (mostly the latter) while just under one-fifth were in transportation and public utilities (TPU). The fewest number of firms, 4 percent, were in the finance, insurance and real estate (FIRE) sector. How does this relate to the overall industry distribution for Washington? The survey had a higher share of manufacturing and TPU employment than is present in the actual state economy.

Figure 1
Employers by Industry
Washington State vs. Survey
Source: *LMEA Supply-Demand Survey*

	State	Survey
Construction	5%	0%
Manufacturing	14%	25%
Transportation & Public Utilities	5%	17%
Trade	25%	21%
Finance, Insurance, & Real Estate	5%	4%
Services	27%	33%
Government	19%	0%

Figure 2
Employer Hiring Locations
Washington State
Source: *LMEA Supply-Demand Survey*



However, it generally reflected the shares of trade, FIRE, and services employment.

Geographic Distribution. Of the 24 survey respondents, half indicated that their principal hiring locations or sites were within the central Puget Sound region. Of the half whose principal hiring locations or sites were outside the central Puget Sound region, all but two (in Bellingham and Vancouver) were in eastern or central Washington (*see Figure 2*). All told, the company hiring locations cover most of the state's major labor market areas. In fact, this geographic distribution is not far removed from that for the state as a whole.

The principal question asked of employers was this: "Are you currently finding it difficult to fill certain jobs?" All 24 of the surveyed firms answered "yes." Perhaps more notably, none of the respondents indicated that they had been able to successfully address the issue. Simply put, this was a yet unresolved human resource situation for all 24 firms.

The surveyed firms were then asked to identify the occupational categories in which they were experiencing hiring difficulties. The six categories were (1) managerial and administrative, (2) professional and technical, (3) clerical and administrative support, (4) sales and marketing, (5) services-related, and (6) production and operations. *Figure 3* reveals the survey results in terms of the percentage of firms that had difficulty filling current openings in the aforementioned occupational categories. *Figure 4* on the next page shows specific occupations identified by the respondent firms.

Professional and Technical. The survey respondents experienced, by far, the most difficulty filling professional and technical openings with approximately four in ten checking this category. The specific job titles cited by the firms covered the spectrum. For the most part, though, employers described a tremendous unmet demand for positions requiring an information technology background in all of its many applications (e.g., software, hardware, systems, etc.).

Figure 3
Difficulty Filling Openings by Occupational Category
Source: *LMEA Supply-Demand Survey*

Managerial	26%
Professional/Technical	41%
Clerical/Administrative Support	23%
Sales/Marketing	15%
Services-Related	15%
Productions/Operations	18%

Figure 4
Specific Occupations in Demand
Source: *LMEA Supply-Demand Survey*

Managerial	**Professional/Tech**	**Cleric/Admin Supp**
Assistant Managers	Accountants	Accounting Assistants
Assist General Mgrs	Automotive Techs	Administrative Assist
Entry-Level Mgrs	Chemical Engineers	Clerks
Executive Managers	Computer Scientists	Executive Assistants
	Data Base Analysts	Receptionists
	Data Processors	
Sales/Marketing	Electr Publish Spec	
	Electronic Techs	**Production/Oper**
Advertising Specs	Electrical Engineers	
Marketing Specialists	Financial Analysts	Clerks
Salespersons	Integr Circuit Design	Cooks
Sales Directors	Programmer Analysts	Electricians
Sales Managers	Occupational Nurses	Electr Assemblers
	Project Managers	Machinists
	Mfg Consultants	Moldmakers
Services-Related	Mfg Engineers	Plumbers
	Med Resch Scientists	Prod Supervisors
Customer Svc Reps	Software Engineers	Typesetters
Housekeepers	Systems Analysts	
Food/Beverage Wkrs	Underwriters	

One might presume that Microsoft and the other Washington-based, high tech companies were driving this need. And they are----*indirectly*. While the aforementioned category of companies represents a tremendous source of demand for information technology professionals, not one of the firms in the LMEA survey specialized in information technology as its core business. Yet many expressed a critical need for individuals with information technology backgrounds. The indirect connection most firms specifically cited as the key contributing factor in their difficulty filling information technology openings was their inability to compete with companies like Microsoft, which effectively dominate in recruitment and retention of information technology professionals with wage and benefit packages that smaller, non-specialized firms cannot match.

To be sure, information technology is not the only professional or technical area within which firms are finding it difficult to fill current openings. In this particular survey, engineers and scientists were also cited as specific occupations of need that were going unfilled. Accountants----both senior and entry level----also emerged as specific occupations that were going unfilled.

Though individuals with professional and technical backgrounds are in highest demand, the labor shortage situation does not end there. Because of the tremendous growth in the state's economy in general----not just in companies like Microsoft and Boeing----employers are finding it difficult to fill job openings in virtually every occupational category.

Managerial and Administrative. There was significant demand for managerial and administrative types with roughly one-fourth of the surveyed firms checking this occupational category. The need, however, appeared to be most acute in the lower-paying services and retail trade sectors. The hospitality (hotel) industry was cited as key example, principally with respect to the need for managers and assistant managers.

Clerical and Administrative Support. Nearly one-quarter (23 percent) of the surveyed firms identified an unmet need for clerical and administrative support personnel. Furthermore, as was the case with the managerial and administrative sector, this need appeared to be most acute in the services and retail trade sectors, and covered everything from administrative assistants to customer service representatives to clerks to receptionists.

Production and Operations. Eighteen (18) percent of the companies surveyed had unfilled job openings in the production and operations field. Among the specific occupational titles acknowledged were electronic assemblers, electricians, plumbers, machinists, cooks, housekeepers, typesetters, clerks (various types), and front line supervisors (various types).

Sales and Marketing. A modest 15 percent of the employers surveyed cited unfilled job openings in sales and marketing. These openings were concentrated among retailers and service-providers in the form of salespersons and marketing and advertising representatives. However, the need also emerged with respect to a couple of manufacturers whose products are sold directly to customers as opposed to wholesalers or retailers.

Services-Related. An equally modest 15 percent of the employers surveyed acknowledged an unmet need for services-related occupations. The principal need was for customer service representatives, though a couple added advertising and marketing types as well (a group that is also reflected in sales and marketing).

Colleges Placement Centers

As reported in a *Seattle Times* story from May 1997, the Center for Career Services at the University of Washington reported that activity was at an all-time high and that it was definitely a seller's (or job seekers) market. LMEA decided to expand on that news story by surveying all of the larger private and public colleges and universities in Washington known to operate job placement centers. Toward that end, the LMEA survey was sent to nine Washington institutions. Eight of the nine surveys were returned for a response rate of nearly 90 percent. The respondents were:

- Eastern Washington University (Cheney)
- Pacific Lutheran University (Tacoma)
- Seattle University (Seattle)
- The Evergreen State College (Olympia)
- University of Puget Sound (Tacoma)
- University of Washington (Seattle)
- Washington State University (Pullman)
- Western Washington University (Bellingham)

On-Campus Recruitment Activity. With respect to institutions of higher learning, one key measure of labor market activity is the number of employers who conduct on-campus interviews. The LMEA survey asked college job placement centers for the number of employers who conducted on-campus interviews during the 1995-96 and 1996-97 academic years. With the exception of one campus that posted a slight decline in the number of on-campus recruiters, all others saw increases ranging from 8 percent to more than 50 percent. For a combined total, the eight campuses saw the number of on-campus recruiters climb nearly 21 percent from 859 in 1995-96 to 1,037 in 1996-97 (*see Figure 5*).

Several colleges hastened to add----appropriately so----that the number of employers recruiting on-campus is not necessarily the most notable observation. Perhaps more important, they noted, was the fact that employers were much more interested in actually *hiring* graduates in 1996-97 than they were in 1995-96 as opposed to merely talking to them. A further comment by one institution was that the number of employers hosted by their campus would have been higher had they had the physical and scheduling capacity to accommodate more of them.

On-Campus Recruiters by Industry. The industry composition of the on-campus interviewers (employers) during the 1996-97 academic year was heavily weighted toward *services-producing* sectors with FIRE, services, and government each accounting for roughly 20 percent shares (*see Figure 6*). Trade and TPU represented shares of 15 percent and 7 percent, respectively. Goods-producing sectors (construction and manufacturing) made up 15 percent of the total.

On-Campus Recruiters by Occupational Demand. Not surprising given the survey's focus on four-year academic institutions, most on-campus interviewers were interested in hiring graduates for position openings in either the professional and technical field (40 percent) or the management and administrative field (21 percent). On the professional and technical side, engineers and information technology specialists of all types were in highest demand, with accountants and teachers rounding out the list. On the management and administrative side, management trainees were in highest demand with various types of human resources specialists and other program/project managers and planners rounding out the list. Sales and marketing and services-related occupations followed in terms of employer demand at 17 percent and 15 percent, respectively. Customer service representatives and salespersons were most in demand for these areas. Clerical and administrative support occupations and production and operations

Figure 5
On-Campus Recruiters
Source: *LMEA Supply-Demand Survey*

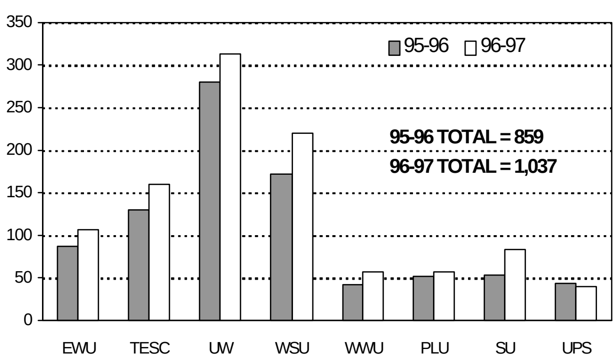
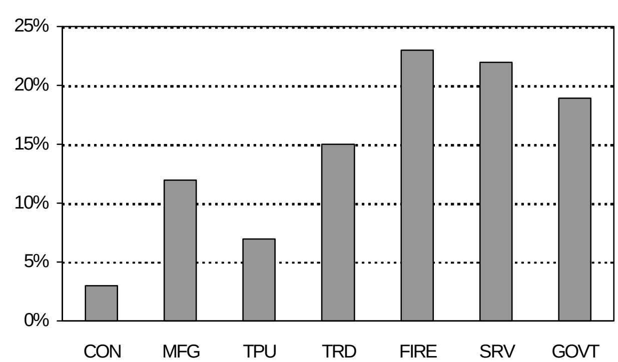


Figure 6
On-Campus Recruiters by Industry
Source: *LMEA Supply-Demand Survey*



occupations were least represented at 4 percent and 2 percent, respectively (*see Figure 7*).

There was also tremendous consistency between the occupational demand expressed by on-campus recruiters and that of the employers surveyed (*see Figure 8*). Predictably, the exceptions were clerical and administrative support and production and operations, occupational categories that are typically outside the scope of interest of most four-year degree recipients. This shows that there is a rational pattern to on-campus recruitment and that it currently reflects market demand. Some employers commented that four-year schools were not producing the types of graduates demanded by the market. That may or may not be the case. Nevertheless, market demand appears to be succinctly expressed in on-campus job placement centers.

On-Campus Recruiters by Hiring Area. Hiring areas, of course, vary from employer to employer. At one end of the spectrum are locally-based employers who recruit on campus to tap into the pool of graduates at the college or university in the immediate area. Their recruitment presence is limited to that campus and that campus alone. This really boils down to a matter of geographic convenience. At the other end of the spectrum are national employers who recruit on campuses across the nation. In between are employers who seek to draw prospective employees from campuses within the state or from campuses within the region (e.g., Pacific Northwest). There can, of course, be overlap. For example, a Seattle-based college or university might consider a Microsoft or a Boeing to be local, state, regional, and national. For the purpose of this survey, however, companies such as those would fall into the "national" category.

The survey results show that on the whole, the hiring areas of on-campus recruiters were fairly evenly distributed with 27 percent identified as local, 22 percent identified as state, 27 percent identified as regional, and 24 percent identified as national (*see Figure 9*).

Student Participation. We know that the number of companies involved in on-campus recruiting increased 21 percent. Did the number of students participating in on-campus interviews climb commensurately? The answer appears to be "yes." The number of students participating in on-campus interviews climbed at all but one of the eight colleges and universities surveyed (the one campus where student participation fell was the same as that which saw the number of on-campus recruiters fall). For the combined total of eight campuses, student participation in on-campus interviewing rose from approximately 8,700 during the 1995-96 academic

Figure 7
Occupations Sought by On-Campus Recruiters
Source: *LMEA Supply-Demand Survey*

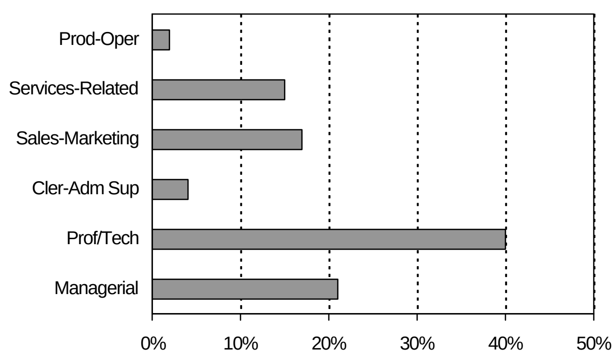


Figure 8
Occupational Demand
On-Campus Recruiters vs. Private Employers
Source: *LMEA Supply-Demand Survey*

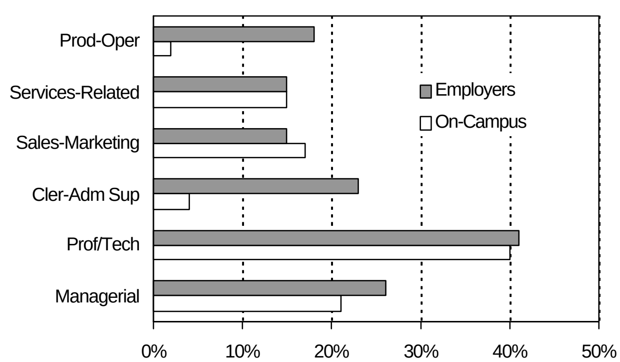
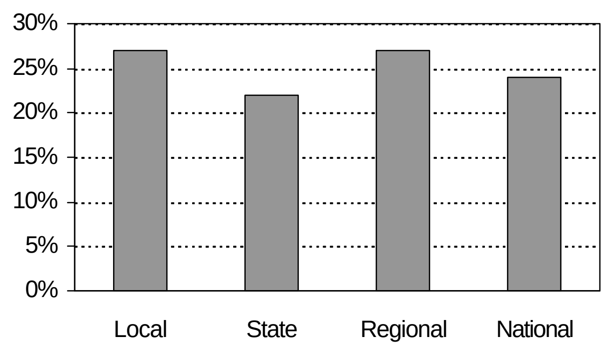


Figure 9
On-Campus Recruiters by Hiring Scope
Source: *LMEA Supply-Demand Survey*



year to 10,000 during the 1996-97 academic year or 15 percent (*see Figure 10*).

More than half of the campuses reported that their students were very successful in efforts to obtain employment through on-campus interviews. In fact, some employers are going so far as to offer jobs to undergraduates with the expectation that those individuals will work for the time being as interns and then transition into permanent, full-time status immediately upon earning their degree. This strategy enables the company to recruit the best and brightest before they are officially on the market. It is also an indication of the lengths some employers will go to deal with current labor and skill shortages. More than half of the colleges and universities surveyed also indicated that students were turning down some job offers because they had multiple offers from which to choose. This was particularly evident in the information technology, engineering, and finance and accounting fields. To be fair, one college indicated that its students rarely obtain employment by way of on-campus recruiting and that most were there primarily to learn about the job market and their future options.

The Year Ahead. A number of the colleges and universities surveyed indicated that the 1997-98 academic year just underway was looking very good with most expecting even more employers with a greater number and diversity of jobs to offer. Schools expecting the same number of employers nevertheless expected those employers to be more interested in actually hiring. This optimism was underscored by their collective recognition that on-campus interviewing has not always been the most effective recruitment tool available to employers either in terms of cost or outcome. The fact that employers were returning to college and university campuses in such numbers seemed to confirm that the labor market shortage was real indeed.

Job Service Centers

Geographic Distribution. The LMEA labor market survey was distributed to all 27 of the state's full-service Job Service Centers (JSCs). Sixteen (16) returned the survey for a response rate of 60 percent. Though the survey responses do not cover the entire state, there was relatively good coverage of non-metropolitan areas to provide a balance to the employers and educational institutions surveyed, most of which were in the Puget Sound region (*see Figure 11*).

Employer Assistance. As a whole, the 16 JSCs surveyed saw the number of employers seeking recruitment, screening, or placement assistance climb from roughly 6,700 in fiscal year 1995-96 to 7,900 in fiscal year 1996-97 for a net gain of 18 percent (*see Figure 12 on the next page*). The overwhelming majority (nearly 90 percent) of those employers were local, a not too surprising outcome in light of the fact that JSCs strive to cultivate particularly close working relationships with employers in their respective service delivery areas. The balance of employers was generally state- or nationally-based companies relocating or expanding operations within a particular JSC service delivery area.

Job Orders. One of the principal services of JSCs is that of fielding job orders from local employers and seeking to match qualified job seekers with those employment opportunities. The total number of job open-

Figure 10
Student Participation in On-Campus Interviews
1995-1996 and 1996-1997
Source: *LMEA Supply-Demand Survey*

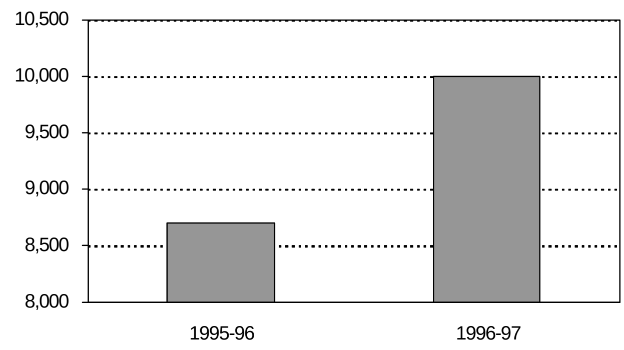


Figure 11
Job Service Centers and Service Delivery Areas
(Shading denotes survey coverage areas)
Source: *LMEA Supply-Demand Survey*

ings reflected in the job orders received by the 16 JSCs in this survey rose from approximately 43,000 in FY 1995-96 to 51,000 in FY 1996-97, a net increase of 19 percent (*see Figure 13*).

Job Placement Applicants. The flip side of job orders is job placement applicants. These are individuals who register with the JSC for job placement assistance. For the 16 JSCs represented in this survey, the number of individuals seeking job placement services grew from roughly 167,000 in FY 1995-96 to 180,000 in FY 1996-97 for an increase of 8 percent (*see Figure 13*).

Supply-Demand Gap. The comparative data from *Figure 13* strongly suggest that there is a significant disparity between job openings (demand) on one hand and job seekers (supply) on the other. An over-the-year increase of 19 percent in the number of job orders (not to mention the 18 percent increase in the number of employers seeking job placement assistance) compared to an 8 percent increase in the number of job seekers over the same period strongly suggests that jobs being created at a faster rate than is the job seeker pool. This is perhaps the strongest evidence of a tight labor market and labor shortage from the perspective of the JSCs. Aside from the usual trade and service jobs, several JSCs noted consistently high demand for professional and technical occupations as well as machine trades---occupations that tend to be dominated by high technology and aerospace employers, respectively.

Comments from JSC representatives suggest that placement rates were, for the most part, around 50 percent. The reasons for this range from tight labor markets to poor matches between jobs and job seekers, to job seekers finding jobs through other means. JSC success in placing job seekers was attributed to such factors as partnerships with employers and employment agencies, effective marketing of JSC services vis-à-vis radio, television and internet, and familiarity with the local labor market.

What is Causing the Labor Shortage?

A number of demographic and economic trends have converged to the extent that they are now contributing as a whole to the current labor shortage. Those trends include the following:

- Generational Entry-Exit nationally
- Strong job growth in Washington
- Slow labor force growth in Washington
- Lower rate of migration into Washington
- Rising cost of living in Washington
- Disparate Compensation in Washington

Generational Entry-Exit. As a national issue, the *Baby Bust Generation* (50 million individuals born from 1965-76) is proving, as many expected, to be a less than adequate source of replacement workers for the rapidly exiting *Depression Era Generation* (68 million individuals born before 1930). The situation has been compounded by the sheer number of companies and jobs created by the *Baby Boom Generation* (76 million individuals born from 1946-1964). Over the past five years alone, the Baby Boomers have been the driving force behind a strong national economy that has generated 11 million net new nonfarm jobs and, in the process, increasingly exacerbated the labor supply situation (*see Figure 14 on the next page*).

Figure 12
Employers Seeking JSC Assistance
FY 1995-96 and FY 1996-97
Source: *LMEA Supply-Demand Survey*

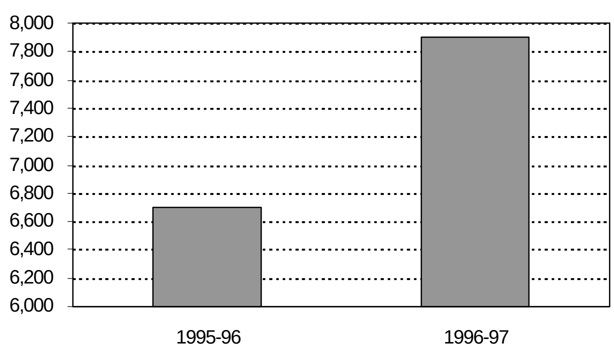
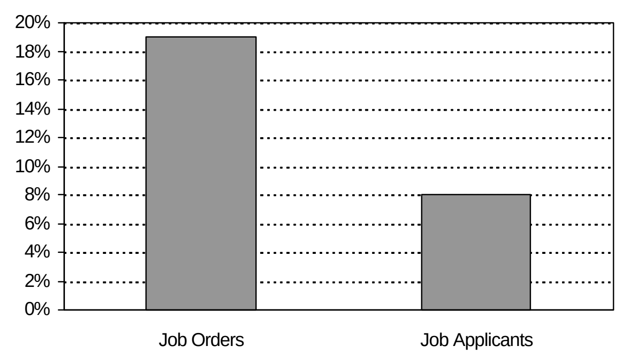


Figure 13
JSC Job Orders vs. Job Applicants
Percent Change from FY 95-96 to FY 96-97
Source: *LMEA Supply-Demand Survey*



Strong Job Growth in Washington. Against the backdrop of a national demographic shift were a number of regional factors that have fostered an even more acute labor shortage in Washington. First and foremost is the overall pace of job growth in Washington----a pace well ahead of the nation in 1996 and which appeared so poised again in 1997 (*see Figure 15*). That healthy pace of job growth has been concentrated largely, though not exclusively, in the Puget Sound region and often characterized by two high-flying national industry leaders---- Boeing and Microsoft.

Slow Labor Force Growth in Washington. On the upside, Washington's resident civilian labor force expanded at a higher rate than that nationally at a 2.6 percent annual rate for Washington compared to 1.0 percent annually for the U.S. from 1991-96 *(see Figure 16)*. On the downside, the pace of labor force growth in Washington is believed to have peaked in 1995 and is subsequently forecast to moderate progressively over the next 25 years to where it is projected to post a scant 0.5 percent annual growth rate from 2015-2020 *(see Figure 17)*. Indeed, the state's labor force grew 2.5 percent in 1996, considerably lower than the 3.7 percent in 1995.

One scenario is that the state's labor shortage will become even more critical as its economy continues to create jobs at a level that is increasingly unsustainable in light of its slowing labor force growth. That is, increased demand for workers despite decreased supply of available labor. This would produce wage inflation or, where possible, substitution of capital for labor. The former would precipitate lower productivity while the latter, if effective, could boost it.

A more plausible (though equally unpalatable) scenario would see the state's labor shortage ease as employers accept that there is a decreasing pool of

Figure 14
Population by Age Groups
Selected Years
Source: *Office of Financial Management*

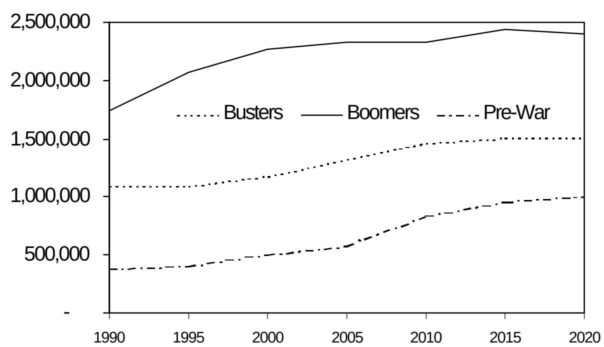


Figure 15
Nonfarm Employment Change
Washington and U.S., 1991-1996
Source: *ESD/LMEA and DOL/BLS*

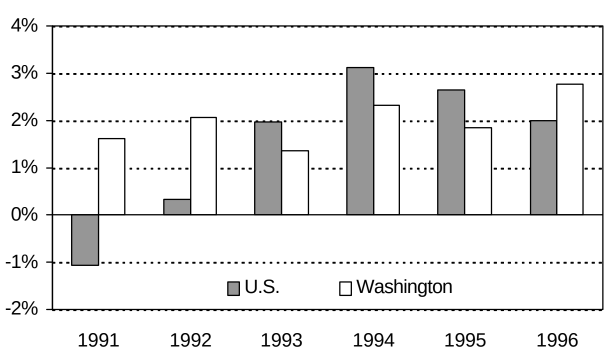


Figure 16
Civilian Labor Force Change
Washington and U.S., 1991-1996
Source: *ESD/LMEA and DOL/BLS*

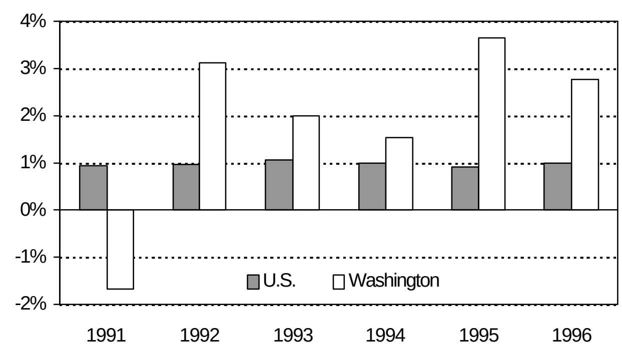
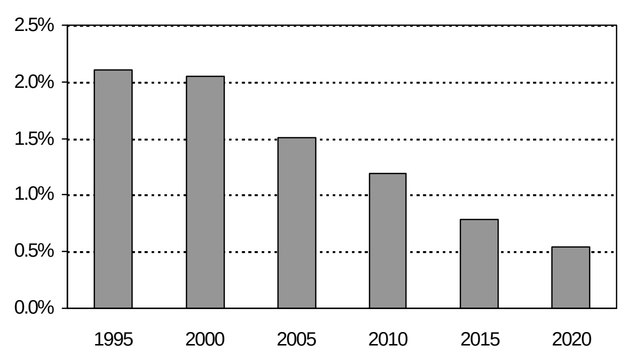


Figure 17
Civilian Labor Force Projections
Washington, Selected Years
Source: *ESD/LMEA and OFM*



available labor and adjust to this reality by putting the brakes on job creation. That is, decreased supply of workers affects decreased demand for workers. This is a scenario currently built into the state's nonfarm employment projections (*see Figure 18*).

Whichever scenario prevails, Washington's economy will continue to run at cross-currents so long as labor force growth slows while employment simultaneously rises.

Less Migration into Washington. As growth in the existing labor force slows, attention will invariably be focused on net migration as well. Net migration, a traditional source of labor force growth, peaked in 1990 at 98,500 and eased virtually every year since then to 50,600 by 1996 (*see Figure 19*). This represents a declining annual rate of 11 percent from 1990-96.

There were reasons for that decline. As a regional issue, the *push-pull* factor between Washington and, say, California is not as strong as it once was. First, California's economy rebounded from a severe and protracted downturn and is on the upswing again. Californians are less compelled to leave the state for economic reasons, thus removing a principal "push" factor. Second, Washington's strong growth narrowed the once heralded cost of living and quality of life advantage that Washington had over California, thus removing what was once a major pull factor. Third, and also important, Oregon (specifically the greater Portland metropolitan area) emerged as a strong job generator, thus absorbing some of the migration that might otherwise have continued northward into Washington.

Over the next couple of years, however, net migration is projected to respond to Washington's strong economic growth and subsequent labor shortage by climbing sharply to nearly 77,000 by 1999 (after which time it is expected to progressively moderate to around 48,000 by 2005). Until those anticipated in-migrants arrive over the next couple of years, though, the current labor shortage will continue.

The migration issue can be an issue on an intra-regional scale as well. Recreational Equipment, Inc. (REI), a major retailer of outdoor equipment, cited the difficulty of attracting information technology professionals to its south King County location in Kent from as nearby as Bellevue and Redmond due to the "hideous" I-405 commute. For many, it was a simple quality of life issue; they wanted more time at home or the office, not "parked" on the freeway.

Rising Cost of Living in Washington. As noted above, rising costs (coupled with what was felt to be a superior quality of life) offset what was once a major economic incentive to migrate to Washington. In the 1990s, that edge has eroded as inflation measured by the Consumer Price Index (CPI) shows the Seattle CPI at a consistently higher annual rate compared to the U.S. CPI (*see Figure 20 on the next page*). Granted, the Seattle CPI is not indicative of consumer price changes across the entire state; however, the majority of new jobs have and are being created in the Seattle-Tacoma CMSA so it is a valid indicator of the inflationary environment facing many newly-arrived job seekers. Indeed, one survey respondent, a high tech equipment manufacturer, specifically cited the high cost of living

Figure 18
Nonfarm Employment Projections
Washington, Selected Years
Source: *ESD/LMEA and OFM*

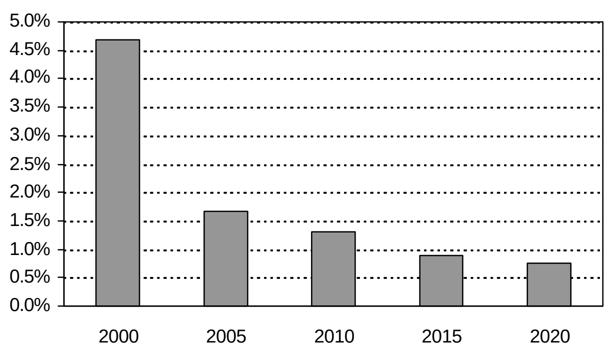
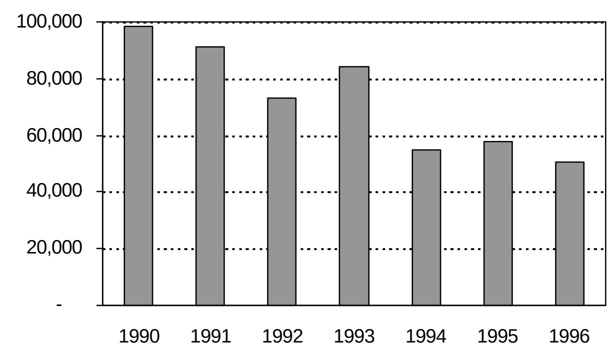


Figure 19
Net Migration
Washington, 1990-1996
Source: *Office of Financial Management*



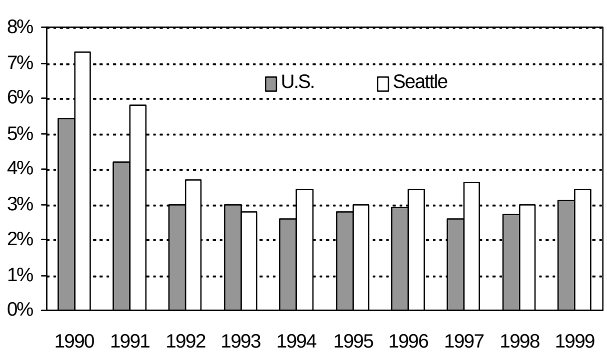
in the Seattle-Everett area as having a significant impact on its ability to attract qualified applicants for some of its position openings.

Moreover, the rising cost of living in the central Puget Sound region is starting to create hiring difficulties for communities in other parts of the state. A prime example is Washington Water Power, a large Spokane-based utility. The company had never before had any trouble recruiting, for instance, entry-level engineers. These days, however, they have had to increase their recruitment efforts to compete with rising wages in the Seattle area, specifically those offered by Boeing and myriad high tech companies.

Disparate Compensation. The aforementioned factors have led to an increasing disparity between what employers are willing to pay and what qualified applicants are willing to accept. With respect to its connection to the state's labor shortage, the situation cuts both ways. On one hand, the labor shortage is compelling employers who have financial resources to offer more generous compensation packages to attract or retain the workers they want. On the other hand, the labor shortage is prompting attractive job candidates to up the ante by demanding more generous compensation packages from employers. If employers comply, the result is compensation inflation, which handcuffs employers with less deep pockets. If they do not comply, they face labor shortage.

Evidence of this surfaced in the LMEA labor market survey. Asked if job candidates turned down their offers because of other offers elsewhere, half of the employers surveyed responded "yes." In those cases, most cited higher pay offered by another company, particularly in the high tech field. There was also a disparity between the central Puget Sound region and the rest of the state, however, with the smaller areas citing their inability to compete with Puget Sound wages. It is estimated that the pay differential between a metro area and a non-metro area is from 20 percent to 25 percent. There was additional evidence of intra-area wage disparity in, for example, the Tri-Cities where dislocated Hanford workers are uninterested in job opportunities virtually everywhere else in the local area because their previous wages and salaries were so much higher than any other pay currently being offered.

Figure 20
Consumer Price Index
Seattle and U.S., 1990-1999
Source: *Office of the Forecast Council*



Implications for Washington's Economy

The principal issues facing Washington in the wake of labor market tightness driven by a labor shortage are as follows:

- Rising Labor Costs and Inflation
- Out-of-State Relocation or Expansion
- Suppressed Economic Growth
- Lost or Lower Productivity
- Stock Devaluation

Rising Labor Costs and Inflation. Whether in the form of salaries, wages, benefits, training, recruitment, relocation or whatever, labor shortages put upward pressure on labor costs. Furthermore, if they are able, employers often pass these costs on to consumers through higher prices on goods and services, thus setting in motion inflationary events. There is already residual evidence that these types of pressures are increasing. If unchecked, they could fuel inflation. So far, though, the data have not moved Federal Reserve Chairman Alan Greenspan to raise interest rates. The Fed policy changes have been fended off by higher productivity that has offset pay gains and by the strong US Dollar. If those two indicators slip, watch out. In a "vicious cycle" of sorts, employment is increasing at a time when an already tight labor supply is putting upward pressure on wages. Wage increases, if they materialize, will fuel consumer spending which, in turn, will bring down inventories and boost production which creates even more jobs. Wage gains are now outpacing productivity gains. Don't be surprised if the Fed is compelled to intervene down the road.

Out-of-State Relocation or Expansion. If labor or skill shortage becomes acute---that is, critical---to the point that it directly impacts a company's day-to-day operations, one of its options is to relocate or expand in an area where the labor market situation is more favorable. Since large firms with considerable investments in physical infrastructure are less able to simply pull up and relocate, the latter option is more often the case. Small- and medium-size firms, however, may very well move operations in their entirety. In some circumstances, of course, a firm may be forced to close altogether. Any of the three scenarios mentioned would engender both direct and indirect adverse economic impacts to the state. First there is the loss of jobs whether existing (relocation) or potential (expansion). Then there is the loss of revenue in terms of company disbursements to vendors, employee spending on local consumer goods and services, and the range of business and personal taxes levied on the company and its workers.

To be sure, any decision to relocate or expand elsewhere due to an acute labor or skill shortage would have to be measured against the labor market situations in other states or regions. Any such inclination would be rendered moot if other states or regions were experiencing similar labor market shortcomings. To the extent that many of the current labor and skill shortages are viewed as national issues, most Washington firms would be hard pressed to relocate or expand elsewhere based on these factors and these factors alone.

As testament to the lengths some employers will go to find skilled labor, *The Olympian* reported that a certain firm relocated from Spokane to Shelton to find skilled machinists unavailable in the Spokane area due to domination of hiring in that field by the local Boeing facility. Whether or not Shelton proves to be a good match is irrelevant. The salient point is that relocating to a more advantageous labor market was a strategic option and that it was implemented. In this case, the state did not lose a company, but a local area did.

Suppressed Economic Growth. Higher labor costs and inflation can mute economic growth in several ways. First, rising labor costs alone cut into employer profit margins, particularly if they are in a price competitive market and cannot pass the costs on to consumers. This, in turn, undercuts an employer's ability to reinvest in the business and, by extension, create new jobs. The end result is less growth. Second, if employers are forced to pass higher labor costs on to consumers, the market response may be weakened demand for the good or service, which would constrain growth and new job creation. The latter, of course, would be determined by the degree of competition and the ability or inability to substitute other goods or services. Since monopolistic environments with zero substitutes are rare, the likelihood of suppressed demand is significant.

The situation can be compounded further if the hawkish Fed interprets rising wages and salaries or rising prices for goods and services as evidence that the economy is exhibiting too much inflation and raises interest rates to cool down the economy. Such a move would certainly put a damper on business growth, and by extension job creation, by making it more expensive for businesses to borrow money for startups, expansions, new plant and equipment, or plant and equipment maintenance.

The adverse impacts of business relocation or expansion in another state on economic growth are more or less obvious. If a Washington firm relocates, it precipitates an economic loss in this state and an economic gain in the new host state. If a Washington firm expands in another state, the prospective economic gain is forgone in this state and transferred to the new host state.

Lost or Lower Productivity. For those employers forced to settle for less qualified workers with lower skills due to a shortage of qualified applicants, the result is likely to be lower productivity for several reasons. First and foremost, again, is higher labor costs. In this case, though, the issue is not higher labor costs due to compensation but, rather, higher labor costs incumbent in worker training or retraining. The fewer necessary skills the worker brings to the workplace, the greater the cost. This raises the cost per unit of output while simultaneously slowing output (while the worker is in training or retraining), which translates into lower productivity.

Another cost is the cost of forgone production. The impact on productivity is most acute when the position is unfilled and production or output is zero. That is the real drawback of a severe labor shortage. However, production or output is still lost if a worker is unable to hit the ground running. Moreover, the situation has the potential to compound if the employer opts not to provide training or retraining to the worker. Some evidence of this can be found in Coopers and Lybrand's "Trendsetter Barometer" survey of 434 CEOs of fast growing companies. That survey revealed that an overwhelming majority of the CEOs regarded the lack of available skilled and trained workers as a potential barrier to company growth. The greatest need was identified in the information technology sector (programmers, systems and network professionals, and skilled computer personnel), but also technicians, engineers, scientists, statisticians, accountants, bankers, financiers, sales and marketing representatives.

Stock Devaluation. In the case of public-owned companies, if their labor situations trigger the aforementioned chain of events and they are unable to meet the expectations of financial market analysts (particularly with respect to their price-earnings ratio), it is possible that their stock will be downgraded. In addition to adversely affecting the company's investment capital vis-à-vis a stock sell-off, a downgrading could compel the company to attempt to re-establish its price-earnings picture by cutting costs, which usually includes the most expensive line item---(experienced) workers. This could further compound a company's shortage of skilled workers. Moreover, in a state like Washington where a sizable degree of personal wealth is tied up in stocks (particularly in the information technology sector), a significant devaluation could potentially affect state personal income and earnings have a chilling effect on consumer spending. That, in turn, would have a ripple effect on state revenues since the latter are driven by the retail sales tax.

What Employers Can Do

Available Strategies. The LMEA survey identified nine strategies employers might use to attract qualified candidates for position openings that were difficult to fill. The respondents were allowed to check off as many categories as were applicable. It also gave employers the opportunity to identify strategies not already among the nine listed in an "other" category. The nine strategies were:

- Increase Pay
- Increase Benefits
- Signing Bonuses
- Finders' Fees
- Flexible Work Hours and Arrangements
- Recruit Regionally/Nationally
- Hire Less-Skilled Workers
- Position Unfilled; Use Existing Workers
- Position Unfilled; Lost Production/Output

Strategies not included in the survey but identified by survey respondents and in human resource literature include:

- Internet job postings, especially technology-based jobs
- Advertising on television, radio, newspapers, movie trailers
- Downsized or restructured worker recruitment
- On-campus recruitment
- Underutilized worker (immigrants, elderly, handicapped) recruitment
- Training and development
- Contracting out
- Temporary workers
- Job Fairs
- Job Service Centers

Strategies Employed. The survey revealed that three strategies----pay increases, regional/national recruiting, and use of existing workers---were used by approximately 40 percent of the survey respondents to address their particular labor shortages (*see Figure 21*). Hiring and referral bonuses, lower-skilled workers, unfilled positions, benefit increases, and finders' fees were employed as strategies by 15-20 percent of the survey respondents. "Other" strategies fell into this range as well with employers citing strategies such as increased training, employee referrals, and non-permanent workers (independent contractors, interns, trainees, and apprentices). The least utilized strategy was flexible schedules or work arrangements with only eight percent of the respondents exploring this option.

Figure 21
Strategies Used by Employers
Source: *LMEA Supply-Demand Survey*

Increase Pay	39%
Increase Benefits	16%
Signing Bonuses	21%
Finders' Fee	16%
Flex Time	8%
Regional/National Recruitment	42%
Hiring Lower-Skilled Workers	21%
Position Unfilled; Use Existing Workers	42%
Position Unfilled; Lost Production/Output	18%
Other	18%

Effective Strategies. Of course, employing a strategy and seeing that strategy succeed can be two entirely different things. After being asked to identify the strategies they used to address labor shortages, the survey respondents were asked to identify those which effectively corrected the situation (*see Figure 22*).

Increased pay, one of the most widely used strategies, was regarded as effective by nearly 90 percent of the employers who used it. This would appear to underscore the adage that "money talks." The effectiveness of the two other widely used strategies, though, was debatable. The use of regional and national recruitment was deemed effective by just over half of the employers who used it, while utilizing existing workers was found to be effective by less than a third of the employers who used it. With respect to the latter two, there are reasons why such widely used strategies might be less than effective.

While regional and national recruitment is a widely used practice, its success or lack of success at attracting qualified workers is ultimately tied to the attractiveness of the entire employment package. That is, no amount of regional or national recruitment will entice an individual to pull up stakes and relocate unless the entire package----from the work itself to compensation to promotional opportunities to professional development to location----is worth it.

There are a number of reasons why using existing workers to take up the slack resulting from an unfilled position opening turned out to be largely ineffective. First and foremost, companies probably would not have an unfilled job opening if their existing work force could do the work. Companies that do this run the risk of stretching already overworked employees even thinner. Companies must also consider the *transferability* of the duties and responsibilities of unfilled positions to existing employees. In other words, do existing workers have the skills to do the job as well as a person hired into the position? If so, great. This situation is probably reflected in the third of employers for whom this strategy worked. If not, the potential for ineffectiveness is huge, especially if existing workers have not been provided the training and instruction (e.g., cross-training, and job rotation) to do the job. As mentioned, most studies have found that employers invest far too little time and resources in employee training and development programs despite mounting evidence of their value as incentives to recruitment and retention.

Figure 22
Effectiveness of Employer Strategies
Source: *LMEA Supply-Demand Survey*

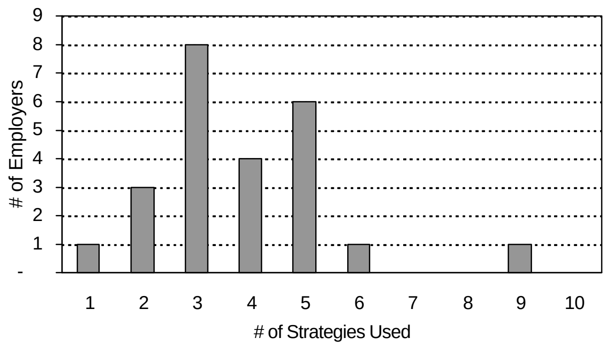
Increase Pay	87%
Increase Benefits	83%
Signing Bonuses	88%
Finders' Fee	83%
Flex Time	100%
Regional/National Recruitment	56%
Hiring Lower-Skilled Workers	50%
Position Unfilled; Use Existing Workers	31%
Position Unfilled; Lost Production/Output	14%
Other	86%

The effectiveness of the strategies used by 15-20 percent of the employers surveyed was mixed. To be sure, bonuses, finders' fees, and increased benefits proved to be successful strategies with approximately 80 percent of the employers successfully using them. The hiring of lower-skilled workers, however, was a toss-up with half of the employers finding the strategy effective and half finding it ineffective. Not surprisingly, a mere 14 percent found that letting the position go unfilled altogether was effective. One might argue that the real surprise was that even 14 percent of the employers surveyed found it to be an effective strategy.

Interestingly enough, flexible work schedules and arrangements, though used by the fewest number of employers surveyed (8 percent), emerged as an effective strategy for each of those employers, resulting in a 100 percent success rate. Of all the strategies explored, this one perhaps best illustrates a stubborn gap between the interests of employers on one hand and employees on the other. Flexible work schedules and arrangements----from telecommuting to flexible work schedules to family and maternity leave programs to child care to other arrangements----has grown progressively in attractiveness to prospective workers, particularly with more women and mature workers in the work force. The shift from a predominantly *brawn-based* to *brain-based* economy has also contributed. Still, employers, for the most part, have only reluctantly embraced this strategy, perhaps because of the perceived costs and disruptions. To be sure, it is not applicable to all workplaces or to all workers. However, employers who do not explore this strategy may increasingly find themselves at a disadvantage in recruitment and retention against those who do.

Perhaps most striking was how few of the strategies were checked as having been explored by employers or those who worked closely with employers. Bear in mind

Figure 23
Number of Strategies Used by Employers
Source: *LMEA Supply-Demand Survey*



that all of the survey respondents acknowledged that they were currently having difficulty filling certain job openings. That their recruitment was limited in large measure to three to five strategies suggests that few employers have exhausted the range of strategic options (*see Figure 23*). One employer used nine strategies while another used six. In some cases, this may be because some strategies simply are not workable for a particular industry or occupation. A more likely reason, though, may be that employers either have not or will not acknowledge that the labor market situation has shifted. The not too distant paradigm of worker surpluses caused by cyclical downturns and restructuring is no longer a reality. The new reality is one of a seller's market fueled by labor and skill shortages.

Key Findings

- The principal question asked of employers was, "Are you currently finding it difficult to fill certain jobs?". All of the firms surveyed answered "yes." Moreover, none of the respondents had been able to successfully address the issue, revealing unresolved human resource issues for all 24 firms. This is strongly suggestive of labor market tightness driven by a labor and skills shortage.
- Employers experienced some degree of difficulty finding applicants in every major occupational category. By far the most difficult area, however, was professional and technical with two of every five employers checking this category. They also had considerable difficulty in the managerial and administrative and clerical and administrative support areas with one in every four checking both of these categories.
- A key measure of labor market activity for college placement centers is the number of employers who recruit on campus. The eight colleges and universities surveyed showed a combined increase in on-campus recruitment with the number of companies rising 21 percent from 859 during the 1995-96 academic year to 1,037 during the 1996-97 academic year. More important, employers were more interested in actually *hiring* graduates in 1996-97 than they were in 1995-96. Additionally, the 1997-98 academic year is shaping up to be even more active than 1996-97.
- Most on-campus recruiters sought graduates for position openings in either the professional and technical field (40 percent) or the management and administrative field (20 percent). Engineers, information technology specialists and accountants were in specific demand in the former category, while management trainees, human resources specialists, and program and project managers and planners topped the list in the latter category.
- As a combined group, the 16 Job Service Centers surveyed saw the number of employers seeking recruitment, screening, or placement assistance climb from roughly 6,700 in fiscal year 1995-96 to 7,900 in fiscal year 1996-97 for a net gain of 18 percent.
- The total number of job openings reflected in the job orders received by the JSCs surveyed rose 19 percent compared to 8 percent for the total number of individuals seeking job placement assistance. The significant disparity between job openings (demand) on one hand and job seekers (supply) on the other strongly indicates that there are more jobs than qualified job seekers and further gives evidence of a tight labor market situation.
- A number of demographic and economic trends have converged and are now contributing as a whole to the current labor shortage. These trends include the following: (1) generational entry-exit nationally, (2) strong job growth in Washington, (3) slow labor force growth in Washington, (4) lower rate of migration into Washington, and (5) the rising cost of living in Washington.
- The four principal issues facing Washington in the wake of labor market tightness driven by a labor shortage are as follows: (1) rising labor costs and in-

flation, (2) suppressed economic growth, (3) lost or lower productivity, and (4) stock devaluation.

- Surveyed employers relied most often on pay increases, regional/national recruiting, and use of existing workers to address labor shortages. Hiring and referral bonuses, lower-skilled workers, unfilled positions, benefit increases, and finders' fees occupied the second tier of strategies used by survey respondents. "Other" strategies also fell into this range with employers citing increased training, employee referrals, and non-permanent workers (independent contractors, interns, trainees, and apprentices). The least utilized strategy was flexible schedules or work arrangements with only eight percent of the respondents exploring this option.
- Increased pay, one of the most widely used strategies, was regarded as effective by nearly 90 percent of the employers who used it. The effectiveness of the two other widely used strategies, though, was debatable with the use of regional and national recruitment deemed effective by just over half of the employers and utilizing existing workers found to be effective by less than a third of the employers.
- Flexible work schedules and arrangements, though used by the fewest number of employers surveyed (8 percent), worked as an effective strategy for every employer that used it for a 100 percent success rate. Of all the strategies, this one perhaps best illustrates a stubborn gap between the interests of employers on one hand and employees on the other.
- Though all employers surveyed said hiring difficulties persisted, few used more than 3-5 strategies, suggesting that they either have not or will not acknowledge that the labor market has shifted. The not too distant paradigm of worker surpluses caused by cyclical downturns and restructuring is no longer a reality. The new reality is that of a seller's market fueled by labor and skill shortages.

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