Economic Development
Target Industry Plan
Fiscal Year 2006/2007

Investing in Portland's Future

PDC

PORTLAND DEVELOPMENT COMMISSION

Economic Development Target Industry Plan
Fiscal Year 2006/07
Executive Summary

In 2001, the Portland Development Commission (PDC) was asked by the Mayor of Portland to create a new economic development strategy for the city of Portland. Through a process of research, analysis, consultation and debate, a new economic development strategy emerged. A central theme of this strategy was the analysis and promotion of a number of "targeted industries".

Target industry analysis and development has become a central component of regional economic development strategies. Utilizing various forms of economic data, including local wages, location quotients, growth patterns and shift-share, target industry analysis aims to create a thorough picture of the state of an industry in an area. Utilizing this information, economic development practitioners are able to implement much more effective industry programs, capitalizing on regional strengths and bolstering weaknesses.

The final targeted industries were chosen for a number of reasons, including high wages, high growth potential, local strength and high local concentration in the Portland Metropolitan Area. These industries now play a central role in the Portland Development Commission's economic development activities, and are reported upon in the yearly Target Industry Plan. The industries chosen for targeted economic development activity are:
Activewear and Outdoor Gear; Biosciences; Creative Services; Distribution and Logistics; Food Processing; High Tech; Metals and Transportation Equipment, Professional Services, and Sustainable Industries.

Within the compiled Target Industry Plan, data and analysis are reported on an annual industry-by-industry basis. Industries are defined by applicable NAICS codes, and all data is collected utilizing these codes. Further analysis is based upon this data and observations and communications by members of the Portland Development Commission's economic development department with industry representatives.

Each industry plan includes a section defining the targeted industry, including a description of the main types of companies and their products along with NAICS codes which are used to define the industry. General observed and measured trends in the industry are reported, along with specific workforce trends. Observations regarding the growth or decline of the industry are also included. Each plan ends with a summary of the development strategy implementation for the target industry, along with a discussion of the top issues facing the industry and the action items to be carried out to assist in developing and promoting the industry in the next fiscal year.

A number of initiatives related to the targeted industries are being worked on by economic development staff during the 06-07 fiscal year to promote and develop the target industries. Please note that these are only key projects for each industry, for a complete listing of industry projects, please turn to the corresponding industry plan:

- Activewear and Outdoor Gear:
Convene industry roundtables on two the following topics: establishment of foreign production partners; importing goods/products; and, industry training and professional development needs and opportunities.

- Biosciences:
Complete intergovernmental agreement between PDC and Oregon Health Sciences University regarding bioscience industry development and recruitment in the North Macadam Urban Renewal Area.

- Creative Services:
Sponsor two or more career & business development workshops in partnership with various creative service industry organizations.

- Distribution and Logistics:
Support and implement the Portland Freight Master Plan in partnership with the City of Portland Freight Committee.

- Food Processing:
Bolster competitive position of Portland-area food processors through support and implementation of the Northwest Food Processors Association Cluster Initiative.

- High Tech:
Work with the City of Portland to deploy the citywide wireless network; Unwire Portland, over the next 1-2 years.

- Metals and Transportation Equipment:
Work with industry organizations to find a suitable location for the Northwest Center for Manufacturing and Infrastructure Engineering.

- Professional Services:
Assist in continued development of local strengths in environmentally sustainable architecture and engineering.

- Sustainable Industries:
Complete feasibility study regarding expansion of biodiesel production in Oregon.

All industry plans were reviewed in draft format by a panel of industry representatives prior to the completion of the plan in the final form as it appears here. Feedback from industry participants has shaped the action items outlined in the Target Industry Plan (a list of reviewers is included within the appendices of the target industry plan for each industry). Plans are revisited on a quarterly basis during the fiscal year to ensure that all target industry economic development initiatives are aligned with industry priorities.

Commonly used terminology referenced throughout this document

North American Industry Classification System (NAICS) – An industry classification system used by statistical agencies to facilitate the collection, tabulation, presentation, and analysis of data relating to establishments. NAICS is erected on a production-oriented conceptual framework that groups establishments into industries according to similarity in the process used to produce goods or services. Under NAICS, an establishment is classified to one industry based on its primary activity. NAICS was developed jointly by Canada, Mexico, and the United States to provide comparability in economic statistics. It replaced the Standard Industrial Classification (SIC) system in 1997.

Standard Industrial Classification (SIC)
A numerical code scheme previously used for classifying industries and products. Although the SIC was formally replaced by the North American Industry Classification System (NAICS) in 1997, certain industry data is more readily available in SIC. Therefore, certain data presented in this report was only available in SIC. Where available, NAICS data was presented.

Time Frame Presented for Data Analysis
This document uses collected industry data from 2001, 2004 and 2005 in its data tables. These years have been chosen due to reflect the change in data collection standards, from Standard Industrial Classification (SIC) codes to the North American Industry Classification System (NAICS) codes, used by a number of federal, state and local agencies. This transition created a break in industry-related time-series data, and the time period data presented in the tables only represents information collected after the instatement of the NAICS system.

Note: All tables in each industry plan are based on NAICS coding with the exception of Appendices A & B, which are based on Standard Industry Classifications (SIC) due to database limitations. However, the Appendices are valid for rough approximations of industry revenue and size rankings.

The local concentration ("location quotient" or LQ) is the calculated ratio between the local economy and the economy of some reference unit, in this case the West Coast states. This ratio is calculated for all industries to determine whether or not the local economy has a greater share of that industry than expected. If an industry has a greater share than expected of a given industry, then that "extra" industry employment is assumed to have a greater concentration and importance to the local economy because those jobs are above what a local economy should have to serve local needs. If an industry has a concentration of more than 1, it is assumed to be locally concentrated. Anything below 1 is not locally concentrated.

The shift-share is a measurement of the decline or gain in employment of an industry compared to the decline or gain of a larger geography. In this case, the shift-share shows the percent difference in the decline or gain of Portland region industries to the West Coast states.

Industries included in the PDC's Target Industry Plan:

- Activewear/Outdoor Gear
- Biosciences
- Creative Services
- Distribution & Logistics
- Food Processing
- High Tech
- Metals & Transportation Equipment
- Professional Services
- Sustainable Industries

Activewear/Outdoor Gear
Target Industry Plan 2006-2007

1. Industry Definition/Summary

The Portland metropolitan area and Oregon have a long tradition of being home to footwear, activewear, outdoor gear and cycling companies. Some leading pioneers can trace their history back decades -- Pendleton Woolen Mills was born in 1863; Columbia Sportswear in 1938; Gerber Legendary Blades in 1939; and Portland's single Fortune 500 company, Nike, in 1972. While recognizing the important contribution these larger firms have made in establishing the region's reputation as an industry leader nationally and internationally, industry growth is also fueled by the emerging and small to mid-sized companies, many of which are spin-offs of the larger companies.

The growth of these industries has been fueled in the past 10-20 years by the increasing national popularity of outdoor recreational activities, the development of new fabrics and technologies, and the fusion of outdoor-inspired styles into more general fashion circles. In addition, the jobs in this industry tend to provide living wage jobs that bring together the opportunity for individuals to combine their vocation, specialized expertise and recreational preferences. Today, the Portland region and Oregon are receiving national and increasingly international recognition as a center of the footwear, activewear, outdoor gear and cycling industry, referenced hereafter as "Activewear/Outdoor Gear."

While the leadership role of many area firms in these industries has long been recognized, Activewear/Outdoor Gear was not specifically identified as a target industry in the 2002 city-wide economic development strategy. In 2004, City leadership included this cluster in response to industry requests based on the tremendous growth potential for the cluster in this region. The arrival of two cycling companies and the successful recruitments of a gear racking business and a footwear company heightened the awareness of this region as the home of key industry leaders. For the purposes of this plan, the Activewear/Outdoor Gear Industry includes companies involved with the production and sales of footwear, apparel and gear associated with bicycling, water sports, hiking, mountaineering, skiing, in-line skating, rock climbing, backpacking, camping and related activities. A key focus of this plan is the retention and expansion of existing firms through a positive business climate that also encourages entrepreneurialism and creativity. In addition, this plan aims to define opportunities for the public sector to work collaboratively with the private sector to support the growth of this dynamic industry.

2. Industry Trends

Portland and Oregon have achieved a national reputation as a destination for a variety of outdoor activities with a strong Activewear/Outdoor Gear industry. There is an increasing international awareness of the synergy created within the industry due to leaders located here (Nike, Adidas and Columbia) and the entrepreneurs that have spun-off to launch new companies.

In an effort to better define this cluster, the following North American Industry Classification System (NAICS) industries were to represent this industry:

Apparel Manufacturing (NAICS code 315)

Sporting and Athletic Goods Manufacturing (33992)

Sporting and Recreational Goods and Supplies Merchant Wholesalers (42391)

Apparel, Piece Goods and Notions Merchant Wholesalers (4243)

Other Specialized Design Services (54149)

Industrial Design Services (54142)

Like other industries, it is difficult to determine the total size by employment for the industry by relying on NAICS codes alone, because jobs can be captured in other design and distribution classifications. However, given that Nike alone employs over 6000 people in Washington County, the actual number of employees is likely higher, in the ballpark of 15-20 percent.

The Activewear/Outdoor Gear industry in Portland can be generally grouped into two major categories with very different needs: 1) globally based firms that are headquartered in the Portland region and conduct design, development, marketing and distribution in the region but that manufacture elsewhere; and 2) small to mid-sized, and emerging businesses that perform the sales, marketing and distribution functions in Oregon. In some cases, these firms also produce the product in Oregon, but lack the production capacity/demand of the larger firms and those that are US subsidiaries of foreign companies.

The Portland region possesses a strong local labor market with skills required by the industry such as sales and marketing knowledge. We also have direct access to testing, training and demonstration sites for product developers, designers, marketers, clients and customers. A strong design and product development skill pool is also another distinctive asset of the area.

The priority for the larger corporations (Nike, Adidas and Columbia) is a positive business environment which encompasses government leadership, infrastructure issues such as transportation (air freight, deep water shipping, interstate highways and railroads), certainty in the cost of doing business and quality of regional education. While these issues are shared by the emerging and small-medium sized businesses, they tend to be more focused on the sharing of best practices and opportunities for collaboration to achieve cost efficiencies around importing products, access to materials/suppliers, health insurance and training. Common themes in the industry include the need for a trained skilled workforce, and a strong commitment to community and sustainability. The smaller firms will likely benefit the most from target industry work and opportunities to create strategic partnership. However, the larger firms are also involved in many different aspects of the target industry work, which collectively will help fuel the growth of this industry and the regional economy.

Despite different methodologies, both the Oregon Employment Department and the tables included below indicate growth in the Activewear/Outdoor Gear cluster. Available statistics indicate a growth rate of approximately 16 percent between the years of 2001 and 2005 in the Portland metropolitan region. This growth rate is notable when one considers that overall employment in the Portland region decreased by approximately one percent. The two areas of employment growth were among Apparel, Piece Goods and Notions Wholesalers (with an increase of 37 percent) and Industrial Design Services (with a notable increase of 838 percent). In the Portland region, the industry increased 16 percent contrasted with a national decline of 25 percent (see Tables 8 and 9).

Tables 1-5 show the employment and changes that have occurred between 2001, 2004 and 2005 in Activewear/Outdoor Gear in the Portland region (Clackamas, Multnomah and Washington counties) compared to the West Coast (California, Oregon and Washington), along with shift-share and concentration data for the Portland region.

Table 1
Activewear/Outdoor Gear Employment Change in the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 – 2005 Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
315	Apparel Manufacturing	1,021	110,033	506	82,565	-515	-27,468
33992	Sporting and Athletic Goods Manufacturing	517	16,024	358	11,877	-159	-4,147
42391	Sporting and Recreational Goods and Supplies Merchant Wholesalers	502	10,733	342	10,992	-160	259
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	4,732	36,863	6,477	36,561	1,745	-302
54149	Other Specialized Design Services	25	1,651	16	3,094	-9	1,443
54142	Industrial Design Services	21	1,908	197	3,251	176	1,343
	Activewear/Outdoor Gear Total	**6,818**	**177,212**	**7,896**	**148,339**	**1,078**	**-28,873**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 2
Activewear/Outdoor Gear Percent Change in Employment for the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 - 2005 Percent Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
315	Apparel Manufacturing	1,021	110,033	506	82,565	-50%	-25%
33992	Sporting and Athletic Goods Manufacturing	517	16,024	358	11,877	-31%	-26%
42391	Sporting and Recreational Goods and Supplies Merchant Wholesalers	502	10,733	342	10,992	-32%	2%
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	4,732	36,863	6,477	36,561	37%	-1%
54149	Other Specialized Design Services	25	1,651	16	3,094	-36%	87%
54142	Industrial Design Services	21	1,908	197	3,251	838%	70%
	Activewear/Outdoor Gear Total	**6,818**	**177,212**	**7,896**	**148,339**	**16%**	**-16%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 3
Activewear/Outdoor Gear Employment Change in the Portland Region & West Coast from 2004 to 2005

		2004 Employment		2005 Employment		2004 – 2005 Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
315	Apparel Manufacturing	488	88,819	506	82,565	18	-6,254
33992	Sporting and Athletic Goods Manufacturing	405	12,520	358	11,877	-47	-643
42391	Sporting and Recreational Goods and Supplies Merchant Wholesalers	326	11,105	342	10,992	16	-113
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	5,573	35,967	6,477	36,561	904	594
54149	Other Specialized Design Services	7	2,785	16	3,094	9	309
54142	Industrial Design Services	135	2,744	197	3,251	62	507
	Activewear/Outdoor Gear Total	**6,960**	**153,940**	**7,896**	**148,339**	**936**	**-5,601**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 4
Portland Region Shift-share and Local Concentration for the Activewear/Outdoor Gear Industry

		Shift-share	Local Concentration	
NAICS Code	Industry	2001 – 2005	2001	2005
315	Apparel Manufacturing	-0.25	0.21	0.14
33992	Sporting and Athletic Goods Manufacturing	-0.05	0.74	0.71
42391	Sporting and Recreational Goods and Supplies Merchant Wholesalers	-0.34	1.07	0.73
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	0.38	2.93	4.14
54149	Other Specialized Design Services	-1.23	0.35	0.12
54142	Industrial Design Services	7.68	0.25	1.42
	Activewear/Outdoor Gear Total	**0.32**	**0.88**	**1.25**

Source: Calculations by PDC

Table 5
Activewear/Outdoor Gear Sector size in the Portland Region and the West Coast in 2001 and 2005

		2001 Employment				2005 Employment			
NAICS Code	Industry	Portland Region	% of Total	West Coast	% of Total	Portland Region	% of Total	West Coast	% of Total
315	Apparel Manufacturing	1,021	15%	110,033	62%	506	6%	82,565	56%
33992	Sporting and Athletic Goods Manufacturing	517	8%	16,024	9%	358	5%	11,877	8%
42391	Sporting and Recreational Goods and Supplies Merchant Wholesalers	502	7%	10,733	6%	342	4%	10,992	7%
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	4,732	69%	36,863	21%	6,477	82%	36,561	25%
54149	Other Specialized Design Services	25	0%	1,651	1%	16	0%	3,094	2%
54142	Industrial Design Services	21	0%	1,908	1%	197	2%	3,251	2%
	Activewear/Outdoor Gear Total	**6,827**	100%	**177,212**	100%	**7,896**	100%	**148,339**	100%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

3. Wages

The average annual wage in this industry in the Portland region was $85,167. This wage seems to be high when compared to a West Coast average wage of approximately $37,249. It is likely that the average for the Portland region is skewed by the larger employers in the industry (Nike, Adidas and Columbia). A more realistic estimate (based on anecdotal information) would be approximately $40,000. With regard to instances where we see a decrease in wages combined with an increase in the number of employees, such as under the Apparel, Piece Goods and Notions Merchant Wholesalers sub sector, the decrease in wages may be due to less experienced/skilled people entering the workforce, which has a direct impact on wages. . Overall, the industry had a significant gain in wages in the Portland region of 29 percent, equal to the West Coast wage increases for the industry during the same period. See Tables 6 & 7.

Tables 6 & 7 compare 2001, 2004 and 2005 Portland area average wages for the Activewear/Outdoor Gear industry to Oregon, the West Coast and the nation as a whole for both the Activewear/Outdoor Gear industry and all industries.

Table 6
Activewear/Outdoor Gear Average Wages & Change in the Portland Region & West Coast from 2001 to 2005

		Avg Wage 2001		Avg Wage 2005		Change 2001 - 2005			
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	Portland Region %	West Coast	West Coast %
315	Apparel Manufacturing	$26,150	$21,119	$23,523	$25,545	-$2,626	-10%	$4,426	21%
33992	Sporting and Athletic Goods Manufacturing	$35,970	$36,754	$49,013	$42,785	$13,043	36%	$6,030	16%
42391	Sporting and Recreational Goods and Supplies Merchant Wholesalers	$39,510	$40,400	$45,910	$48,522	$6,399	16%	$8,122	20%
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	$81,003	$43,541	$94,941	$55,027	$13,938	17%	$11,486	26%
54149	Other Specialized Design Services	$60,976	$41,955	$22,012	$51,195	-$38,964	-64%	$9,240	22%
54142	Industrial Design Services	$61,191	$52,167	$61,147	$62,959	-$44	0%	$10,792	21%
	Activewear/Outdoor Gear Total	**$66,134**	**$28,893**	**$85,167**	**$37,249**	**$19,033**	**29%**	**$8,356**	**29%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 7
Activewear/Outdoor Gear Wage Change in the Portland Region & West Coast from 2004 to 2005

		Avg Wage 2004		Avg Wage 2005		Change 2004 - 2005	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
315	Apparel Manufacturing	$24,439	$25,883	$23,523	$25,545	-$916	-$337
33992	Sporting and Athletic Goods Manufacturing	$37,991	$40,456	$49,013	$42,785	$11,023	$2,329
42391	Sporting and Recreational Goods and Supplies Merchant Wholesalers	$43,376	$46,909	$45,910	$48,522	$2,533	$1,613
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	$118,289	$55,412	$94,941	$55,027	-$23,348	-$385
54149	Other Specialized Design Services	$45,247	$46,565	$22,012	$51,195	-$23,235	$4,630
54142	Industrial Design Services	$70,905	$64,483	$61,147	$62,959	-$9,758	-$1,524
	Activewear/Outdoor Gear Total	**$102,300**	**$36,546**	**$85,167**	**$37,249**	**-$17,133**	**$703**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

4. Observations

Employment in the Activewear/Outdoor Gear industry in the Portland region continues to grow faster than in the industry across the West Coast and the nation as a whole. From 2001 to 2005 industry employment throughout the United States declined by 25 percent. Throughout the West Coast, employment declined by 16 percent. In Oregon, however, employment in the Activewear/Outdoor Gear cluster increased by 14 percent. Industry employment growth in the Portland region was slightly higher than the state as a whole, with 16 percent growth between 2001 and 2005.

Table 8 shows the employment and change for Activewear/Outdoor Gear throughout the United States compared to the West Coast, Oregon and the Portland region.

Table 8
Activewear/Outdoor Gear Employment & Change in the United States, West Coast, Oregon and Portland Region from 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	2001-2005 %
United States	707,966	556,110	529,750	-178,216	-25%
West Coast	177,212	153,940	148,339	-28,873	-16%
Oregon	8,584	9,537	9,768	1,184	14%
Portland Region	6,827	6,960	7,896	1,069	16%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

The growth in employment from 2001 to 2005 in the Portland area for the Activewear/Outdoor Gear industry was greater than all employment growth on the West Coast, where employment grew by two percent. Jobs in the industry grew by 16 percent in the Portland region, while overall the region lost one percent of its employment.

Table 9 compares Portland employment in the Activewear/Outdoor Gear industry to overall employment trends from 2001 to 2004 in the Portland region, Oregon and the West Coast.

Table 9
Activewear/Outdoor Gear Employment in the Portland Region Compared to all other Industries on the West Coast, Oregon and in Portland 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	% 2001 - 2005
West Coast	16,220,942	16,451,478	16,474,755	253,813	2%
Oregon	1,343,430	1,383,822	1,387,651	44,221	3%
Portland Region	709,876	696,532	704,262	-5,614	-1%
Active Wear and Sports Gear in Portland	6,827	6,960	7,896	1,069	16%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Future industry growth in the region will likely continue to reflect the industry trends that have surfaced during the past year. Employment growth will occur through a mix of expansion of existing corporations, acquisitions of non-Portland companies, spin-off businesses growing out of the larger Activewear/Outdoor Gear companies, and recruitment of non-Portland businesses to the region.

5. Workforce

Employment opportunities in this target industry vary considerably. Tables 6 & 7 clearly show this – the average salary for someone employed in a manufacturing capacity was approximately $24,000 in 2005, while the average industrial design professional earned $61,000 in the same year. Not surprisingly, the educational and work experience required for these positions also varies widely. It is also worthwhile to note that particularly in the small to mid-sized firms; there is a more prevalent attitude that their work is consistent with their values and therefore extremely rewarding, regardless of salary.

A strong regional labor pool benefits the industry, especially with the highly educated 21-35 year old population; however, in some areas labor supply is insufficient. The availability of designers, product development, sales and marketing professionals is a general strength for the region. In addition, sales and marketing professionals in the Portland area offer a unique advantage of frequently being experienced users of the industry's products. However, there is an insufficient supply of industrial designers, and designers possessing expertise and knowledge of technical fabrics coming to market. This problem is exacerbated by an increased demand for these services. This shortage presents an opportunity for the public and private sectors to collaborate in providing professional development and training programs to support the continued growth of this industry. Some industry representatives have begun to push for better infrastructure to support design education in the Portland area. Two current concepts include creation of a world-class design center that would offer professional development and training opportunities and funding of a materials library where small to mid-sized design firms could be exposed to cutting-edge materials normally accessible only to large, corporate apparel producers. These projects would support the growth of the industry and help guarantee the Portland region as a center of the Activewear/Outdoor Gear industry.

6. Implementation

With the lack of a representative industry group serving this cluster, an emphasis this year will be to bring industry leaders together, from both large and small companies, to share best practices, create cost efficiencies and overall support the growth of this cluster, further strengthening the region and state's position as the international Activewear/Outdoor Gear capital.

The Portland region's labor market lacks skills in the areas of industrial design and expertise in the area of new emerging technical fabrics. This need presents an opportunity for the region to help develop training and professional development programs through public-private strategic partnerships with area learning institutions.

While we have been challenged to convene an industry group for the activewear industry, PDC held the first meeting of the cycling industry in October 2006. The purpose of that meeting was to identify industry priorities and potential opportunities for collaboration. As a result of that meeting, PDC has convened a series of meetings with the cycling community focused on the three priorities identified in October: establishing a statewide cycling business association; providing greater visibility and support for an existing or proposed cycling race venue/event;

providing access to technical assistance and working capital for small - medium sized businesses. During the budget discussions, Commissioner Adams championed a special appropriation to support the cycling initiatives and PDC has taken the leadership in facilitating the discussions around how those funds will be spent to best leverage resources and to help strengthen the growth and visibility of the industry and the state.

We have a tremendous opportunity to showcase the Portland region and Oregon, and the activewear companies located here in October 2007 when the Outdoor Industry Association (OIA) holds its annual rendezvous in the Portland area. OIA is the leading business trade association for the activewear industry. The rendezvous brings together approximately 300 national industry leaders and we have been invited to participate. PDC is working with OECDD, regional and state public and private partners to identify funding to sponsor a welcoming reception, as well as to sponsor the OIA industry breakfast which will be held during the Summer Market (August 2007) to encourage companies, their employees and families to visit the Portland region. It is an opportunity that supports our cluster work, provides visibility for Oregon companies, contributes to our recruitment efforts and promotes tourism.

Activewear/Outdoor Gear business factors that the PDC can help affect:

- Local business & economic climate
- Financing
- Local and state government policy
- Industry advocacy
- Industry networking
- Industry support and coalescence
- Land use issues
- Permitting
- Recruitment
- Retention and expansion of existing Activewear/Outdoor Gear businesses
- Workforce development

Activewear/Outdoor Gear business factors that are difficult to change:

- Access to markets
- Competition
- Escalating real estate costs
- Global and national economic conditions
- Physical barriers
- Roadway and other transportation infrastructure

7. Top Issues Facing Industry

The following are the top issues currently facing the Activewear/Outdoor Gear industry in the Portland region:

- Increased visibility, locally, nationally and globally for the cluster and individual companies
- Need for expanded/enhanced industrial design and fabric technology training/programs
- Assistance with customs processes for small-medium companies
- Identification of foreign production/manufacturing partners for small and medium-sized companies
- Government policy and regulation as a barrier to start-up and expanding businesses
- Lack of access to finance/capital
- Access to materials resource library for small-medium sized businesses

8. Action Items for Fiscal Year 2006-07

This action plan outlines specific measures to support the growth of the Activewear/Outdoor Gear industry. An industry advisory group reviewed the draft document and provided input (list attached).

- 30 retention visits to companies in the industry.
- 4 Recruitment trips (Outdoor Retailer Summer Market, August 2006; Interbike, September 2006; Outdoor Retailer Winter Market, January 2007; ISPO Winter Show, February 2007) with a minimum of three appointments with companies and/or site selectors at each conference.
- Establish an ad hoc industry advisory group which meets on a quarterly basis to oversee implementation of this strategy.
- Provide leadership in identifying funding to sponsor the 2007 Outdoor Industry Association (OIA) Industry Breakfast (August 2007) and the Outdoor Industry Association Annual Rendezvous Welcoming Reception (October 2007) in partnership with other state, local and regional partners.
- Convene cycling industry group to identify top three (3) priorities and establish task forces around each of the three initiatives.
- Create and retain Activewear/Outdoor Gear jobs to meet overall department goal of 2,000 new and retained jobs.
- Leverage private investment to contribute to overall department goal of leveraging $100 million in private investment.
- Develop customized Activewear/Outdoor Gear postcards and execute direct mail campaign, sending out at least 150 postcards to companies and site selectors located outside of the Portland region.
- Subscribe to industry online newsletters and publications: SNEWS, Sporting Goods Intelligence.

Appendix A
Top 50 (by revenue) Activewear/Outdoor Gear Companies

Business Name	Industry
Columbia Sportswear Company	Men's and Boy's Clothing, Nec
Dr Martens Airwair USA LLC	Footwear
Adidas Salomon North America	Men's and Boy's Clothing, Nec
Nike	Footwear
All-Sports LLC	Sporting and Recreation Goods
S R Smith	Sporting and athletic Goods, Nec
Soloflex Inc	Sporting and athletic Goods, Nec
Kool-Stop International Inc	Sporting and Recreation Goods
Kinco International Inc	Men's and Boy's Clothing
Columbia River Knife and Tl Co	Sporting and Recreation Goods
Kakadu Traders Australia Inc	Men's and Boy's Clothing
Footwear Specialties Intl LLC	Footwear
Sparq Training	Sporting and Recreation Goods
Jantzen Inc	Women's, Misses' Outerwear, Nec
S & F Associates Inc	Sporting and Recreation Goods
OH Shoes LLC	Footwear
Cyclone Bicycle Supply	Sporting and Recreation Goods
Nomad International Inc	Sporting and Recreation Goods
Langlitz Leathers Inc	Leather and Sheep-lined Clothing
Leslie Jordan Inc	Men's and Boy's Clothing
Y-Four	Men's and Boy's Clothing
Insport	Women's, Misses' Outerwear, Nec
Betty Rides	Men's and Boy's Clothing, Nec
Forresters Inc	Waterproof Outerwear
Hatchbacks Inc	Footwear
Brindar	Men's and Boy's Clothing
Thinc Actionwear Inc	Men's and Boy's Clothing
TBM and Associates Limited	Men's and Boy's Clothing
Petticord Leisure	Women's, Misses' Outerwear, Nec
Bonfire Snowboarding Inc	Men's and Boy's Clothing, Nec
Allian Snowboards	Sporting and Recreation Goods
Mackenzie Bag	Sporting and athletic Goods, Nec
ASAP USA Corp	Footwear
Helly Hansen LLC	Waterproof Outerwear
Niska Sportwear	Men's and Boy's Clothing, Nec
Ancient Clothing Inc	Men's and Boy's Work Clothing
McIntosh and Seymour	Men's and Boy's Clothing, Nec
Leisure Sales Inc	Sporting and Recreation Goods
Snow Peak USA Inc	Sporting and Recreation Goods
Clarks Co NA	Footwear
Qubic LLC	Footwear
Total Impact Wear Inc	Men's and Boy's Clothing
Sassy Lassies	Women's and Children's Clothing
Montano Inc	Sporting and athletic Goods, Nec
Oregon Mudders Inc	Footwear
Posh Footwear Ltd	Footwear
Climb Axe Ltd	Sporting and Recreation Goods
Nite-Brite Technologies	Sporting and Recreation Goods
Xylo Manufacturing LLP	Sporting and Recreation Goods

Source: Dunn and Bradstreet, May 2006

Appendix B
Top 50 Activewear/Outdoor Gear Employers

Business Name	Industry
Columbia Sportswear Company	Men's and Boy's Clothing, Nec
Adidas Salomon North America	Men's and Boy's Clothing, Nec
Nike	Footwear
Dr Martens Airwair USA LLC	Footwear
All-Sports LLC	Sporting and Recreation Goods
Soloflex Inc	Sporting and athletic Goods, Nec
Jantzen Inc	Women's and Misses' Outerwear, Nec
Insport	Women's and Misses' Outerwear, Nec
Kool-Stop International Inc	Sporting and Recreation Goods
Kinco International Inc	Men's and Boy's Clothing
Pro Active Sports	Sporting and Recreation Goods
Forresters Inc	Waterproof Outerwear
KO Screening Inc	Men's and Boy's Clothing
Columbia River Knife and Tl Co	Sporting and Recreation Goods
Kakadu Traders Australia Inc	Men's and Boy's Clothing
Brindar	Men's and Boy's Clothing
Mackenzie Bag	Sporting and athletic Goods, Nec
Savier Inc	Footwear
Sparq Training	Sporting and Recreation Goods
Langlitz Leathers Inc	Leather and Sheep-lined Clothing
Bonfire Snowboarding Inc	Men's and Boy's Clothing, Nec
Footwear Specialties Intl LLC	Footwear
Helly Hansen LLC	Waterproof Outerwear
Nomad International Inc	Sporting and Recreation Goods
Cyclone Bicycle Supply	Sporting and Recreation Goods
S & F Associates Inc	Sporting and Recreation Goods
Niska Sportwear	Men's and Boy's Clothing, Nec
Fishing Gearcom	Sporting and athletic Goods, Nec
Leslie Jordan Inc	Men's and Boy's Clothing
Ancient Clothing Inc	Men's and Boy's Work Clothing
Petticord Leisure	Women's and Misses' Outerwear, Nec
Pacific Shores Intl LLC	Women's and Children's Clothing
McIntosh and Seymour	Men's and Boy's Clothing, Nec
Lawngrips LLC	Footwear
Thinc Actionwear Inc	Men's and Boy's Clothing
Corazzo	Men's and Boy's Clothing, Nec
Montano Inc	Sporting and athletic Goods, Nec
OH Shoes LLC	Footwear
Allian Snowboards	Sporting and Recreation Goods
Hatchbacks Inc	Footwear
Betty Rides	Men's and Boy's Clothing, Nec
Swimeezy USA Inc	Sporting and Recreation Goods
Snow Peak USA Inc	Sporting and Recreation Goods
ASAP USA Corp	Footwear
Core Distribution USA LLC	Footwear
Sassy Lassies	Women's and Children's Clothing
Graffi T Shirt	Men's and Boy's Clothing
Qubic LLC	Footwear
Climb Axe Ltd	Sporting and Recreation Goods

Source: Dunn & Bradstreet, May 2006

Appendix C

Activewear, Footwear & Gear
Plan Reviewers

David Carlson
LaCrosse Footwear
Portland, OR

Julia Brim Edwards
Nike
Beaverton, OR

John Fread
Columbia Sportswear Company
Portland, OR (Washington County)

Patty Goffe
Adidas
Portland, OR

Chris King
King Cycles
Portland, OR

Kathryn (Kate) Lee
Salomon North America
Portland, OR

Bobbie Parisi
Keen
Portland, OR

Carolyn Sanco
Oregon Economic & Community Development Department
Portland, OR

Dave Smith
Future Solutions
Portland, OR

Mark Weitz
Solstice Mountain Wear
Portland, OR

Biosciences Target Industry Plan 2006-2007

1. Industry Definition/Summary

Oregon is home to a growing number of dynamic Bioscience companies. The three largest Bioscience industry sectors are medical devices, reagents, and therapeutics, which account for the majority of companies, employees and revenues. The medical device and healthcare information technology sectors show energetic growth benefiting from interactions with Oregon's high technology and semiconductor industries. NIH funding, a measure of competitive Bioscience research activity, continues to increase in Oregon faster than the national average in recent years.

The Biosciences industry is made up of companies engaged in pharmaceutical and medicine manufacturing, medical equipment and supplies manufacturing and various research and development firms. The Portland region is home to nearly 300 Biosciences firms. The majority of the Biosciences companies in the Portland region are small businesses, with an average size of less than 20 employees. The average revenue for a Biosciences company in the Portland region is more than $9 million a year.[1]
The Bioscience Industry Cluster, as defined in this report, is composed of four primary NAICS industries listed below.

- **Pharmaceutical & Medicine Manufacturing (NAICS: 32541)**
- **Medical Equipment & Supplies Manufacturing (33911)**
- **R & D in the Physical, Engineering, & Life Sciences (54171)**
- **Medical & Diagnostic Laboratories (62151)**

In addition to companies engaged in the Biosciences industry, support and supplier industries play an integral role in helping the cluster function. A list of key support and supplier industries is listed in Appendix C with the estimated local contribution to Portland region Biosciences industry.

2. Industry Trends

The Portland region has a competitive advantage in Biosciences. Simple geography, coupled with an extensive multi-modal network allows Portland businesses to move goods throughout the world. OHSU, a nationally recognized teaching and research institution creates high-quality intellectual capital directly related to the Bioscience industry. Noting Portland's competitive advantages, along with other factors and trends that affect overall Bioscience business is extremely helpful in assessing what actions the PDC can undertake to support the Biosciences industry.

First identified as a locally concentrated cluster in 2002 as part of a citywide economic development strategy, an estimated 5,736 jobs were attributed to Biosciences in the Portland-Salem Metro area in 1997. Using the smaller geography of Clackamas, Multnomah and Washington counties, employment as of 2005 in Biosciences is estimated to be 4,521 jobs, a decrease of 442 jobs or nine percent from 2004. See Table 3.

[1] Source: Dun & Bradstreet Marketing Solutions, May 2006.

Overall, the Biosciences cluster is less concentrated in the 3-county Portland region than the West Coast states of California, Oregon and Washington. In 2001 Biosciences had a local concentration[2] of 0.47. In 2005 the local concentration in the Portland region decreased slightly to 0.44 (see Table 4). Despite this decrease and job losses within the industry that occurred between 2004 and 2005, recent recruitment and university activity indicates that the industry will continue to grow in the upcoming decade.

Within the Biosciences industry, Research and Development in the Physical, Engineering and Life Sciences (NAICS 54171) is the largest employer in the Portland region. Of the 442 jobs lost between 2004 and 2005, 385 or 87 percent were in this sector. The Medical Equipment and Supplies Manufacturing sub sector (NAICS 33911) had the second largest number of jobs with 1,537 jobs in 2005 versus 1,393 in 2001 and 1,662 in 2004. See Table 1.

After Research and Development in the Physical, Engineering and Life Sciences and Medical Equipment and Supplies Manufacturing, Medical and Diagnostic Laboratories are the third largest Bioscience employer in the Portland region (NAICS 62151). In 2005 an estimated 941 jobs were in medical and diagnostic laboratories in the Portland region. This is an increase from 2001 when an estimated 884 jobs were within the Medical and Diagnostic Laboratories sub sector. This increase of six percent in the Portland region employment is consistent with the West Coast sub-cluster growth during this period. See Tables 1 & 2.

In addition to the research and development sector, a decrease in employment in Biosciences occurred in Pharmaceutical and Medicine Manufacturing (NAICS 32541). From 2001 to 2005 Pharmaceutical and Medicine Manufacturing the Portland region lost 131 jobs for a decrease of 23 percent during this period. The recent announcement by Genentech as having selected the Portland region for a manufacturing location suggests that this trend is changing and that the region may be poised to grow consistently with other West Coast locations in this sector.

[2] The local concentration ("location quotient" or LQ) is the calculated ratio between the local economy and the economy of some reference unit, in this case the West Coast states. This ratio is calculated for all industries to determine whether or not the local economy has a greater share of that industry than expected. If an industry has a greater share than expected of a given industry, then that "extra" industry employment is assumed to have a greater concentration and importance to the local economy because those jobs are above what a local economy should have to serve local needs. If an industry has a concentration of more than 1, it is assumed to be locally concentrated. Anything below 1 is not locally concentrated.

Tables 1-5 show the employment and changes that have occurred between 2001, 2004 and 2005 in Biosciences in the Portland region (Clackamas, Multnomah and Washington counties) compared to the West Coast (California, Oregon and Washington).

Table 1
Biosciences Employment Change in the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 – 2005 Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
32541	Pharmaceutical & Medicine Manufacturing	579	40,158	448	43,606	-131	3,448
33911	Medical Equipment & Supplies Manufacturing	1,393	56,724	1,537	54,227	144	-2,497
54171	R & D in the Physical, Engineering, & Life Sciences	1,685	101,265	1,595	109,873	-90	8,608
62151	Medical & Diagnostic Laboratories	884	24,944	941	30,247	57	5,303
	Bioscience Total	**4,541**	**223,091**	**4,521**	**237,954**	**-20**	**14,863**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 2
Biosciences Percent Change in Employment for the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 - 2005 Percent Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
32541	Pharmaceutical & Medicine Manufacturing	579	40,158	448	43,606	-23%	2%
33911	Medical Equipment & Supplies Manufacturing	1,393	56,724	1,537	54,227	10%	-2%
54171	R & D in the Physical, Engineering, & Life Sciences	1,685	101,265	1,595	109,873	-5%	3%
62151	Medical & Diagnostic Laboratories	884	24,944	941	30,247	6%	6%
	Bioscience Total	**4,541**	**223,091**	**4,521**	**237,954**	**0%**	**2%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 3
Biosciences Employment Change in the Portland Region & West Coast from 2004 to 2005

		2004 Employment		2005 Employment		2004 – 2005 Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
32541	Pharmaceutical & Medicine Manufacturing	454	42,958	448	43,606	-6	648
33911	Medical Equipment & Supplies Manufacturing	1,662	55,492	1,537	54,227	-125	-1,265
54171	R & D in the Physical, Engineering, & Life Sciences	1,980	106,894	1,595	109,873	-385	2,979
62151	Medical & Diagnostic Laboratories	867	28,700	941	30,247	74	1,547
	Bioscience Total	**4,963**	**234,044**	**4,521**	**237,954**	**-442**	**3,910**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 4
Portland Region Shift-share and Local Concentration for the Biosciences Industry

		Shift-share	Local Concentration	
NAICS Code	Industry	2001 - 2005	2001	2005
32541	Pharmaceutical & Medicine Manufacturing	-0.31	0.33	0.24
33911	Medical Equipment & Supplies Manufacturing	0.15	0.56	0.66
54171	R & D in the Physical, Engineering, & Life Sciences	-0.14	0.38	0.34
62151	Medical & Diagnostic Laboratories	-0.15	0.81	0.73
	Bioscience Total	**-0.07**	**0.47**	**0.44**

Source: Calculations by PDC

Table 5
Biosciences Sector size in the Portland Region and the West Coast in 2001 and 2005

		2001 Employment				2005 Employment			
NAICS Code	Industry	Portland Region	% of Total	West Coast	% of Total	Portland Region	% of Total	West Coast	% of Total
32541	Pharmaceutical & Medicine Manufacturing	579	13%	40,158	18%	448	10%	43,606	18%
33911	Medical Equipment & Supplies Manufacturing	1,393	31%	56,724	25%	1,537	34%	54,227	23%
54171	R & D in the Physical, Engineering, & Life Sciences	1,685	37%	101,265	45%	1,595	35%	109,873	46%
62151	Medical & Diagnostic Laboratories	884	19%	24,944	11%	941	21%	30,247	13%
	Bioscience Total	**4,541**	100%	**223,091**	100%	**4,521**	100%	**237,954**	100%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

3. Wages

The average annual wage paid in the Portland region by the Biosciences cluster in 2005 was $51,894. This is significantly lower than the average wage paid in Biosciences for the West Coast . The average wage paid in the Portland region in Biosciences in 2005 is 19 percent higher than the annual wage of $43,497 paid in 2001. During the same time, West Coast annual wages increased slightly more than 20 percent from $67,781 to $82,740. Portland Biosciences wages are lower than the West Coast states as a whole, with the exception of Medical and Diagnostic Laboratories employment, and as of 2005, wage increases in our region have been rising slightly slower than elsewhere on the West Coast. See Table 6.

Within Biosciences, Research and Development in the Physical, Engineering and Life Sciences continue to have the highest wages in the Portland region. In 2005, research and development had an average wage of $68,121 in the Portland area compared to $91,906 for the West Coast. Wages for workers in the Medical and Diagnostic Laboratories paid second highest within the cluster and also paid higher than the West Coast with average wages of $57,105 compared to $35,930 average on the West Coast. See Table 6.

Average wages in Medical Equipment & Supplies Manufacturing remained lower in the Portland region than elsewhere on the West Coast in 2005 at $36,451 compared to $59,749. In the Pharmaceutical and Medicine Manufacturing sub sector, average wages declined by thirteen percent between 2001 and 2005 in the Portland region. The Portland region average wage of $36,451 in this sub-industry in 2005 was less than one-third the average wage elsewhere on the West Coast where it was $120,704. While Portland saw a decline in wages in this sub-industry, elsewhere on the West Coast the wages increased from $80,647 to $120,704 between 2004 and 2005. See Tables 6 & 7.

Tables 6-7 compare 2001, 2004 and 2005 Portland area average wages to the West Coast along with the change for the Biosciences industry.

Table 6
Biosciences Average Wages & Change in the Portland Region & West Coast from 2001 to 2005

		Avg Wage 2001		Avg Wage 2005		Change 2001 - 2005			
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	Portland Region %	West Coast	West Coast %
32541	Pharmaceutical & Medicine Manufacturing	$41,726	$80,305	$36,154	$120,704	-$5,572	-13%	$40,399	50%
33911	Medical Equipment & Supplies Manufacturing	$34,124	$51,729	$36,451	$59,749	$2,328	7%	$8,019	16%
54171	R & D in the Physical, Engineering, & Life Sciences	$50,009	$77,483	$68,121	$91,906	$18,112	36%	$14,423	19%
62151	Medical & Diagnostic Laboratories	$47,016	$44,733	$57,105	$35,930	$10,089	21%	-$8,803	-20%
	Bioscience Total	**$43,497**	**$67,781**	**$51,894**	**$82,740**	**$8,397**	**19%**	**$14,959**	**22%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 7
Biosciences Wage Change in the Portland Region & West Coast from 2004 to 2005

NAICS Code	Industry	Avg Wage 2004		Avg Wage 2005		Change 2004 - 2005	
		Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
32541	Pharmaceutical & Medicine Manufacturing	$37,917	$80,647	$36,154	$120,704	-$1,763	$40,056
33911	Medical Equipment & Supplies Manufacturing	$37,908	$59,842	$36,451	$59,749	-$1,457	-$93
54171	R & D in the Physical, Engineering, & Life Sciences	$62,304	$86,798	$68,121	$91,906	$5,818	$5,108
62151	Medical & Diagnostic Laboratories	$57,029	$46,732	$57,105	$35,930	$76	-$10,802
	Bioscience Total	**$50,982**	**$74,365**	**$51,894**	**$82,740**	**$912**	**$8,375**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

4. Observations

In reviewing data from the 2001 to 2005 time period, it becomes obvious that the Biosciences industry in the Portland region is behind West Coast and national employment trends. As noted in the industry overview section of this report, significant employment losses in the Research and Development in the Physical, Engineering and Life Sciences sub sector, as well as the Pharmaceutical and Medicine Manufacturing sub-sector from 2004 to 2005 are responsible for this trend. However, strong industry growth is expected in the region due to the recent recruitment of Genentech and other ongoing business development and recruitment efforts.

Table 8 shows the employment and change for Biosciences throughout the United States compared to the West Coast, Oregon and the Portland region while Table 9 compares Biosciences to overall employment trends from 2001 to 2005 in the Portland region, Oregon and the West Coast.

Table 8
Biosciences Employment & Change in the United States, West Coast, Oregon and Portland Region from 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	2001-2005 %
United States	1,224,443	1,262,343	1,290,625	66,182	5%
West Coast	223,091	234,044	237,954	14,863	7%
Oregon	7,956	8,783	8,928	972	12%
Portland Region	4,541	4,963	4,521	-20	0%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 9
Biosciences Employment in the Portland Region Compared to all other Industries on the West Coast, Oregon and in Portland 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	% 2001 - 2005
West Coast	16,220,942	16,451,478	16,474,755	253,813	2%
Oregon	1,343,430	1,383,822	1,387,651	44,221	3%
Portland Region	709,876	696,532	704,262	-5,614	-1%
Biosciences in Portland	4,541	4,963	4,521	-20	0%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Portland has seen signs of an economic turn-around over the past year. Since 2002, state and regional recruitment efforts related to the Biosciences industry have focused on the Pharmaceutical and Medicine Manufacturing sub sector through attendance at the Biotechnology Industry Organization conferences in 2004 and 2005. Future economic development efforts will focus on the industry sectors with the greatest number of jobs and largest growth potential: Medical Equipment & Supplies Manufacturing; Research and Development in the Physical, Engineering and Life Sciences; and, medical and diagnostic laboratories. Upcoming attendance at the MEDICA 2006 conference in Germany with public and private sector partners is an excellent example of what future external recruitment efforts are expected to look like. Additionally, attendance at other industry-specific events, such as the BioPartnering North America conferences will serve to supplement venture capital and networking needs of regional Bioscience companies spinning out of OHSU and other research institutions.

5. Workforce

According to the Oregon Employment Department, employment in Biosciences is expected to grow in Oregon through 2014. Within Biosciences, there has been recent strong growth in Research and Development in the Physical, Engineering and Life Sciences and Medical Equipment and Supplies Manufacturing. This growth is expected to continue as the aging of the baby boomer population continues and FDA regulations require that manufacturing activities take place within the United States. Additionally, China and other Asian markets offer additional potential future export growth opportunities for these sub sectors.

Portland region (Clackamas, Multnomah and Washington counties) overall employment is expected to grow by over 16 percent from 2004 through 2014. The Biosciences industry is not expected to match this growth, with estimated average growth of close to eight percent during this period.

Occupational needs in Biosciences will continue to be primarily high-skilled professional positions. A smaller number of the jobs are mid-level, especially those in the Pharmaceutical and

Medicine Manufacturing sub sector. Most of these positions require significant educational prerequisites, including advanced degrees.

As FDA regulations have become increasingly complex and time-dependent, more of the industry is involved in FDA approval of products. Consequently, Regulatory Affairs Managers are an especially important position for the industry. Upcoming efforts will focus on bringing FDA training to the Portland region and Oregon through a partnership between Washington State and Oregon, with training being offered beginning in autumn of 2006.

Below are the top occupational categories for Biosciences, in alphabetical order. Those in bold are considered the toughest positions to fill.

Top Occupational Categories for Biosciences

- Agricultural and Food scientists
- Biomedical Engineers
- Biochemists and Biophysicists
- Medical Scientists
- Microbiologists
- **Production/Manufacturing**
- **Quality Assurance**

6. Implementation

The primary goals of strategy implementation are Bioscience job retention and expansion, wealth creation and business support. The Portland Development Commission plays a support role to the Biosciences by promoting industry initiatives, supplying financial assistance and by participating in business outreach efforts. Throughout the next fiscal year, the PDC will work with its partners in helping to foster a positive business climate for the Biosciences industry in the Portland region and throughout the State of Oregon.

Noting Portland's competitive advantages (see Section 2), along with other factors that affect overall Bioscience business helps when assessing what actions the PDC can undertake to support the Biosciences industry. Below is a listing of factors that the PDC recognizes it can help affect in promoting the Biosciences, along with a list of factors that are more difficult to change.

Biosciences business factors that the PDC can help affect:

- Business & economic climate
- Distribution & logistics business development
- Financing
- Local and state government policy
- Industry advocacy
- Industry Networking
- Industry support and coalescence
- Land use issues
- Permitting
- Recruitment
- Retention and expansion of existing Biosciences businesses
- Transportation initiatives
- Workforce development

Biosciences business factors that are difficult to change:

- Access to markets
- Availability of space
- Competition
- Escalating real estate costs
- Global and national economic conditions
- Physical barriers
- Roadway and other transportation infrastructure
- Technology transfer

Strategy goals were developed for the Biosciences strategy in 2002 for the City of Portland to implement. Many of the goals listed were of a supporting nature and the City's future role will continue to be in this manner. Previous strategy goals included:

- Become a research powerhouse
- Attract researchers who increase OHSU's scientific impact
- Create centers of clinical and research expertise
- Ensure the availability of space and equipment
- Maximize the number of commercially viable discoveries made by Portland Bioscience institutions and firms.
- Grow a biotechnology industry in Oregon

These bullet points will be part of ongoing efforts to help the Biosciences industry in Portland. Other goals to focus on for Biosciences are:

- Workforce development for an adequate employment pool
- Job creation through business expansion
- Supplier and support industry retention, expansion and recruitment

7. Top Issues Facing Industry

The following are the top issues currently facing the Biosciences industry in the Portland region:

- Access to venture capital
- Lack of availability of local workforce with relevant education and/or experience relevant to the industry (i.e. FDA regulatory training)
- Lack of existing space for Bioscience companies close to OHSU campus

8. Action Items for Fiscal Year 2006-07

In order to achieve the goals and further support the Biosciences industry, the PDC will perform the following actions to help support the industry.

- Conduct 20 business retention visits to companies in the industry
- Conduct recruitment trips to the MEDICA 2006 and Medical Design & Manufacturing West 2007 conference/tradeshows with private and public sector partners (OECDD, OEDA, and OHSU). Meet with a minimum of three companies and/or site selectors at each of these trade shows.
- Conduct brief fact-finding mission to Seattle research district to gain knowledge of both public and private efforts to develop the industry with the ultimate goal of creating a model for Bioscience-oriented development in the North Macadam Urban Renewal Area.
- Complete intergovernmental agreement (IGA) between PDC and OHSU regarding Bioscience industry development and recruitment in the North Macadam urban renewal area. Execute the PDC action items identified in this agreement.
- Create report on Portland Bioscience industry which includes best practices research on economic development efforts in the Bioscience industry in other locations.
- Support the Oregon Biosciences Association's efforts to grow the industry through active participation in the organization and by sponsoring two industry events (including the annual conference).
- Create and retain jobs to meet overall department goal of 2,000 new and retained jobs.
- Leverage private investment to contribute to overall department goal of leveraging $100 million in private investment.
- Work with OBA, OECDD and other industry partners on efforts to attract venture capital to Oregon.
- Increase coordination with the Washington Biotechnology & Biomedical Association in regards to event planning and West Coast Bioscience initiatives.
- Participate in activities to facilitate formation of a Pacific Coast Bioscience cluster organization.

Appendix A

Top 50 (by revenue) Biosciences Companies in Portland region

Business Name	Industry
Exelixis Plant Sciences Inc	Commercial Physical Research
Welch Allyn Monitoring	Surgical and Medical Instruments
Oregon Health & Sciences Univ	Noncommercial Research Organizations
Thortex	Surgical and Medical Instruments
Pml Inc	Biological Products, Except Diagnostic
Incline Medical LLC	Electromedical Equipment
Jvnw	Pharmaceutical Preparations
A Colson Associate	Surgical Appliances and Supplies
Magno-Humphries Inc	Pharmaceutical Preparations
Optical Plastics Inc	Ophthalmic Goods
Coherent Group	Electromedical Equipment
Bioject Inc	Surgical and Medical Instruments
CP Medical Corporation	Surgical and Medical Instruments
Tidepool	Commercial Physical Research
Hemcon Inc	Surgical Appliances and Supplies
AVI Biopharma Inc	Pharmaceutical Preparations
Mml Diagnostics Packaging Inc	Biological Products, Except Diagnostic
Lsm Dental	Dental Equipment and Supplies
Open Advanced M R I	Medical Laboratories
Osu Food Innovation Cente	Commercial Physical Research
Cascade Cytology Reference Lab	Medical Laboratories
BIOSHARK SYSTEMS	Biological Products, Except Diagnostic
Oxis International Inc	Pharmaceutical Preparations
Summit Research Network	Noncommercial Research Organizations
Firstpoint Energy Corporation	Commercial Physical Research
Active Open Imaging LLC	Medical Laboratories
Zygo Industries Inc	Surgical Appliances and Supplies
Neurocom International Inc	Surgical and Medical Instruments
Cascade Biologics Inc	Biological Products, Except Diagnostic
Procedure Products Inc	Surgical and Medical Instruments
Ocean Res & Exporation Intl	Noncommercial Research Organizations
Herbal Concepts Inc	Medicinals and Botanicals
Engle Dental Systems Inc	Dental Equipment and Supplies
American Tinnitus Association	Noncommercial Research Organizations
Prio Corporation	Surgical and Medical Instruments
T Z Medical Inc	Surgical and Medical Instruments
Bonneville Envmtl Foundation	Commercial Physical Research
Sustainable Ecosystems Inst	Commercial Physical Research
A I N W	Noncommercial Research Organizations
Hocks Hearing Healthcare Pdts	Surgical Appliances and Supplies
Battelle Pacific NW Nat Lab	Commercial Physical Research
Jordco Inc	Commercial Physical Research
Innovite Inc	Medicinals and Botanicals
Triple Point Biologics Inc	Biological Products, Except Diagnostic
Proteogenix Inc	Commercial Physical Research
Portland Tissue Processing Lab	Medical Laboratories
Vascular Access Teaching Aids	Surgical and Medical Instruments
Advanced Surfaces	Diagnostic Substances
Laser Vision Technologies	Commercial Physical Research
Telemedicine Research Center	Commercial Physical Research

Source: Dun & Bradstreet Marketing Solutions, May 2006.

Appendix B

Top 50 (by employment) Biosciences Companies in Portland region

Business Name	Industry
Exelixis Plant Sciences Inc	Commercial Physical Research
Quest Diagnostics	Medical Laboratories
Oregon Health & Sciences Univ	Noncommercial Research Organizations
Welch Allyn Monitoring	Surgical and Medical Instruments
Kaiser Foundation Health Plan	Noncommercial Research Organizations
Oregon Rgional Primate RES Ctr	Noncommercial Research Organizations
Vollum Institute	Medical Laboratories
Thortex	Surgical and Medical Instruments
Fiserv	Noncommercial Research Organizations
A Colson Associate	Surgical Appliances and Supplies
Red Cross	Medical Laboratories
Magno-Humphries Inc	Pharmaceutical Preparations
Starkey Northwest	Surgical Appliances and Supplies
Oregon Health & Science Univ	Noncommercial Research Organizations
Mml Diagnostics Packaging Inc	Biological Products, Except Diagnostic
Coherent Group	Electromedical Equipment
Bioject Inc	Surgical and Medical Instruments
Rti	Commercial Physical Research
Open Advanced M R I	Medical Laboratories
Laerdal Manufacturing	Electromedical Equipment
Osu Food Innovation Cente	Commercial Physical Research
Optical Plastics Inc	Ophthalmic Goods
Hemcon Inc	Surgical Appliances and Supplies
Lsm Dental	Dental Equipment and Supplies
AVI Biopharma Inc	Pharmaceutical Preparations
Clinical Genetics Laboratories	Medical Laboratories
Oregon Medical Laser Center	Noncommercial Research Organizations
Summit Research Network	Noncommercial Research Organizations
Synarc Inc	Commercial Physical Research
RMC Research Corporation	Noncommercial Research Organizations
Zygo Industries Inc	Surgical Appliances and Supplies
Lab	Medical Laboratories
Tidepool	Commercial Physical Research
Cascade Biologics Inc	Biological Products, Except Diagnostic
Daimler-Chrysler Res & Tech	Commercial Physical Research
Ocean Res & Exporation Intl	Noncommercial Research Organizations
Engle Dental Systems Inc	Dental Equipment and Supplies
Neurocom International Inc	Surgical and Medical Instruments
Portland Tissue Processing Lab	Medical Laboratories
A I N W	Noncommercial Research Organizations
Prio Corporation	Surgical and Medical Instruments
Sustainable Ecosystems Inst	Commercial Physical Research
Lung Health Study	Noncommercial Research Organizations
Hill Top Research Inc	Noncommercial Research Organizations
Swca Environmental Consultants	Noncommercial Research Organizations
Isense	Commercial Physical Research
Radiant Research Inc	Pharmaceutical Preparations
Pro-Dex Inc	Dental Equipment and Supplies
Sam Medical Products/Aws	Surgical Appliances and Supplies
Proteogenix Inc	Commercial Physical Research

Source: Dun & Bradstreet Marketing Solutions, May 2006

Appendix C

Major Support & Supplier Industries for Biosciences in Portland[3]

Supplier or Support Industry	Estimated Local Input
Management of companies and enterprises	76%
Wholesale trade	100%
Lessors of nonfinancial intangible assets	76%
Noncomparable imports	0%
Advertising and related services	76%
Real estate	70%
Plastics plumbing fixtures and all other plastics	88%
Paperboard container manufacturing	0%
Legal services	78%
Power generation and supply	75%
Other basic organic chemical manufacturing	3%
Warehousing and storage	100%
All other miscellaneous professional and technical	76%
Monetary authorities and depository credit intermediaries	60%
Commercial printing	23%
Employment services	76%
Plastics packaging materials, film and sheet	25%
Glass and glass products, except glass containers	73%
Data processing services	24%
Telecommunications	53%
Other basic inorganic chemical manufacturing	21%
Truck transportation	100%
Maintenance and repair of nonresidential buildings	88%
Nondepository credit intermediaries	60%
Nonwoven fabric mills	6%
Management consulting services	76%
Plastics bottle manufacturing	4%
Colleges, universities, junior colleges	75%
Architectural and engineering services	78%
Accounting and bookeeping	78%
Guided missile and space vehicle manufacturing	50%
Food services and drinking places	88%
Semiconductors and related devices	78%
Air transportation	27%
Textile and fabric finishing	2%
Other state and local government	100%
Other miscellaneous chemical manufacturing	31%
Office administrative services	29%
Commercial machinery repair	76%
Natural gas distribution	95%
Securities, commodity contracts, investments	60%
Plastics material and resin manufacturing	0%
Automotive equipment rental and leasing	84%
Glass container manufacturing	99%
Services to buildings and dwellings	76%
Computer systems design services	76%
Hotels and motels	74%
Machinery and equipment rental	76%
Electromedical apparatus manufacturing	83%

Source: Implan Pro 2.0 Input-Output Model for Clackamas, Multnomah and Washington Counties.

[3] The list is sorted in order of largest monetary input.

Appendix D
Advisory/Review Committee for Biosciences Industry Plan

Anne Bunnenberg
President
Electrical Geodesics, Inc.

Mary Gimigliano Erichsen
IBM Life Sciences
Chair, Oregon Bioscience Association

Amy Keiter
Cluster Initiative Coordinator
OECDD

Bob Lanier
LabFX

John Morgan
President
Hemcon Inc.

Lewis Nashner
President
Neurocom International, Inc.

William Newman
Managing Director
Northwest Technology Ventures

Arundeep S. Pradhan
Director, Technology and Research Collaborations
OHSU

Carol Pratt
Preston Gates & Ellis

Creative Services Target Industry Plan 2006-2007

1. Industry Definition/Summary

The creative services sector is made up of highly specialized industries whose primary focus is to design, produce and deliver creative content in various forms of media and communication. It includes companies and self-employed individuals engaged in advertising, public relations, marketing and branding, graphic design, film, video and audio production, multimedia, performing and visual arts, software publishing and custom computer programming services.

An alternative definition of the creative community describes it as including institutions, products and people that are connected to both art and design.[4]

The Portland metropolitan area is home to more than 1,500 creative services establishments, employing nearly 14,000 workers, or an average of nine employees per company. Small businesses are by far the majority within this industry regionally. In addition, a large number of people in creative services are either self-employed or are co-owners in non-employer firms.

Creative Services is made up of several primary industries as defined by NAICS codes, although NAICS codes do not capture the additional creative services workers who work as freelancers, non-employee establishments, or as staff of in-house marketing and design departments of major employers in other industries. A list of occupations might more clearly define the creative sector. (Workforce, Section 5)

Industries that make up the CS cluster:

- Independent Artists, Writers and Performers (NAICS 7115)
- Motion Picture and Video Production (51211)
- Post Production Services and Other Motion Picture Industries (51219)
- Graphic Design Services (54143)
- Photographic Services (54192)
- Software Publishers (5112)
- Custom Computer Programming Services (541511)
- Advertising and Related Services (5418)

In addition to companies engaged in providing creative services, support and supplier industries play an integral role in helping the cluster function. A list of key support and supplier industries is listed in Appendix C with the estimated local contribution to Portland creative industries.

Most recent figures on creative services revenue and payroll in the Portland metropolitan area are from the 2002 Census, which recorded revenues of more than $2 billion and payroll of $976,808,000.

[4] Role of the Creative Sector in the Metropolitan Economy, Sheila Martin & Katherine Krajnak, PSU Institute of Metropolitan Studies, 2005

2. Industry Trends

The City of Portland, along with Clackamas, Multnomah and Washington counties, continues to have a concentration of creative industries, particular in the central business district. First identified as a locally concentrated cluster in 2002 as part of the city's Economic Development Strategy, an estimated 26,731 jobs in creative services were attributed to the metro area in the Creative Services appendix to that document. However, between 2002 and 2004, the drop-off in high-tech firms and companies headquartered in the region hit portions of the creative services industry very hard. For film and video, the decline was also attributed to competition in filmmaking from other locations that offered superior incentives, a weakening local advertising market, and the Canadian dollar exchange rate (unusually weak until recently).

The interdependence between film and advertising means that negative factors affecting one segment cause related problems for another. The loss of suppliers and resources for the indigenous film community, for example, forces local advertising agencies specializing in film (i.e. TV commercials) to travel elsewhere to get their spots produced – an expense that reduces these agencies competitive position. And that deteriorating position also has a larger effect on the community, for example, the film/advertising community contributes extensive pro bono work to local charities and causes, a contribution that is lost when companies must focus exclusively on survival instead of corporate citizenship.

However, while creative services employment dropped considerably between 2001 and 2004, industry employment growth shifted into positive numbers between 2004 and 2005. Two of the more interesting shifts appear among independent artists and film production, where the Portland metro area registered tiny gains while West Coast employment in those two categories dropped significantly.

Overall, three industries within the creative services cluster are more concentrated[5] in the three-county Portland region than in the West Coast states of California, Oregon and Washington – those industries being Photographic Services, Software Publishers, and Advertising and Related Services, with Graphic Design very close behind. Software Publishers continue to be the largest employer in the Portland region within the Creative Services sector, with 5,058 jobs; Advertising and Related Services follow as a fairly close second with 3,159 jobs. Both these sectors showed a slight increase in jobs over the past year. See Table 4.

Despite the loss of jobs in the creative services sector over the past several years, Portland is experiencing a positive demographic change (see below), which has the potential to boost the growth of not only creative services, but the city's overall competitive advantage. That change is documented in a 2004 study, *The Young and The Restless: How Portland Competes for Talent*.[6]

Focusing on the creative class identified by professor and author Richard Florida as a critical factor for economic success, the study reported that Portland's college-educated young adult population grew five times faster than the national average for metropolitan areas; and that the growth of the region's young adult population has been fueled by the

[5] The local concentration ("location quotient" or LQ) is the calculated ratio between the local economy and the economy of some reference unit, in this case the West Coast states. This ratio is calculated for all industries to determine whether or not the local economy has a greater share of that industry than expected. If an industry has a greater share than expected of a given industry, then that "extra" industry employment is assumed to have a greater concentration and importance to the local economy because those jobs are above what a local economy should have to serve local needs. If an industry has a concentration of more than 1, it is assumed to be locally concentrated. Anything below 1 is not locally concentrated.

[6] Research by Impresa Inc. and Coletta & Company on behalf of Portland Development Commission, Westside Economic Alliance, City of Beaverton, City of Hillsboro, City of Tualatin, and Nike.

attractiveness of the central city and Washington County – attributable at least in part to the influence of arts, culture and other aspects of the creative sector.

Between 1990 and 2000, the region's share of young people with a four-year degree grew by 50 percent – significantly out-performing the rest of the country. This is the population that will provide the human capital for the Portland region's economic future, and according to focus groups conducted by the *Young and Restless* researchers, these young adults find Portland's creative climate encouraging and open: "There is a strong entrepreneurial flavor here. You can create your own opportunity."

Industry studies also point to a slow but steady up tick in employment within certain sectors of the creative cluster. Although locally, the design sector showed a minor drop in employment over the past year, the 2005 AIGA/Aquent Survey of Design Salaries, a national study, notes AIGA's confidence in the future of the design profession: "Firms are beginning to hire again…business is finally picking up." And more importantly, "Every sign from the business community today signals a growing realization of the importance of design – both communication and product design – to American industry's global competitive advantage. Design innovation is seen as the driving engine – across all business sectors – for creating value in a world economy where production costs and prices are being driven ever lower."[7]

[7] Richard Grefe, Executive Director, American Institute for Graphic Arts

Tables 1-5 show the employment and changes that have occurred between 2001, 2004 and 2005 in the Creative Services industry in the Portland region (Clackamas, Multnomah and Washington counties) compared to the West Coast (California, Oregon and Washington), along with shift-share and concentration data for the Portland region.

Table 1
Creative Services Employment Change in the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 – 2005 Change	
NAICS Code	**Industry**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**
7115	Independent Artists, Writers, and Performers	138	14,528	162	15,707	24	1,179
51211	Motion Picture & Video Production	803	88,700	575	111,647	-228	22,947
51219	Postproduction Services & Other Motion Picture & Video Industries	52	11,846	48	11,438	-4	-408
54143	Graphic Design Services	684	17,893	599	14,419	-85	-3,474
54192	Photographic Services	582	12,793	561	11,411	-21	-1,382
5112	Software Publishers	7,075	96,174	5,058	89,283	-2,017	-6,891
541511	Custom Computer Programming Services	2,636	140,982	1,008	119,531	-1,628	-21,451
5418	Advertising & Related Services	3,632	78,028	3,159	71,909	-473	-6,119
	Creative Services Total	**15,602**	**460,944**	**11,170**	**445,344**	**-4,432**	**-15,600**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 2
Creative Services Percent Change in Employment for the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 - 2005 Percent Change	
NAICS Code	**Industry**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**
7115	Independent Artists, Writers, and Performers	138	14,528	162	15,707	17%	8%
51211	Motion Picture & Video Production	803	88,700	575	111,647	-28%	26%
51219	Postproduction Services & Other Motion Picture & Video Industries	52	11,846	48	11,438	-8%	-3%
54143	Graphic Design Services	684	17,893	599	14,419	-12%	-19%
54192	Photographic Services	582	12,793	561	11,411	-4%	-11%
5112	Software Publishers	7,075	96,174	5,058	89,283	-29%	-7%
541511	Custom Computer Programming Services	2,636	140,982	1,008	119,531	-62%	-15%
5418	Advertising & Related Services	3,632	78,028	3,159	71,909	-13%	-8%
	Creative Services Total	**15,602**	**460,944**	**11,170**	**445,344**	**-28%**	**-3%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 3
Creative Services Employment Change in the Portland Region & West Coast from 2004 to 2005

		2004 Employment		2005 Employment		2004 – 2005 Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
7115	Independent Artists, Writers, and Performers	148	16,387	162	15,707	14	-680
51211	Motion Picture & Video Production	551	120,496	575	111,647	24	-8,849
51219	Postproduction Services & Other Motion Picture & Video Industries	45	11,096	48	11,438	3	342
54143	Graphic Design Services	636	14,355	599	14,419	-37	64
54192	Photographic Services	615	12,100	561	11,411	-54	-689
5112	Software Publishers	4,798	88,550	5,058	89,283	260	733
541511	Custom Computer Programming Services	1,015	114,886	1,008	119,531	-7	4,645
5418	Advertising & Related Services	3,094	71,047	3,159	71,909	65	862
	Creative Services Total	**10,902**	**448,917**	**11,170**	**445,344**	**268**	**-3,573**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 4
Portland Region Shift-share and Local Concentration for the Creative Services Industry

		Shift-share	Local Concentration	
NAICS Code	Industry	2001 - 2005	2001	2005
7115	Independent Artists, Writers, and Performers	0.09	0.22	0.24
51211	Motion Picture & Video Production	-0.54	0.21	0.12
51219	Postproduction Services & Other Motion Picture & Video Industries	-0.04	0.10	0.10
54143	Graphic Design Services	0.07	0.87	0.97
54192	Photographic Services	0.07	1.04	1.15
5112	Software Publishers	-0.21	1.68	1.33
541511	Custom Computer Programming Services	-0.47	0.43	0.20
5418	Advertising & Related Services	-0.05	1.06	1.03
	Creative Services Total	**-0.25**	**0.77**	**0.59**

Source: Calculations by PDC

Table 5
Creative Services Sector size in the Portland Region and the West Coast in 2001 and 2005

		2001 Employment				2005 Employment			
NAICS Code	Industry	Portland Region	% of Total	West Coast	% of Total	Portland Region	% of Total	West Coast	% of Total
7115	Independent Artists, Writers, and Performers	138	1%	14,528	3%	162	1%	15,707	4%
51211	Motion Picture & Video Production	803	5%	88,700	19%	575	5%	111,647	25%
51219	Postproduction Services & Other Motion Picture & Video Industries	52	0%	11,846	3%	48	0%	11,438	3%
54143	Graphic Design Services	684	4%	17,893	4%	599	5%	14,419	3%
54192	Photographic Services	582	4%	12,793	3%	561	5%	11,411	3%
5112	Software Publishers	7,075	45%	96,174	21%	5,058	45%	89,283	20%
541511	Custom Computer Programming Services	2,636	17%	140,982	31%	1,008	9%	119,531	27%
5418	Advertising & Related Services	3,632	23%	78,028	17%	3,159	28%	71,909	16%
	Creative Services Total	**15,602**	100%	**460,944**	100%	**11,170**	100%	**445,344**	100%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

3. Wages

The average annual wage paid in the Portland region by the creative services cluster in 2005 was $66,663, a slight drop from the previous year. While Portland area creative services wages are lower than those paid for the West Coast, the average wage paid in the Portland region in creative services has increased by 13% since 2001, when the annual wage was $58,940. At the same time, West Coast annual wages have decreased 6 percent since 2001 – although the jump between 2004 and 2005 was positive, from $84,307 in 2004 to $86,846 in 2005. So while Portland creative services wages are lower than the West Coast states as a whole, over a four-year period wage levels in Portland have improved while the rest of the West Coast has seen pay decreases. See Table 6.

Overall, each industry within the creative services cluster pays less than the West Coast average. The largest differential appears within the Independent Artists, Writers and Performers category, likely a function of highly paid performers in Southern California raising the West Coast average. Portland does appear to be gaining, however, in comparison to its West Coast neighbors. In 2001, Portland's average creative services wages were just 63 percent of the West Coast average; but by 2005, the West Coast average had dropped by 6%, while the Portland average gained 13 percent, raising Portland's wages to 77% of the West Coast average. The playing field is beginning to level out, particularly in the photographic services sector where wages are nearly identical between Portland and the West Coast overall. See Table 6.

Within creative services, the software, computer programming and post-production sectors have the highest wages in the Portland region. Film production took a healthy jump for the better between 2004 and 2005, increasing by nearly 11% while West Coast averages rose only 9%. The strength in software may also reflect the growing educational software cluster, which has several major companies centered in the Portland region. See Table 7.

Tables 6 & 7 compare 2001, 2004 and 2005 Portland area average wages for the Creative Services industry to Creative Services and all industry wages in Oregon, the West Coast and the nation.

Table 6
Creative Services Average Wages & Change in the Portland Region & West Coast from 2001 to 2005

		Avg Wage 2001		Avg Wage 2005		Change 2001 - 2005			
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	Portland Region %	West Coast	West Coast %
7115	Independent Artists, Writers, and Performers	$35,584	$161,880	$28,755	$118,197	-$6,829	-19%	-$43,683	-27%
51211	Motion Picture & Video Production	$39,410	$84,636	$47,150	$82,524	$7,740	20%	-$2,112	-2%
51219	Postproduction Services & Other Motion Picture & Video Industries	$32,568	$77,697	$51,291	$78,475	$18,723	57%	$778	1%
54143	Graphic Design Services	$40,394	$53,398	$43,217	$53,263	$2,823	7%	-$135	0%
54192	Photographic Services	$18,189	$22,749	$21,069	$22,014	$2,880	16%	-$735	-3%
5112	Software Publishers	$70,707	$144,477	$90,236	$113,914	$19,529	28%	-$30,563	-21%
541511	Custom Computer Programming Services	$64,485	$88,276	$61,776	$95,257	-$2,709	-4%	$6,981	8%
5418	Advertising & Related Services	$47,601	$56,758	$48,756	$57,476	$1,155	2%	$718	1%
	Creative Services Total	**$58,940**	**$92,842**	**$66,663**	**$86,846**	**$7,723**	**13%**	**-$5,995**	**-6%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 7
Creative Services Wage Change in the Portland Region & West Coast from 2004 to 2005

		Avg Wage 2004		Avg Wage 2005		Change 2004 - 2005	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
7115	Independent Artists, Writers, and Performers	$33,392	$137,169	$28,755	$118,197	-$4,637	-$18,972
51211	Motion Picture & Video Production	$42,537	$75,551	$47,150	$82,524	$4,613	$6,973
51219	Postproduction Services & Other Motion Picture & Video Industries	$50,608	$81,666	$51,291	$78,475	$682	-$3,191
54143	Graphic Design Services	$44,570	$51,113	$43,217	$53,263	-$1,353	$2,150
54192	Photographic Services	$20,260	$20,639	$21,069	$22,014	$809	$1,375
5112	Software Publishers	$97,215	$116,986	$90,236	$113,914	-$6,979	-$3,071
541511	Custom Computer Programming Services	$60,746	$90,538	$61,776	$95,257	$1,030	$4,719
5418	Advertising & Related Services	$48,759	$54,127	$48,756	$57,476	-$2	$3,349
	Creative Services Total	**$68,833**	**$84,307**	**$66,663**	**$86,846**	**-$2,170**	**$2,539**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

4. Observations

Overall, the creative services sector in Portland has suffered more than the industry nationwide. From 2001 to 2005 creative services employment throughout the United States declined seven percent. West Coast employment in creative services decreased by slightly less, three percent. In contrast, Oregon employment in creative services decreased 20 percent. With much of this sector's employment in the metropolitan region, it's not surprising that Portland was the biggest loser in this time period with a drop of 28%.

Table 8 shows the employment and change for creative services throughout the United States, compared to the West Coast, Oregon and the Portland region.

Table 8
Creative Services Employment & Change in the United States, West Coast, Oregon and Portland Region from 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	2001-2005 %
United States	1,697,488	1,570,540	1,582,449	-115,039	-7%
West Coast	460,944	448,917	445,344	-15,600	-3%
Oregon	29,891	22,904	24,004	-5,887	-20%
Portland Region	15,602	10,902	11,170	-4,432	-28%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Creative services employment also took a much harder hit compared to employment overall, dropping 28 percent compared to an employment decline of just one percent for the Portland region between 2001 and 2005. See Table 9.

Table 9 shows the employment and change for creative services compared to overall employment trends from 2001 to 2005 in the Portland region, Oregon and the West Coast. The West Coast and Oregon have seen small employment gains, while Portland and Portland's creative community experienced decreases.

Table 9
Creative Services Employment in the Portland Region Compared to all other Industries on the West Coast, Oregon and in Portland 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	% 2001 - 2005
West Coast	16,220,942	16,451,478	16,474,755	253,813	2%
Oregon	1,343,430	1,383,822	1,387,651	44,221	3%
Portland Region	709,876	696,532	704,262	-5,614	-1%
Creative Services in Portland	15,602	10,902	11,170	-4,432	-28%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

The major cause of job loss in creative services can be explained by major downturns in other industries. As service providers whose "product" is essentially knowledge and creative counsel, many creative businesses are heavily affected by broader industry and economic trends. Consequently, the slowing of economic growth and the downturn in several regional industries over the same period impacted the creative sector disproportionately.

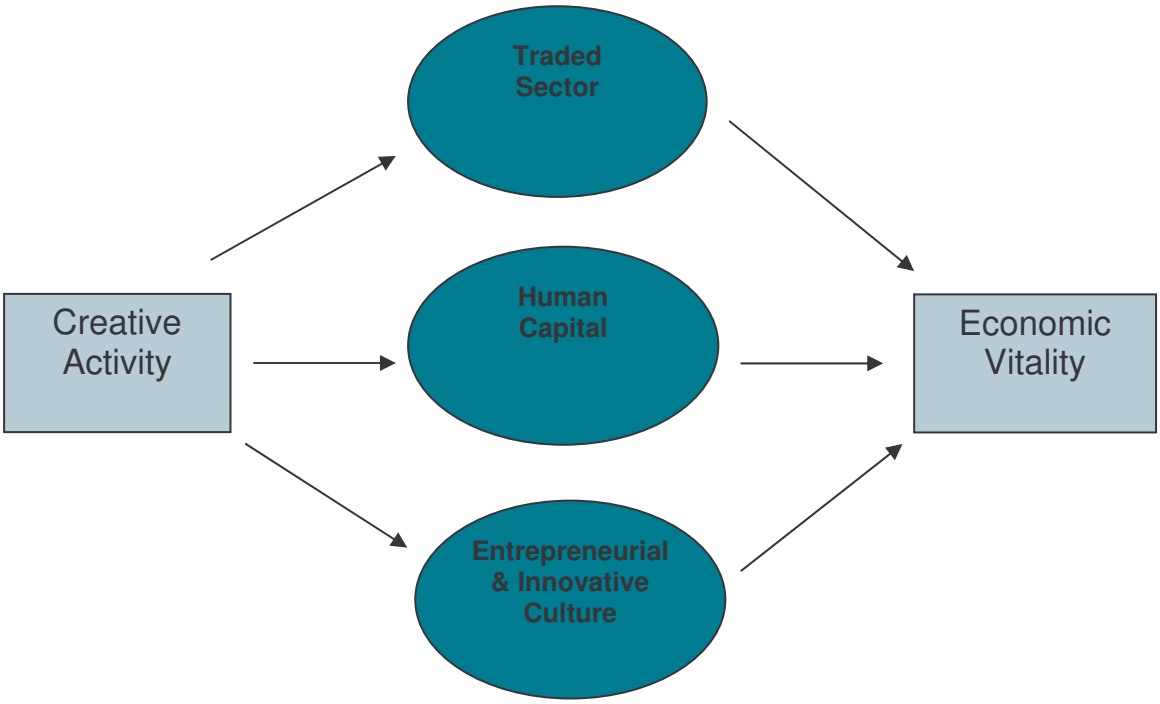
Still, Portland is beginning to see signs of an economic turnaround, and capitalizing on its creative economy advantages is timely. Portland's popularity as documented in the *Young & Restless* study offers tremendous opportunities for the future growth of creative services jobs and business development in the Portland region, through young workers who become tomorrow's entrepreneurs. Conversely, the city's loss of headquarters companies and consolidation of media (for example, numerous independently owned radio stations in the 1970s compared to a handful of national conglomerate owners today) creates an overly

competitive environment in terms of major local accounts. That problem is offset to some degree by the unique ability of creative cluster companies to provide services interactively – they have less of a need to be located in the same area as a major client. Additionally, whether services are virtual or on-site, many local creative firms are generating revenues from a national and international clientele. An informal survey of more than 30 local creative firms indicates that more than half have client rosters that span the country.

The promotion of Portland's creative community to audiences outside the local market will be an important factor for the growth of the local industry, as will the continued recruitment of and support of other target industries which use local creative services – or become the *raison d'etre* for local office expansions of creative firms located elsewhere.

A recent case study by the Institute of Metropolitan Studies at Portland State University notes the larger role that creative activity plays in the regional economy in three key areas. First, the creative sector contributes to the traded sector directly through exports of goods and services, and indirectly as inputs to other traded sector industries. Second, creative activity attracts and employs a highly skilled and educated workforce, thus increasing the level of human capital in the region and strengthening the creativity of the labor pool available to other knowledge-intensive industries. Third, the presence of creativity adds to the entrepreneurial and innovative culture of the city.

Figure 1 illustrates the contribution of creative activity to a region's economic vitality. [8]



[8] *Role of the Creative Sector in the Metropolitan Economy*, Sheila Martin & Katherine Krajnak, PSU Institute of Metropolitan Studies, 2005

5. Workforce

Capturing a truly accurate picture of the creative workforce is especially challenging, since traditional measures of employment exclude the self-employed and workers employed by day in non-creative positions who pursue their creative endeavors "off the clock." U.S. Census data, while potentially more accurate, is collected far less frequently than state employment reports.

In assessing the "artistic dividend" that creativity provides to a community, researcher Ann Markusen notes the challenge in tracking artist occupations, given the levels of self-employment among artists. Markusen *et al* finds that many more individuals report artistic work as their occupation in the U.S. Census than do employer-based data sources; that musicians especially pursue their income-earning artistic activity as a second occupation; and that in general the number of artists in a region is greatly undercounted when non-Census sources are used.

Markusen rejects the view that the arts are a discretionary element in a regional economy, and instead articulates the various ways in which self-employed and other undercounted artists contribute to the economy through direct export of their work and services, through contractual work for area businesses, and by instigating innovation on the part of their suppliers. [9]

Defining the creative sector by occupation therefore captures creative activity taking place within industries not normally considered creative, and includes data on self-employed artists which isn't available at an industry level.

The following table charts occupations that comprise the creative sector and employment in the Portland-Vancouver metropolitan region, as tabulated by the PSU *Creative Sector* study. Architects and engineers are excluded from this table since PDC's Professional Services industry study includes those occupations. However, food industry workers are included as indicative of the intersection between the culinary arts (caterers, restaurant owners, event planners) and the rest of the creative community.

As the PSU study notes, a detailed accounting of how workers move among the creative occupations might contribute a great deal to our understanding of how innovations in one component of the sector create opportunities or stimulate creativity in other components.

9 *The Artistic Dividend Revisited*, March 2004, Ann Markusen et al, University of Minnesota

Occupation Title	Employment May 2004
Management	
Advertising and Promotions Managers	600
Marketing Managers	1,970
Public Relations Managers	450
Business and Financial Operations	
Agents and business managers of artists, performers & athletes	50
Education, Training & Library	
Art, drama and music teachers, post-secondary	470
English language & literature teachers, post-secondary	180
Arts, Design, Entertainment, Sports and Media	
Art Directors	270
Fine artists, including painters, sculptors and illustrators	140
Multimedia artists and animators	170
Artists and related workers, all others	30
Commercial and industrial designers	210
Floral designers	440
Graphic designers	1,310
Interior designers	480
Merchandise displayers and window trimmers	770
Set and exhibit designers	20
Designers, all others	210
Actors	110
Choreographers	70
Music directors and composers	420
Musicians	400
Entertainers and performers, sports, related workers	80
Radio and television announcers	170
Public relations specialists	1,420
Editors	520
Technical writers	540
Writers and authors	310
Broadcast technicians	230
Sound engineering technicians	40
Camera operators, television, video, motion picture	170
Film and video editors	50
Media and communication workers, all other	180
Food Preparation and serving related	
Chefs and head cooks	760
First-Line Supervisors, managers of food prep	6,440
TOTAL	**19,680**

Source: *Role of the Creative Sector in the Metropolitan Economy*, Sheila Martin & Katherine Krajnak, PSU Institute of Metropolitan Studies, 2005. Architecture and Engineering excluded from this table.

According to the Oregon Employment Department, employment in at least two sub sectors within the creative services sector is expected to grow in Oregon through 2014: specialized design, and advertising services.

Occupational needs in creative services tend to be at the higher levels of experience, a result of the "brain drain" that led management-level workers to leave the area in the wake of the economic downturn. Other workforce issues:

- Local schools at all levels fall short on creative education; thus labor force must import designers
- Local talent often relocates to California and British Columbia which have strong university programs and more workforce opportunities

Hard-to-fill Occupational Categories for Creative Services

- **Creative Directors**
- **Interactive Managers**
- **Marketing Analysts**
- **Advertising and Promotions Managers**
- **Marketing Managers**
- **Public relations specialists**
- **Senior Copywriters**
- **Senior Level Strategists**
- **Web Producers**

Source: Portland Development Commission Workforce Gap Analysis Report for the Portland-Vancouver MSA, June 2005; anecdotal information supplied by key stakeholders.

6. Implementation

The primary goals of strategy implementation are job retention and expansion, wealth creation and business support. The Portland Development Commission supports the creative services cluster by promoting industry initiatives, supplying financial assistance and participating in business outreach efforts. Throughout the next fiscal year, the PDC will work with its partners to foster a positive business climate for the creative services industry in Portland and throughout the State of Oregon.

One of the Portland region's competitive advantages in creative services is its reputation as a city with special appeal to the so-called creative class. Focus group participants in the *Young and Restless* study cited the city's size, walkability, public transportation, bike-friendliness, distinctive neighborhoods and independent businesses as key contributors to desirable quality of life.

Members of the local creative community also point to such attributes as Portland's leadership in urban planning (density, district neighborhoods, and the streetcar), proximity to outdoor recreation, and support for local business as attributes that continue to draw people to Portland. At the same time they call out the need for better schools as a critical factor to retain this population as the "young and restless" move into their 30s and start families.

Below is a listing of factors that the PDC recognizes it can help affect in promoting the creative sector, along with a list of factors that are more difficult to change.

Creative Services business factors that the PDC can influence:

- Business development
- Financing
- Local and state government policy
- Industry advocacy
- Industry networking
- Industry support and coalescence
- Permitting
- Recruitment of client companies
- Retention and expansion of existing creative services businesses
- Workforce development

Creative Services business factors which are difficult to change:

- Access to markets
- Consolidation of media & lack of local ownership
- Availability of space
- Competition
- Educational system.
- Escalating real estate costs
- Global and national economic conditions
- Physical barriers

The creative services strategy developed as part of the city's 2002 Economic Development Strategy identified a long list of desirable priorities, although the implementation of many of those strategies was dependent on funding and political will, and other projects shifted in favor of narrower or more efficient alternatives. For example, the strategy to create a one-stop small business service center evolved into the virtual online one-stop, BusinessinPortland.org, along with the establishment of the small business liaison at the Bureau of Development Services to help inform people about regulations and permits earlier in the process.

Given the change in climate for this sector since the strategy's development, a fresh look at the strategy may be warranted, particularly in terms of the intersection between the creative industry and the arts as an economic driver. Previous strategy documents noted the place of arts and culture within the creative services sector, but shunted it aside somewhat as more an element of tourism than of traded sector dollars. However, the Markusen research points to the need to articulate the economic development reasons why artistic practice should be nurtured as a major and varied contributor to economic vitality.[10] Economic development work in such cities as Melbourne, New York and Amsterdam indicate that forging closer ties between artistic and creative industry assets can result in a stronger, more innovative economy.

[10] *The Artistic Dividend: The Arts' Hidden Contributions to Regional Development*, Ann Markusen and David King, July 2003

Historically, strategic initiatives have focused on connecting to education; marketing and branding the industry; promoting the economic value of film and video, and removing barriers between the sub-sectors within Creative Services. These elements continue to be of essential interest to industry representatives, although implementation may take different forms as the business environment continues to change. Any new look at the strategy should be mindful of establishing achievable actions that capitalize on Portland's creative talent and elevate its reputation, its ability to attract workforce and investment, and its ability to export its knowledge and expertise.

Two positive steps taken in the past year support the film and design clusters respectively. One, the establishment of a film liaison position in the mayor's office in early 2006 is a result of several years' work toward one-stop film permitting and will provide better coordination and communication for both indigenous and outside film production companies. Two, the completion of the Phase I study of a Design Exchange points to a strong industry desire for programming and facilities that elevate creative services to the status of a genuine resource for business and government, with opportunities for learning, multi-disciplinary collaboration, innovation and promotion.

Business outreach visits, industry focus groups and anecdotal information from industry representatives have identified the following activities as highly desirable components of the city's creative services strategy:

- Get the word out about Portland as a creative capital: showcase local talent and export it, via such initiatives as a "creative Portland" website.
- Explore feasibility of catalytic projects (such as the Design Exchange or the establishment of a local soundstage facility) as a means to support local creative industries and promote them around the world.
- Support a revamp of the public RFP process to foster design, marketing, construction and creative excellence in city projects.
- Continue to support one-stop film permitting and a coordinated approach to service.
- Integrate arts and culture planning into strategy development for the creative services industry as a whole.

7. Top Issues Facing Industry

The following are top issues currently facing the creative services industry in the Portland region:

- Instability of local educational funding and corresponding lack of creative & arts education.
- Availability (or lack thereof) of local venture capital to support innovative start-ups.
- Availability (or lack thereof) of mid-career path opportunities.
- Strong need to build awareness of the creative community and exporting creative assets.
- Opportunities for small creative businesses to collaborate/learn/grow.

8. Action Items for Fiscal Year 2006-07

In order to achieve strategic goals, PDC will perform the following actions:

- Conduct 30 business retention visits to Creative Services companies
- Convene two industry meetings focused on next-phase development of Design Exchange (and related conceptual bank/materials resource library)
- Convene two industry meetings focused on concept development for production facility/soundstage
- Sponsor two or more career & business development workshops in partnership with industry organizations (PAF, AIGA, OMPA, SECP, OFVO, PRSA, AMA)
- Coordinate, with Commissioner Adams' staff, the development of a Creative Capacity Strategy which links arts and industry development to grow the local economy.
- Create and retain jobs within the Creative Services industry to contribute to overall department goal of 2,000 new and retained jobs
- Leverage private investment to contribute to overall department goal of $100 million in private investment leveraged
- Participate on steering committee for MetLife Arts Forum, "Finding and Fostering Innovation: the importance of arts, creativity and ideas in building a creative workforce"
- Attend regular film industry roundtable meetings and participate on film & video steering committee (OFVO, OMPA, mayor's office)
- Support industry advocacy of revised RFP process to focus on ideas/design /community with industry juries
- Develop strategic speaking engagements for representatives of the Creative Services cluster to assist in networking and business development.
- Update marketing materials, including industry one-page summary and target industry website pages on www.pdc.us, to communicate current creative services initiatives

Appendix A
Top 50 Advertising & PR Companies in Portland

Business Name	Industry
Alloy Red	Advertising
Ant Hill Marketing	Advertising and Public Relations
Babcock & Jenkins	Advertising
Borders Perrin & Norrander	Advertising
Bradshaw Advertising	Advertising
Cappelli Miles	Advertising
CB&S Advertising	Advertising
CMD	Advertising and Public Relations
Cmedia LLC	Advertising
CoatesKokes	Advertising and Public Relations
Conkling Fiskum McCormick	Public Relations
Dayton Communications	Public Relations
Edelman	Public Relations
Eisenberg	Marketing
Fleishman Hillard	Public Relations
Four Stories	Advertising
Gard & Gerber	Advertising and Public Relations
Grady Britton	Advertising
HMH	Advertising and Public Relations
Hallock Modey	Advertising
Hubbell Communications	Public Relations
ID Branding	Advertising
INS	Advertising
Johnson Sheen	Advertising
Landrey & Company	Public Relations
Lane Marketing Communications	Public Relations
Leopold Ketel & Partners	Advertising
Livengood Nowack	Advertising
Locke Marketing	Public Relations
Maxwell PR	Public Relations
McLenahan Bruer Communications	Advertising and Public Relations
McVey Creative	Advertising
Media Cabin	Advertising
Metropolitan Group	Marketing and Public Relations
MKTX Inc.	Public Relations
The New Group	Advertising
Nonbox	Advertising
Northwest Strategies	Public Relations
Overland Agency	Advertising
Pac/West Communications	Marketing and Public Relations
Prideaux Group Marketing	Public Relations
Rains & Associates	Advertising
Respond 2	Direct response television advertising
R/West	Advertising and Public Relations
Sanda Communications	Advertising
Ulum Group	Public Relations
VTM Inc.	Public Relations
Waggener Edstrom	Public Relations
Wieden+Kennedy	Advertising
Young & Roehr Group	Advertising and Public Relations

Source: Portland Business Journal Book of Lists, 2006; Dun & Bradstreet

Appendix B

Top 50 (by revenue) Creative Services Companies in Portland*

Business Name	Industry
Wieden + Kennedy	Advertising Agencies
Cmedia	Advertising Agencies
CMD	Motion Picture and Video Production
Prosight Inc	Custom Computer Programming Services
Studio 3 Inc	Commercial Photography
Inspiration Software Inc	Custom Computer Programming Services
Viewpoint Construction Software	Custom Computer Programming Services
HMH Advertising	Advertising Agencies
Bench Craft Company	Advertising Agencies
Tripwire Inc	Custom Computer Programming Services
Celartem Inc	Custom Computer Programming Services
Laika Inc	Motion Picture and Video Production
Bradshaw Advertising	Advertising Agencies
Opus Creative	Advertising Agencies
S R C Software	Custom Computer Programming Services
Qsent Inc	Custom Computer Programming Services
Borders Perrin & Norrander	Advertising Agencies
Northwest Software Inc	Custom Computer Programming Services
Johnsonsheen Advertising Inc	Advertising Agencies
Delta Structured Cabling	Motion Picture and Video Production
Schrodinger Inc	Custom Computer Programming Services
Universal Algorithms	Custom Computer Programming Services
CB & S Advertising Agency	Advertising Agencies
Ensequence Inc	Custom Computer Programming Services
Webtrends Inc	Prepackaged Software
McVey Creative Group Inc	Advertising Agencies
R/West	Advertising Agencies
Television Production	Motion Picture and Video Production
S H A Visual	Advertising Agencies
Swiftview Inc	Custom Computer Programming Services
Elk Island Corporation	Direct Mail Advertising Services
Fleishman Hillard	Public Relations Services
Nobeltec Corporation	Prepackaged Software
Color Technology Inc	Commercial Art and Graphic Design
Systems Management Inc	Custom Computer Programming Services
Wellsource Inc	Custom Computer Programming Services
Grady Britton Inc	Advertising Agencies
Hallock Modey Inc	Advertising Agencies
Axium	Prepackaged Software
Software Professionals	Prepackaged Software
Selectron Technologies Inc	Custom Computer Programming Services
Wealthcounselcom	Prepackaged Software
Metropolitan Group LLC	Public Relations Services
Hanlon Brown Design Inc	Commercial Art and Graphic Design
Four Stories LLC	Advertising Agencies
Ad-Mail Inc	Direct Mail Advertising Services
Lush Productions	Motion Picture and Video Production
Coates Kokes	Advertising Agencies
Metropolitan Presort Inc	Direct Mail Advertising Services
Open Source Development Lab	Custom Computer Programming Services

*excludes suburban locations; list sorted by SIC code. Source: Dun & Bradstreet 2006.

Appendix C

Major Support & Supplier Industries for Creative Services in Portland[11]

Supplier or Support Industry	Estimated Local Input
Real estate	70%
Employment services	76%
Telecommunications	53%
Promoters of performing arts	75%
Wholesale trade	100%
Office administrative services	29%
Audio and video media reproduction	6%
Monetary authorities and depository credit intermediaries	60%
Other support services	76%
Commercial printing	23%
Services to buildings	76%
Management consulting services	76%
Semiconductors and related devices	78%
Specialized design services	76%
Lessors of nonfinancial intangible assets	76%
Air transportation	27%
Legal services	78%
Food services and drinking places	88%
Management of companies and enterprises	76%
Computer storage device manufacturing	19%
All other electronic components	66%
Postal service	64%
Data processing services	24%
Hotels and motels	73%
Power generation and supply	75%
Magnetic and optical recording media	32%
Sound recording industries	52%
Nondepository credit intermediaries	60%
Couriers and messengers	70%
Accounting and bookkeeping services	78%
Securities, commodity contracts & investments	60%
Colleges, universities, and junior colleges	76%
All other miscellaneous professional services	76%
Architectural and engineering services	78%
Automotive equipment rental	84%
Computer systems design services	76%
Machinery and equipment rental	76%
Business support services	76%
Maintenance and repair of nonresidential buildings	88%
Investigation and security services	76%
Insurance carriers	57%
Other computer related services	76%
Photographic services	76%
Commercial machinery repair	76%
Civic, social, and professional organizations	39%
Periodical publishers	21%
Fitness and recreational sports centers	79%

Source: Implan Pro 2.0 Input-Output Model for Clackamas, Multnomah and Washington Counties

[11] The list is sorted in order of largest monetary input.

Appendix D
Advisory/Review Committee for Creative Services Industry Plan

This document was reviewed, in draft form, by the following individuals and organizations.

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Distribution & Logistics Target Industry Plan 2006-2007

1. Industry Definition/Summary

The Distribution and Logistics industry is made up of companies engaged in the wholesale trade, transportation, warehousing, and storage of commodities along with the Logistics involved in the movement and Distribution of goods. Included in this industry are operations involving trucks, trailers, containers, ships, inter-model transportation, warehousing, air carriers and reloading facilities. The businesses involved in Distribution and Logistics influence supply chain operations of other sectors, or are an integral part of overall operations for manufacturers and retailers.

Listed below are the industries that make up the Distribution and Logistics industry cluster.

- **Wholesale**
  - Merchant Wholesalers, Durable Goods (NAICS 423)
  - Merchant Wholesalers, Nondurable Goods (424)
  - Electronic Markets & Agents & Brokers (425)
- **Transportation**[12]
  - Air Transportation (481)
  - Truck Transportation (484)
  - Support activities for transportation (488)
- **Warehousing, storage & couriers**
  - Couriers & Messengers (492)
  - Warehousing & Storage (493)

2. Industry Trends

Northwest Oregon has a high concentration of Distribution and Logistics businesses, the majority of which are located in The City of Portland and surrounding counties. Overall, the Distribution and Logistics cluster is more concentrated in the 3-county Portland region than the West Coast states of California, Oregon and Washington combined.

Representing six percent of all West Coast employment in Distribution and Logistics, the Portland region had an estimated 76,138 jobs in the industry in 2005. This is a change from 2001 when Distribution and Logistics in Portland had an estimated 77,544 jobs. This has meant that Distribution and Logistics in Portland has seen a two percent decline in employment over the past four years. At the same time, the West Coast states have seen a decrease in employment of 1 percent, declining from 1.35 million in 2001 to 1.34 million in 2005.

Some of the decline that has occurred in Distribution and Logistics in Portland occurred in the one-year period of 2004 to 2005 (the last full-year that data is available). During this one-year period, Distribution and Logistics in Portland went from 76,387 jobs in 2004 to 76,138 meaning that there has been a net loss of some 249 jobs. During the same period, the West Coast saw an increase in employment of almost 14,000 jobs.

[12] Rail transportation and shipping have been excluded from the data analysis due to confidentiality requirements.

Table 1 shows absolute employment change from 2001 to 2005 for Distribution and Logistics in the 3-county Portland region and the three West Coast states. Table 2 is the calculated percentage change from 2001 to 2005.

Table 1
Distribution & Logistics Employment Change in the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 – 2005 Change	
NAICS Code	**Industry**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**
	Wholesale	**50,408**	**843,717**	**49,928**	**860,641**	**-480**	**16,924**
423	Merchant Wholesalers, Durable Goods	25,409	467,335	23,277	436,316	-2,132	-31,019
424	Merchant Wholesalers, Nondurable Goods	18,950	301,111	19,799	310,127	849	9,016
425	Electronic Markets & Agents & Brokers	6,050	75,271	6,852	114,198	802	38,927
	Transportation	**18,429**	**339,915**	**17,675**	**320,952**	**-754**	**-18,963**
481	Air Transportation	4,694	88,263	3,470	64,235	-1,224	-24,028
484	Truck Transportation	8,856	155,921	9,362	155,343	506	-578
488	Support Activities for Transportation	4,879	95,731	4,843	101,374	-36	5,643
	Warehousing, storage & couriers	**8,707**	**171,078**	**8,535**	**162,212**	**-172**	**-8,866**
492	Couriers & Messengers	5,033	96,247	4,499	83,354	-534	-12,893
493	Warehousing & Storage	3,674	74,831	4,036	78,858	362	4,027
	Distribution & Logistics Total	**77,544**	**1,354,710**	**76,138**	**1,343,805**	**-1,406**	**-10,905**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 2 is the change in employment from 2001 to 2005 for Distribution and Logistics in Portland and the West Coast.

Table 2
Distribution & Logistics Percent Change in Employment for the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 - 2005 Percent Change	
NAICS Code	**Industry**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**
	Wholesale	**50,408**	**843,717**	**49,928**	**860,641**	**-1%**	**2%**
423	Merchant Wholesalers, Durable Goods	25,409	467,335	23,277	436,316	-8%	-7%
424	Merchant Wholesalers, Nondurable Goods	18,950	301,111	19,799	310,127	4%	3%
425	Electronic Markets & Agents & Brokers	6,050	75,271	6,852	114,198	13%	52%
	Transportation	**18,429**	**339,915**	**17,675**	**320,952**	**-4%**	**-6%**
481	Air Transportation	4,694	88,263	3,470	64,235	-26%	-27%
484	Truck Transportation	8,856	155,921	9,362	155,343	6%	0%
488	Support Activities for Transportation	4,879	95,731	4,843	101,374	-1%	6%
	Warehousing, storage & couriers	**8,707**	**171,078**	**8,535**	**162,212**	**-2%**	**-5%**
492	Couriers & Messengers	5,033	96,247	4,499	83,354	-11%	-13%
493	Warehousing & Storage	3,674	74,831	4,036	78,858	10%	5%
	Distribution & Logistics Total	**77,544**	**1,354,710**	**76,138**	**1,343,805**	**-2%**	**-1%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 3 is the change in employment from 2004 to 2005 for Distribution and Logistics in Portland and the West Coast.

Table 3
Distribution & Logistics Employment Change in the Portland Region & West Coast from 2004 to 2005

		2004 Employment		2005 Employment		2004 – 2005 Change	
NAICS Code	**Industry**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**
	Wholesale	**50,088**	**845,476**	**49,928**	**860,641**	**-160**	**15,165**
423	Merchant Wholesalers, Durable Goods	23,240	431,356	23,277	436,316	37	4,960
424	Merchant Wholesalers, Nondurable Goods	20,198	307,817	19,799	310,127	-399	2,310
425	Electronic Markets & Agents & Brokers	6,648	106,303	6,852	114,198	204	7,895
	Transportation	**17,970**	**322,595**	**17,675**	**320,952**	**-295**	**-1,643**
481	Air Transportation	3,681	67,337	3,470	64,235	-211	-3,102
484	Truck Transportation	9,467	155,820	9,362	155,343	-105	-477
488	Support Activities for Transportation	4,822	99,438	4,843	101,374	21	1,936
	Warehousing, storage & couriers	**8,329**	**161,778**	**8,535**	**162,212**	**206**	**434**
492	Couriers & Messengers	4,515	83,160	4,499	83,354	-16	194
493	Warehousing & Storage	3,814	78,618	4,036	78,858	222	240
	Distribution & Logistics Total	**76,387**	**1,329,849**	**76,138**	**1,343,805**	**-249**	**13,956**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Besides absolute employment change, another measure of industry health is the local concentration[13]. For a given industry, the employment is measured against the total employment for all industries at the local level and compared to the concentration of a larger state or national level. For the Portland region, the employment in Distribution and Logistics was calculated against the employment for the cluster in the three West Coast states.

In 2001 Distribution and Logistics had a local Portland concentration of 1.31. In 2004, the local concentration in the Portland region increased to 1.36. The local concentration then decreased from the 1.36 in 2004 to 1.33 in 2005. This means that, on a percentage basis, Portland is more concentrated in Distribution and Logistics than the West Coast as a whole. Additionally, the level of concentration of the Distribution and Logistics industry is relatively stable. The calculation also shows that this is the case across the board for all Distribution and Logistics sectors. Even though all the Distribution and Logistics sectors are locally concentrated, a few show a local concentration greater than the industry average. The sectors with the greatest concentration in Portland are Merchant Wholesalers of Nondurable Goods (NAICS 424), Electronic Market & Agents and Brokers (NAICS 425), and Truck Transportation (NAICS 484).

Along with the local concentration, we have calculated the "shift-share", or relative growth or decline, of the Distribution and Logistics industry in Portland. The shift-share shows the change in employment in the Portland region compared to the West Coast by taking into account the economic changes in the larger geography. A positive shift-share number shows that an industry is growing faster than expected, while a negative shows slower growth. If the industry lost jobs than the shift-share shows the relative change in the decline. See Table 4.

[13] The local concentration ("location quotient" or LQ) is the calculated ratio between the local economy and the economy of some reference unit, in this case the West Coast states. This ratio is calculated for all industries to determine whether or not the local economy has a greater share of that industry than expected. If an industry has a greater share than expected of a given industry, then that "extra" industry employment is assumed to have a greater concentration and importance to the local economy because those jobs are above what a local economy should have to serve local needs. If an industry has a concentration of more than 1, it is assumed to be locally concentrated. Anything below 1 is not locally concentrated.

From 2001 to 2005, Distribution and Logistics in Portland had a decline in employment of 2 percent while the West Coast saw a decline of 1 percent. This meant that Portland had a faster decline in Distribution and Logistics than the rest of the West Coast. However, even though the entire industry saw a decline, not all industry sectors performed the same. Sectors that outperformed the West Coast in Portland were: Merchant Wholesalers of Nondurable Goods (NAICS 424), Truck Transportation (NAICS 484) and Warehousing & Storage (NAICS 493). See Table 2.

Table 4 shows the local concentration and shift-share for Distribution and Logistics in the Portland region for 2001 to 2005.

Table 4
Portland Region Shift-share and Local Concentration for the Distribution and Logistics Industry

		Shift-share	Local Concentration		
NAICS Code	Industry	2001 - 2005	2001	2004	2005
	Wholesale	**-0.03**	**1.37**	**1.40**	**1.36**
423	Merchant Wholesalers, Durable Goods	**-0.02**	1.24	1.27	1.25
424	Merchant Wholesalers, Nondurable Goods	**0.01**	1.44	1.55	1.49
425	Electronic Markets & Agents & Brokers	**-0.38**	1.84	1.48	1.40
	Transportation	**0.01**	**1.24**	**1.32**	**1.29**
481	Air Transportation	**0.01**	1.22	1.29	1.26
484	Truck Transportation	**0.06**	1.30	1.43	1.41
488	Support Activities for Transportation	**-0.07**	1.16	1.15	1.12
	Warehousing, storage & couriers	**0.03**	**1.16**	**1.22**	**1.23**
492	Couriers & Messengers	**0.03**	1.19	1.28	1.26
493	Warehousing & Storage	**0.04**	1.12	1.15	1.20
	Distribution & Logistics Total	**-0.01**	**1.31**	**1.36**	**1.33**

Source: Calculations by PDC

Table 5 shows the employment and percent makeup of the sectors for Distribution and Logistics in the Portland region and the West Coast.

Table 5
Distribution & Logistics Sector size in the Portland Region and the West Coast in 2001 and 2005

		2001 Employment				2005 Employment			
NAICS Code	Industry	Portland Region	% of Total	West Coast	% of Total	Portland Region	% of Total	West Coast	% of Total
	Wholesale	**50,408**	**65%**	**843,717**	**62%**	**49,928**	**66%**	**860,641**	**64%**
423	Merchant Wholesalers, Durable Goods	25,409	33%	467,335	34%	23,277	31%	436,316	32%
424	Merchant Wholesalers, Nondurable Goods	18,950	24%	301,111	22%	19,799	26%	310,127	23%
425	Electronic Markets & Agents & Brokers	6,050	8%	75,271	6%	6,852	9%	114,198	8%
	Transportation	**18,429**	**24%**	**339,915**	**25%**	**17,675**	**23%**	**320,952**	**24%**
481	Air Transportation	4,694	6%	88,263	7%	3,470	5%	64,235	5%
484	Truck Transportation	8,856	11%	155,921	12%	9,362	12%	155,343	12%
488	Support Activities for Transportation	4,879	6%	95,731	7%	4,843	6%	101,374	8%
	Warehousing, storage & couriers	**8,707**	**11%**	**171,078**	**13%**	**8,535**	**11%**	**162,212**	**12%**
492	Couriers & Messengers	5,033	6%	96,247	7%	4,499	6%	83,354	6%
493	Warehousing & Storage	3,674	5%	74,831	6%	4,036	5%	78,858	6%
	Distribution & Logistics Total	**77,544**	**100%**	**1,354,710**	**100%**	**76,138**	**100%**	**1,343,805**	**100%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Wholesale trade is the largest sector in the Distribution and Logistics industry. This is followed by transportation, with warehousing, storage & couriers being the smallest industry sector in terms of employment. Overall, the Distribution of employment in the Distribution and Logistics cluster in Portland closely mirrors the West Coast.

3. Wages

The average annual wage paid in the Portland region by the Distribution and Logistics cluster in 2005 was $52,700. This is higher than the $49,825 that is the average wage in Distribution and Logistics for the West Coast. In 2001 the average wage for Distribution and Logistics in Portland was $45,940 and the West Coast had an average wage of $45,411. Portland has seen an average wage increase for Distribution and Logistics of 15 percent, while the West Coast has increased 10 percent. See Table 6.

In many of the Distribution and Logistics sectors, the Portland region has outpaced the West Coast in wage growth. Of note are those sectors that have outpaced the cluster average, which are: Merchant Wholesalers of Nondurable Goods (NAICS 424) and Electronic Markets Agents & Brokers (NAICS 425).

Table 6 is a comparison between Portland and the West Coast for wages from 2001 to 2005.

Table 6
Distribution & Logistics Average Wages & Change in the Portland Region & West Coast from 2001 to 2005

		Avg Wage 2001		Avg Wage 2005		Change 2001 - 2005			
NAICS Code	**Industry**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**	**Portland Region**	**Portland Region %**	**West Coast**	**West Coast %**
	Wholesale	**$51,462**	**$49,513**	**$60,086**	**$54,614**	**$8,624**	**17%**	**$5,101**	**10%**
423	Merchant Wholesalers, Durable Goods	$50,267	$52,072	$56,605	$57,259	$6,338	13%	$5,188	10%
424	Merchant Wholesalers, Nondurable Goods	$49,711	$43,446	$59,930	$48,844	$10,219	21%	$5,398	12%
425	Electronic Markets & Agents & Brokers	$61,956	$57,903	$72,362	$60,180	$10,406	17%	$2,277	4%
	Transportation	**$38,737**	**$40,983**	**$40,662**	**$43,689**	**$1,925**	**5%**	**$2,706**	**7%**
481	Air Transportation	$39,603	$50,898	$40,584	$51,771	$980	2%	$873	2%
484	Truck Transportation	$37,922	$34,963	$40,656	$37,797	$2,735	7%	$2,834	8%
488	Support Activities for Transportation	$39,384	$43,917	$40,730	$47,598	$1,346	3%	$3,682	8%
	Warehousing, storage & couriers	**$31,283**	**$32,059**	**$34,419**	**$36,558**	**$3,136**	**10%**	**$4,499**	**14%**
492	Couriers & Messengers	$27,550	$30,562	$31,123	$35,057	$3,572	13%	$4,495	15%
493	Warehousing & Storage	$35,736	$33,983	$38,094	$38,144	$2,358	7%	$4,161	12%
	Distribution & Logistics Avg	**$45,940**	**$45,411**	**$52,700**	**$49,825**	**$6,759**	**15%**	**$4,415**	**10%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

The Portland Distribution and Logistics cluster has seen a large gain in wages over the one-year period of 2004 to 2005. During this time, the average wage in the Portland region increased over $2,300. At the same time, West Coast Distribution and Logistics wages increased just over $900. This meant that 35 percent of the increase in wages that occurred in the Portland region for Distribution and Logistics occurred in the 04-05 period (calculated from Table 7). This is compared to a 21 percent increase experienced by the West Coast for the same period. For the Portland region, it was Electronic Markets Agents Brokers (NAICS 425) that saw the greatest one-year increase, followed by merchant wholesalers of durable goods (NAICS 423). It should be noted that while Merchant Wholesalers of Durable Goods (NAICS 423) saw a wage increase, it also was an industry sector that lost employment in the Portland region from 2001 to 2005. A few of the West Coast sectors saw a decrease in wages during the one-year 04-05 period. See Tables 1 and 7.

Table 7 shows the wage changes for the Portland region and West Coast for 2004 and 2005.

Table 7
Distribution & Logistics Wage Change in the Portland Region & West Coast from 2004 to 2005

		Avg Wage 2004		Avg Wage 2005		Change 2004 - 2005	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
	Wholesale	**$57,525**	**$52,825**	**$60,086**	**$54,614**	**$2,561**	**$1,790**
423	Merchant Wholesalers, Durable Goods	$52,055	$54,723	$56,605	$57,259	$4,550	$2,537
424	Merchant Wholesalers, Nondurable Goods	$60,661	$48,473	$59,930	$48,844	-$731	$371
425	Electronic Markets & Agents & Brokers	$67,135	$57,723	$72,362	$60,180	$5,227	$2,457
	Transportation	**$38,720**	**$42,893**	**$40,662**	**$43,689**	**$1,942**	**$796**
481	Air Transportation	$38,511	$54,683	$40,584	$51,771	$2,073	-$2,912
484	Truck Transportation	$37,780	$37,803	$40,656	$37,797	$2,877	-$6
488	Support Activities for Transportation	$40,726	$42,861	$40,730	$47,598	$4	$4,738
	Warehousing, storage & couriers	**$34,687**	**$37,454**	**$34,419**	**$36,558**	**-$267**	**-$896**
492	Couriers & Messengers	$29,539	$36,717	$31,123	$35,057	$1,584	-$1,660
493	Warehousing & Storage	$37,595	$38,234	$38,094	$38,144	$498	-$90
	Distribution & Logistics Avg	**$50,327**	**$48,889**	**$52,700**	**$49,825**	**$2,373**	**$936**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

4. Observations

Distribution and Logistics in Portland has seen a decline in employment since 2001 while the United States and the State of Oregon have seen an increase. Instead, Portland has followed the overall West Coast pattern of employment loss. From 2001 to 2005, the Distribution and Logistics cluster in the U.S. added 1.1 million jobs, growing 13 percent. This compares to the West Coast where almost 11,000 jobs were lost and a one percent decline occurred. At the same time, the State of Oregon has added Distribution and Logistics jobs, with an increase three percent. The Portland region had a larger percent decline in Distribution and Logistics than the West Coast, experiencing a loss of 1,400 jobs. See Table 8.

Table 8 shows the employment and change for Distribution and Logistics throughout the United States compared to the West Coast, Oregon and the Portland region.

Table 8
Distribution & Logistics Employment & Change in the United States, West Coast, Oregon and Portland Region from 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	2001-2005 %
United States	9,367,099	9,196,972	10,541,610	1,174,511	13%
West Coast	1,354,710	1,329,849	1,343,805	-10,905	-1%
Oregon	118,891	120,831	122,288	3,397	3%
Portland Region	77,544	76,387	76,138	-1,406	-2%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

The decline in employment from 2001 to 2005 in the Portland region for Distribution and Logistics was similar to what occurred throughout the West Coast, with a two percent decline in Portland and a one percent decline in the West Coast Distribution and Logistics cluster as a whole. At the same time, Oregon employment across all industries increased three percent. So, Distribution and Logistics had an employment decline at the same time that employment increased throughout the State. The same is also true when Distribution and Logistics is compared to all West Coast industries where employment had a slight increase. Finally, when Distribution and Logistics is compared to all industries in the Portland region it had a slightly larger decrease. See Tables 8 & 9.

Table 9 compares Distribution and Logistics to overall employment trends from 2001 to 2005 in the Portland region, Oregon and the West Coast.

Table 9
Distribution & Logistics Employment in the Portland Region Compared to all other Industries on the West Coast, Oregon and in Portland 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	% 2001 - 2005
West Coast	16,220,942	16,451,478	16,474,755	253,813	2%
Oregon	1,343,430	1,383,822	1,387,651	44,221	3%
Portland Region	709,876	696,532	704,262	-5,614	-1%
Distribution & Logistics in Portland	77,544	76,387	76,138	-1,406	-2%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

The decline in employment in Distribution and Logistics has been most concentrated in the Wholesale Trade of Durable Goods (NAICS 423). The other industry with significant employment decline was Air Transportation (NAICS 481). Combined, Wholesale Trade of Durable Goods and Air Transportation lost over 3,300 jobs in the Portland region since 2001.

A major factor in job loss seen in both the Wholesale and Air Transportation industry can be explained by major downturns in other industries. Wholesale Trade is most affected by broader industry and economic trends and has been impacted by the recent slowing of economic growth and the downturn in manufacturing industries since 2001. Air transportation has also been affected by larger economic trends, including higher fuel costs and industry realignment.

Even with layoffs and job losses, wages in the Distribution and Logistics cluster have increased. In 2001, the Portland region had an average industry wage similar to the entire West Coast, but by 2005 had seen a substantial gain over the 3-state average. In all Distribution and Logistics industry sectors, the Portland region has seen wage increases, many much larger than occurred along the rest of the West Coast (see Tables 6 and 7). Given the lower cost-of-living in Portland compared to the other major West Coast metropolitan areas workers seem to be well compensated and more productive given the declining employment.

Since Portland is beginning to see signs of an economic turn around, it may be time to capitalize on its transportation and Logistics advantage. Congestion at the ports of Los Angeles and Long Beach in California, and in the Puget Sound ports, was a significant problem in 2004. During 2005, cargo moved quite smoothly through these ports, with little or no congestion problems experienced at these facilities. The 2006 peak shipping season is only now beginning and it is not yet clear whether congestion will be a factor this year. Nevertheless, there is increased opportunity in Portland based upon new and expanded services and ongoing efforts to attract new business to the Port and the region. The announcement of one new container-shipping line (Zim USA) and additional service by another (Yang Ming) signals that Portland is poised to capitalize on current opportunities.

Issues facing the Distribution and Logistics cluster are similar to those faced nationwide. These include higher carrier prices due to fuel costs and the incorporation of high-tech data integration for greater efficiencies and overall inventory management. Specific Portland issues are increasing congestion, a need for better streetscape design facilitating truck mobility and the high cost of moving goods to East Coast markets. Lastly, addressed below, is the continued need for a well-trained workforce.

5. Workforce

According to the Oregon Employment Department, employment in Distribution and Logistics is expected to grow in Oregon through 2014. Within Distribution and Logistics, there has been strong recent growth in warehousing and storage and the growth is expected to continue as more large Distribution warehouses open or expand during the forecast period. Interestingly, Warehousing and Storage is projected to be the second fastest growing industry in the state though 2014.

In the Portland region, general employment is expected to grow by over 16 percent from 2004 through 2014. Almost all of the Distribution and Logistics industry sectors are expected to meet this growth or exceed it. Altogether, Distribution and Logistics in the Portland region is projected to add 11,790 jobs from 2004 to 2014.

Occupational needs in Distribution and Logistics are, and will continue to be a combination of low-skilled and professional positions. Truck drivers, warehouse positions and IT professionals are reported to be the hardest to fill positions. Each of these jobs requires some training, and possibly certification.

The need for IT professionals is especially significant. As supply chains have become increasingly complex and time-dependent, more and more technology is involved in the movement of commodities. One of the latest innovations involves the use of Radio Frequency Identification (RFID) for tracking the movement of goods and facilitating just-in-time inventory controls. As RFID becomes

more accepted, engineers, software programmers and other technology jobs often not associated with Distribution and Logistics will play a larger and more important role in the industry.

Below are the top occupational categories for Distribution and Logistics, in alphabetical order. Those in bold are considered the toughest positions to fill.

Top Occupational Categories for Distribution and Logistics

- **Bookkeeping, Accounting, & Auditing Clerks**
- Cargo & Freight Agents
- Couriers & Messengers
- Customer Service Representatives
- Dispatchers
- **Laborers & Freight, Stock, & Material Movers**
- **Locomotive Engineers**
- Material Moving Workers
- Operations Managers
- Order & Office Clerks
- Packers & Packagers
- Reservation & Transportation Ticket Agents & Travel Clerks
- Sales Representatives
- Shipping, Receiving, & Traffic Clerks
- Stock Clerks & Order Fillers
- **Transportation Workers**
- **Truck Drivers**

Source: Strategy for Economic Vitality, Portland 2002; Portland Development Commission Workforce Gap Analysis Report for the Portland-Vancouver MSA, June 2005; Anecdotal information supplied by key stakeholders.

6. Implementation

The primary goals of strategy implementation are Distribution and Logistics job retention and expansion, wealth creation and business support. The Portland Development Commission plays a support role to the Distribution and Logistics industry by promoting industry initiatives, supplying financial assistance and by participating in business outreach efforts. Throughout the next fiscal year, the PDC will work with its partners in helping to foster a positive business climate for the Distribution and Logistics industry in Portland and throughout the State of Oregon.

The Portland region has a competitive advantage in Distribution and Logistics. Simple geography, coupled with an extensive multi-modal network allows Portland businesses to move goods throughout the world. Noting Portland's competitive advantage, along with other factors that affect overall Distribution and Logistics' business helps to asses what actions the PDC can undertake to support the Distribution and Logistics industry. Below is a listing of factors that the PDC recognizes it can affect to support and promote the Distribution and Logistics industry, along with a list of factors that are more difficult to change.

Distribution and Logistics business factors that the PDC can help affect:

- Business development through networking
- Financing of new space and expansions
- State and local government policy related to transportation
- Industry advocacy to promote and elevate freight issues
- Land use issues related to large-scale development
- Permitting issues, especially around river dependent uses
- Recruitment of Distribution and Logistics support businesses
- Transportation initiatives
- Infrastructure improvements related to transportation
- Streetscape design
- Regional coordination of transportation partners

Distribution and Logistics business factors that are difficult to change:

- Road and rail congestion
- Availability of large tracts of land
- Time to market
- Rising fuel costs
- Global and national economic conditions related to transportation of goods
- Roadway and other transportation infrastructure outside of Portland

Strategy goals were developed for the Distribution and Logistics strategy in 2002 for the City of Portland to implement. Many of the goals listed were of a supporting nature and the City's future role will continue to be in a support capacity. Previous strategy goals included:

- Support for deepening the Columbia River channel
- Endorse I-5 Corridor Partnership strategic plan
- Work with State on resolving deterioration of key transportation corridors
- Encourage recruitment and retention of third party Distribution centers
- Simplify permitting and regulatory process
- Ensure appropriate land is available

All bullet points are ongoing efforts. For instance, channel deepening has begun, and federal funds have been allocated for the 2006 season, but support is still needed to see that the dredging is completed in the next few years. Other goals to focus on for Distribution and Logistics are:

- Workforce development to maintain an adequate employment pool and allow for career advancement
- Job creation through business expansion
- Supplier and support industry retention, expansion and recruitment

7. Top Issues Facing Industry

The following are the top issues currently facing the Distribution and Logistics industry in the Portland region:

- The Portland region's shortage of truck drivers.
- Freight mobility is negatively impacted by road and rail congestion.
- Retention of workers, especially long-haul drivers is a key concern.
- Low supply and high cost of land for large-scale warehouse development
- New, more complex security regulations create more red tape.
- Both Oregon and Washington are experiencing upward Distribution and Logistics wage pressures

8. Action Items for Fiscal Year 2006-07

In order to achieve the goals and further support the Distribution and Logistics industry, the PDC will perform the following actions to help support the industry.

- Complete 10 BRE visits to Distribution and Logistics companies in Portland.
- Develop customized target industry postcards and execute direct mail campaign, sending out 50 postcards to companies and site selectors located outside of the Portland region.
- Implement relevant sections of *Portland's Freight Master Plan.*
- Actively participate in the Portland Business Alliance's Transportation Subcommittee.
- Participate in the Portland Freight Committee and their initiatives.
- Assist the Port of Portland in their efforts to attract and retain businesses within this industry.
- Participate in the creation of a *Regional Freight Master Plan*.
- Leverage private investment to contribute to achieving overall department goal of leveraging $100 million in private investment.
- Create and retain Distribution and Logistics jobs to meet overall department goal of 2,000 new and retained jobs.
- Financially support the Port of Portland "Trade Capacity" study.

Appendix A

Top 50 (by revenue) Distribution and Logistics Companies in Portland[14]

Business Name	Location	Industry
North Pacific Lumber	Portland	Lumber, Plywood, and Millwork
Superior Glass Works	Mulino	Motor Vehicle Supplies and New Parts
Schnitzer Steel Industries	Portland	Scrap and Waste Materials
American Intl Forest Pdts LLC	Portland	Lumber, Plywood, and Millwork
Merritt Forest Products	Lake Oswego	Lumber, Plywood, and Millwork
Lumber Products An Oregon Corp	Tualatin	Lumber, Plywood, and Millwork
Tumac Wood Components	Portland	Lumber, Plywood, and Millwork
Dulcich Inc	Clackamas	Fish and Seafoods
Richmond Intl Forest Pdts LLC	Portland	Lumber, Plywood, and Millwork
Market Industries Ltd	Portland	Trucking, Except Local
Carson Heating & AC	Portland	Petroleum Products, Nec
USF	Clackamas	Trucking, Except Local
Columbia Distributing Company	Portland	Wine and Distilled Beverages
Cascade Forest Group Llc	Lake Oswego	Lumber, Plywood, and Millwork
Mt Hood Beverage Company	Portland	Beer and Ale
McCabes Quality Foods Inc	Portland	Meats and Meat Products
A T C	Beaverton	Deep Sea Domestic Transportation of Freight
Aas Holding Co	Portland	Meats and Meat Products
United Pipe & Supply Co Inc	Portland	Industrial Machinery and Equipment
Platt Electric Supply Inc	Portland	Electrical Apparatus and Equipment
Totem Steel International Inc	Portland	Metals Service Centers and Offices
Azumano Travel Service Inc	Portland	Travel Agencies
Shelter Products Inc	Portland	Lumber, Plywood, and Millwork
Orepac Building Products	Wilsonville	Lumber, Plywood, and Millwork
United Salad Co	Portland	Fresh Fruits and Vegetables
Mc-Call Oil & Chemical Corp	Portland	Petroleum Products, Nec
All About Hawaii	Beaverton	Tour Operators
Parr Lumber Co	Hillsboro	Lumber, Plywood, and Millwork
Dr Martens Airwair USA LLC	Portland	Footwear
Sysco Spokane	Wilsonville	Groceries, General Line
Columbia Grain Inc	Portland	Grain and Field Beans
Fctg Holdings Inc	Portland	Lumber, Plywood, and Millwork
Nmhg Oregon Inc	Fairview	Industrial Machinery and Equipment
Vox Trading USA Corporation	Portland	Groceries, General Line
Oia Global Logistics	Portland	Freight Transportation Arrangement
Pendleton Flour Mills	Portland	Groceries, General Line
Double T Holding Co	Portland	Construction and Mining Machinery
Brashers Cascade Auto Auction	Portland	Automobiles and Other Motor Vehicles
Pacific Metal Company	Tualatin	Metals Service Centers and Offices
Airefco Inc	Tualatin	Warm Air Heating and Air Conditioning
Tri-Met	Portland	Local and Suburban Transit
Orepac Building Products	Wilsonville	Lumber, Plywood, and Millwork
Barth & Dreyfuss of California	Lake Oswego	Piece Goods and Notions
Northwest Pump & Equipment Co	Portland	Industrial Machinery and Equipment
Blackwell Book Services	Lake Oswego	Books, Periodicals, and Newspapers
United Energy Inc	Portland	Petroleum Products, Nec
Triad Machinery Inc	Portland	Construction and Mining Machinery
Independent Dispatch Inc	Portland	Freight Transportation Arrangement
Nike	Beaverton	Footwear

Source: Dun & Bradstreet Marketing Solutions, May 2006

[14] Companies listed are those solely tracked by Dun & Bradstreet and has not been independently verified by the PDC. It is recognized that some major employers are missing from this list. The PDC hopes to use this source amongst many others for outreach efforts and target industry initiatives.

Appendix B

Top 50 (by employment) Distribution and Logistics Companies in Portland

Business Name	Location	Industry
Nmhg Oregon Inc	Fairview	Industrial Machinery and Equipment
USF	Clackamas	Trucking, Except Local
Tri-Met	Portland	Local and Suburban Transit
Dulcich Inc	Clackamas	Fish and Seafoods
Schnitzer Steel Industries	Portland	Scrap and Waste Materials
Columbia Distributing Company	Portland	Wine and Distilled Beverages
North Pacific Lumber	Portland	Lumber, Plywood, and Millwork
Platt Electric Supply Inc	Portland	Electrical Apparatus and Equipment
Orepac Building Products	Wilsonville	Lumber, Plywood, and Millwork
American Medical Response NW	Portland	Local Passenger Transportation, Nec
Parr Lumber Co	Hillsboro	Lumber, Plywood, and Millwork
Lumber Products An Oregon Corp	Tualatin	Lumber, Plywood, and Millwork
Market Industries Ltd	Portland	Trucking, Except Local
Barth & Dreyfuss of California	Lake Oswego	Piece Goods and Notions
Trimet Administration	Portland	Local and Suburban Transit
Fctg Holdings Inc	Portland	Lumber, Plywood, and Millwork
Blackwell Book Services	Lake Oswego	Books, Periodicals, and Newspapers
McCabes Quality Foods Inc	Portland	Meats and Meat Products
United Salad Co	Portland	Fresh Fruits and Vegetables
A T C	Beaverton	Deep Sea Domestic Transportation of Freight
Columbia Aviation Inc	Portland	Airports, Flying Fields, and Services
Mt Hood Beverage Company	Portland	Beer and Ale
Double T Holding Co	Portland	Construction and Mining Machinery
NFC Inc	Cornelius	Local Trucking, Without Storage
United Pipe & Supply Co Inc	Portland	Industrial Machinery and Equipment
Biotronik Inc	Lake Oswego	Medical and Hospital Equipment
Leo Gentry Wholesale Nursery	Gresham	Flowers and Florists Supplies
Pacific Coast Fruit Co	Portland	Fresh Fruits and Vegetables
Nike	Beaverton	Footwear
Seattle Lighting Fixture	Portland	Electrical Apparatus and Equipment
Radio Cab Company Inc	Portland	Taxicabs
Senvoy LLC	Portland	Courier Services, Except By Air
Carson Heating & AC	Portland	Petroleum Products, Nec
Oia Global Logistics	Portland	Freight Transportation Arrangement
Vestas-American Wind Tech	Portland	Industrial Machinery and Equipment
The Fixture Gallery	Portland	Plumbing and Hydronic Heating Supplies
United Energy Inc	Portland	Petroleum Products, Nec
Azumano Travel Service Inc	Portland	Travel Agencies
Terex Utilities West	Portland	Industrial Machinery and Equipment
Northwest Pump & Equipment Co	Portland	Industrial Machinery and Equipment
Henningsen Cold Storage Co	Hillsboro	Refrigerated Warehousing and Storage
Pendleton Flour Mills	Portland	Groceries, General Line
Vox Trading USA Corporation	Portland	Groceries, General Line
Education For Life	Hillsboro	Local Passenger Transportation, Nec
Duck Delivery	Portland	Fresh Fruits and Vegetables
Harris Transportation Co LLC	Portland	Local Trucking, Without Storage
Metro Metals Northwest Inc	Portland	Scrap and Waste Materials
Houstons Inc	Wilsonville	Commercial Equipment, Nec
Poorman-Douglas Corporation	Beaverton	Computers, Peripherals, and Software
Knight Transportation Inc	Portland	Local Passenger Transportation, Nec

Source: Dun & Bradstreet Marketing Solutions, May 2006

Appendix C

Major Support & Supplier Industries for Distribution and Logistics in Portland[15]

Supplier or Support Industry	Estimated Local Input
Petroleum refineries	0%
Advertising and related services	76%
Telecommunications	53%
Noncomparable imports[16]	0%
Management consulting services	76%
Insurance carriers	57%
Nondepository credit intermediation	60%
Motor vehicle parts manufacturing	29%
Power generation and supply	75%
Employment services	76%
Monetary authorities and depository credit institutions	60%
Other support services	76%
Automotive equipment rental	84%
Machinery and equipment rental	76%
Business support services	76%
Legal services	78%
Computer systems design services	76%
Accounting and bookkeeping services	78%
Semiconductors and related devices	78%
Services to buildings and dwellings	76%
Commercial printing	23%
Other computer related services	76%
Lessors of nonfinancial intangible assets	76%
Securities, commodity contracts & investments	60%
Maintenance and repair of nonresidential buildings	89%
Plastics plumbing fixtures and all other plastics	89%
Office administrative services	29%
Automotive repair and maintenance	84%
Data processing services	24%
Wood container and pallet manufacturing	42%
Natural gas Distribution	95%
Investigation and security services	76%
Commercial machinery repair and maintenance	76%
Aircraft engine and engine parts manufacturing	15%
Electronic equipment repair	88%
Architectural and engineering	78%
Environmental and other technical consulting	76%
Information services	17%
Hotels and motels	74%
Household goods repair and maintenance	89%
Tire manufacturing	0%
All other electronic component manufacturing	66%
Paperboard container manufacturing	0%
Motor vehicle and parts dealers	95%
Specialized design services	76%
Machine shops	30%
Other State and local government	0%
Oil and gas extraction	2%
Aircraft manufacturing	20%
Ship building and repairing	1%

Source: Implan Pro 2.0 Input-Output Model for Clackamas, Multnomah and Washington Counties

[15] The list is sorted in order of largest monetary input.

[16] Imports that consist of goods purchased by U.S. residents abroad and of service imports with no domestic counterparts, such as bananas and coffee.

Appendix D

Distribution and Logistics Plan Participants

This document was reviewed, in draft form, by the following individuals:

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Food Processing Target Industry Plan 2006-2007

1. Industry Definition/Summary

Food processing is an umbrella term used to describe the activities of manufacturing food and beverages for human consumption. An integral part of the Portland economy, food processing supplies quality jobs in addition to implementing sustainable business practices by using local ingredients.

The Portland region is home to approximately 250 food processors and beverage makers. The average number of jobs per company in Portland is 26, meaning that the majority of the food processing businesses in the Portland region are small businesses. The average revenue for a food processing company in the Portland region is approximately $5 million a year.

Industries included in Portland's food processing are listed below:

- Grain & Oilseed Milling (NAICS 3112)
- Sugar & Confectionery Product Manufacturing (3113)
- Fruit & Vegetable Preserving & Specialty Food Manufacturing (3114)
- Dairy Product Manufacturing (3115)
- Bakeries & Tortilla Manufacturing (3118)
- Other Food Manufacturing (3119)
- Beverage Manufacturing (3121)

2. Industry Trends

Northwest Oregon is home to many leading food processing companies. Many of the food processors are nationally known, and base their operations here due to the close proximity of agricultural production in the fertile Willamette Valley and parts of Southern Washington and Eastern Oregon. The availability of local products has spurred the development of specialized small urban food processing operations. Many of these operations distribute directly to restaurants, frequently catering to gourmet tastes. Of special note are the beverage manufacturers, cultivating a special Pacific Northwest niche in tea, coffee, beer, wine and distilled spirits.

Representing 3 percent of all West Coast employment in food processing, the Portland region had an estimated 7,021 jobs in the industry in 2005. This is a change from 2001 when food processing in Portland had an estimated 7,973 jobs. This has meant that food processing in Portland has seen a 12 percent decline in employment over the 4 years. At the same time, the West Coast states have seen the same decrease in employment, going from 211,610 jobs in 2001 to 201,594 in 2005. See Tables 1 & 2.

Some of the decline that has occurred in the Portland food processing industry occurred between 2004 and 2005 (the last full-year that data is available). During this one-year period, food processing in Portland went from 7,874 jobs in 2004 to 7,021 jobs in 2005, meaning that there has been a net loss of some 854 jobs. The one-year change for the West Coast saw a decrease in employment of over 24,000 jobs.

Table 1 shows absolute employment change from 2001 to 2005 for food processing in the 3-county Portland region and the three West Coast states. Table 2 is the calculated percentage change from 2001 to 2005.

Table 1
Food Processing Employment Change in the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 - 2005 Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
3112	Grain & Oilseed Milling	176	5,775	242	5,392	66	-383
3113	Sugar & Confectionery Products	120	10,609	78	9,156	-42	-1,453
3114	Fruit & Vegetable Preserving & Specialty Food	965	62,128	803	51,386	-162	-10,743
3115	Dairy Products	867	18,998	914	19,545	47	547
3118	Bakeries & Tortilla manufacturing	2,939	51,397	2,797	47,800	-142	-3,597
3119	Other Foods	1,364	22,377	1,404	26,770	40	4,393
3121	Beverage Manufacturing	1,542	40,326	782	41,545	-760	1,219
	Food Processing Total	**7,973**	**211,610**	**7,021**	**201,594**	**-952**	**-10,016**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 2 is the change in employment from 2001 to 2005 for Food Processing in the Portland region and the West Coast.

Table 2
Food Processing Percent Change in Employment for the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 - 2005 Percent Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
3112	Grain & Oilseed Milling	176	5,775	242	5,392	37%	-16%
3113	Sugar & Confectionery Products	120	10,609	78	9,156	-35%	-4%
3114	Fruit & Vegetable Preserving & Specialty Food	965	62,128	803	51,386	-17%	-30%
3115	Dairy Products	867	18,998	914	19,545	5%	-2%
3118	Bakeries & Tortilla manufacturing	2,939	51,397	2,797	47,800	-5%	-2%
3119	Other Foods	1,364	22,377	1,404	26,770	3%	0%
3121	Beverage Manufacturing	1,542	40,326	782	41,545	-49%	-8%
	Food Processing Total	**7,973**	**211,610**	**7,021**	**201,594**	**-12%**	**-12%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 3 is the change in employment from 2004 to 2005 for Food Processing in Portland and the West Coast.

Table 3
Food Processing Employment Change in the Portland Region & West Coast from 2004 to 2005

		2004 Employment		2005 Employment		2004 - 2005 Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
3112	Grain & Oilseed Milling	238	6,288	242	5,392	4	-896
3113	Sugar & Confectionery Products	81	9,579	78	9,156	-3	-423
3114	Fruit & Vegetable Preserving & Specialty Food	843	70,168	803	51,386	-40	-18,783
3115	Dairy Products	917	19,943	914	19,545	-3	-398
3118	Bakeries & Tortilla manufacturing	2,827	48,716	2,797	47,800	-30	-916
3119	Other Foods	1,493	26,749	1,404	26,770	-89	21
3121	Beverage Manufacturing	1,475	44,576	782	41,545	-693	-3,031
	Food Processing Total	**7,874**	**226,019**	**7,021**	**201,594**	**-854**	**-24,425**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Besides absolute employment change, another measure of industry health is the local concentration[17]. When measuring local concentration, the employment is measured against the total employment for all industries at the local level and compared to the concentration of a larger state or national level. For the Portland region, the employment in food processing was calculated against the employment for the industry in the three West Coast states.

In 2001 food processing had a local Portland concentration of 0.86. In 2004, the local concentration in the Portland region decreased to 0.82. The local concentration then decreased to 0.81 in 2005. This means that, on a percentage basis, Portland's is food processing industry is less concentrated than the West Coast as a whole. However, the calculation also shows that this is not necessarily the case for all food processing sub sectors. The food processing sectors with high local concentrations are: Dairy Products (NAICS 3115), Bakeries and Tortilla Manufacturing (NAICS 3118), and Other Foods (NAICS 3119).

Along with the local concentration, we have calculated the "shift-share", or relative growth/decline, of the Food Processing industry in Portland. The shift-share shows the change in employment in the Portland region compared to the West Coast by taking into account the economic changes in the larger geography. A positive shift-share number shows that an industry is growing faster than expected, while a negative shows slower growth in relation to the West Coast as a whole. If the industry lost jobs than the shift-share shows the relative decline in relation to overall industry employment.

[17] The local concentration ("location quotient" or LQ) is the calculated ratio between the local economy and the economy of some reference unit, in this case the West Coast states. This ratio is calculated for all industries to determine whether or not the local economy has a greater share of that industry than expected. If an industry has a greater share than expected of a given industry, then that "extra" industry employment is assumed to have a greater concentration and importance to the local economy because those jobs are above what a local economy should have to serve local needs. If an industry has a concentration of more than 1, it is assumed to be locally concentrated. Anything below 1 is not locally concentrated.

From 2001 to 2005, the Food Processing industry in Portland had a decline in employment of 12 percent, the same as the West Coast. This meant that Portland followed the West Coast employment trend for the food processing industry. However, even though the entire industry saw a decline, not all industry sectors performed the same. Some food processing sub sectors in Portland either saw an increase in employment greater than the West Coast, or at least a slower decline. Sub sectors that outperformed the West Coast in Portland were: Grain & Oilseed Milling (NAICS 3112), Fruit & Vegetable Preserving & Specialty Foods (NAICS 3114), Dairy Products (NAICS 3115) and Bakeries & Tortilla Makers (NAICS 3118). See Table 4.

Table 4 shows the local concentration and shift-share for food processing in the Portland region for 2001 to 2005.

Table 4
Portland Region Shift-share and Local Concentration for the Food Processing Industry

NAICS Code	Industry	Shift-share 2001 - 2005	Local Concentration 2001	2004	2005
3112	Grain & Oilseed Milling	0.44	0.70	0.89	1.05
3113	Sugar & Confectionery Products	-0.21	0.26	0.20	0.20
3114	Fruit & Vegetable Preserving & Specialty Food	0.01	0.35	0.28	0.37
3115	Dairy Products	0.03	1.04	1.09	1.09
3118	Bakeries & Tortilla manufacturing	0.02	1.31	1.37	1.37
3119	Other Foods	-0.17	1.39	1.32	1.23
3121	Beverage Manufacturing	-0.52	0.87	0.78	0.44
	Food Processing Cluster	**-0.07**	**0.86**	**0.82**	**0.81**

Source: Calculations by PDC

Last is a comparison between the Portland region and West Coast showing the size of the industry sub sectors. This is simply the number of employees in each sector divided by the total number of employees in the industry cluster. In 2005, it shows that bakeries & tortilla makers (NAICS 3118) are the largest food processors in the Portland region, and make up more of the food processing cluster employment than for the West Coast. The next largest sector is Other Foods (NAICS 3119) which encompasses 20 percent of all food processing employment in Portland compared to 13 percent for the West Coast. See Table 5.

Table 5 shows the employment and percent makeup of the sectors for food processing in the Portland region and the West Coast.

Table 5
Food Processing Sector size in the Portland Region and the West Coast in 2001 and 2005

		2001 Employment				2005 Employment			
NAICS Code	**Industry**	**Portland Region**	**% of Total**	**West Coast**	**% of Total**	**Portland Region**	**% of Total**	**West Coast**	**% of Total**
3112	Grain & Oilseed Milling	176	2%	5,775	3%	242	3%	5,392	3%
3113	Sugar & Confectionery Products	120	2%	10,609	5%	78	1%	9,156	5%
3114	Fruit & Vegetable Preserving & Specialty Food	965	12%	62,128	29%	803	11%	51,386	25%
3115	Dairy Products	867	11%	18,998	9%	914	13%	19,545	10%
3118	Bakeries & Tortilla manufacturing	2,939	37%	51,397	24%	2,797	40%	47,800	24%
3119	Other Foods	1,364	17%	22,377	11%	1,404	20%	26,770	13%
3121	Beverage Manufacturing	1,542	19%	40,326	19%	782	11%	41,545	21%
	Food Processing Total	**7,973**	**100%**	**211,610**	**100%**	**7,021**	**100%**	**201,594**	**100%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

3. Wages

The average annual wage paid in the Portland region by food processors in 2005 was $36,379. This is higher than the $33,568 average food processing wage for the West Coast. In 2001 the average wage for food processing in Portland was $34,415 and the West Coast had an average wage of $33,505. Portland has seen an average wage increase for food processing of 6 percent, while the West Coast has remained virtually unchanged.

Even with layoffs and job losses, wages in the Food Processing industry increased between 2001 and 2005. In 2001 the Portland region had an average industry wage similar to the entire West Coast, but by 2005 had seen a substantial gain over the 3-state average. In all Food Processing sub sectors the Portland region has seen wage increases. One of the reasons for this is the higher minimum wage in Oregon than in California. Given the lower cost-of-living in Portland compared to the other major West Coast metropolitan areas, workers seem to be well compensated and more productive given declining industry employment. See Table 6.

When comparing sectors, some Portland region food processing sub sectors have been outperforming the West Coast in wage growth. Of note: Grain & Oilseed Milling (NAICS 3112) which saw wages increase 20 percent and Sugar & Confectionery Products (NAICS 3113) which had a 23 percent wage increase. See Table 6.

Table 6 is the comparison between Portland and the West Coast for Food Processing wages from 2001 to 2005.

Table 6
Food Processing Average Wages & Change in the Portland Region & West Coast from 2001 to 2005

		Avg Wage 2001		Avg Wage 2005		Change 2001 - 2005			
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	Portland Region %	West Coast	West Coast %
3112	Grain & Oilseed Milling	$35,394	$42,382	$42,306	$50,297	$6,912	20%	$7,915	19%
3113	Sugar & Confectionery Products	$12,815	$31,539	$15,778	$36,077	$2,963	23%	$4,538	14%
3114	Fruit & Vegetable Preserving & Specialty Food	$28,955	$28,962	$31,474	$33,650	$2,519	9%	$4,688	16%
3115	Dairy Products	$43,050	$47,115	$43,592	$51,106	$542	1%	$3,991	8%
3118	Bakeries & Tortilla manufacturing	$33,685	$27,625	$35,111	$29,529	$1,425	4%	$1,904	7%
3119	Other Foods	$34,150	$34,177	$35,378	$36,265	$1,228	4%	$2,088	6%
3121	Beverage Manufacturing	$36,172	$40,461	$39,550	$25,399	$3,378	9%	-$15,062	-37%
	Food Processing Avg	**$34,415**	**$33,505**	**$36,379**	**$33,568**	**$1,964**	**6%**	**$62**	**0%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

The food processing industry has seen a small decline in wages over the one-year period between 2004 and 2005 in the Portland region. During this time, the average wage in the Portland decreased $687. At the same time, West Coast food processing wages increased just over $1,300. This is a decrease for Portland area food processing wages of 2 percent in the one-year period. This is compared to a four percent increase experienced by the West Coast for the same period. Though there was an overall industry decrease, a few sectors saw one-year gains in Portland. The sectors that saw gains in Portland were: Grain & Oilseed Milling (NAICS 3112), Dairy Products (NAICS 3115) and Fruit & Vegetable Preserving & Specialty Food (NAICS 3114).

Table 7 shows the wage changes for the Portland region and West Coast for 2004 and 2005 for the Food Processing Industry.

Table 7
Food Processing Wage Change in the Portland Region & West Coast from 2004 to 2005

		Avg Wage 2004		Avg Wage 2005		Change 2004 - 2005	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
3112	Grain & Oilseed Milling	$38,858	$41,036	$42,306	$50,297	$3,448	$9,261
3113	Sugar & Confectionery Products	$16,631	$32,498	$15,778	$36,077	-$853	$3,579
3114	Fruit & Vegetable Preserving & Specialty Food	$30,753	$24,688	$31,474	$33,650	$721	$8,962
3115	Dairy Products	$42,669	$43,336	$43,592	$51,106	$924	$7,770
3118	Bakeries & Tortilla manufacturing	$35,158	$28,697	$35,111	$29,529	-$47	$832
3119	Other Foods	$36,250	$32,866	$35,378	$36,265	-$872	$3,399
3121	Beverage Manufacturing	$42,502	$41,321	$39,550	$25,399	-$2,953	-$15,921
	Food Processing Avg	**$37,065**	**$32,232**	**$36,379**	**$33,568**	**-$687**	**$1,336**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

4. Observations

The Food Processing industry in Portland has seen a decline in employment since 2001. At the same time, Food Processing employment has been declining throughout the United States, the West Coast and the State of Oregon. From 2001 to 2005, the food processing in the U.S. lost 76,703 jobs, a decline of seven percent. On the West Coast, over 10,000 jobs were lost and a 2 percent decline occurred. At the same time, Food Processing in the State of Oregon lost 336 jobs, declining three percent. The Portland region had the largest percent decline in food processing (12 percent), losing 952 jobs. See Table 8.

Table 8 shows the employment and change for Food Processing throughout the United States compared to the West Coast, Oregon and the Portland region.

Table 8
Food Processing Employment & Change in the United States, West Coast, Oregon and Portland Region from 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	% Change 2001 - 2005
United States	1,116,725	1,088,206	1,040,022	-76,703	-7%
West Coast	211,610	226,019	201,594	-10,016	-5%
Oregon	20,982	24,265	20,646	-336	-2%
Portland Region	7,973	7,874	7,021	-952	-12%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

The decline in Food Processing employment from 2001 to 2005 in the Portland region has been greater than what has occurred along the West Coast. At the same time that food processing employment declined, Oregon employment across all industries increased by three percent. This means that Portland's Food Processing had an employment decline at the same time that employment increased throughout the State. The same is also true when food processing is compared to all West Coast industries where overall employment had a two percent increase. Finally, when food processing is compared to all industries in the Portland region it had a larger percent decrease. See Table 9.

Table 9 compares food processing to overall employment trends from 2001 to 2005 in the Portland region, Oregon and the West Coast.

Table 9
Food Processing Employment in the Portland Region Compared to all other Industries 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	2001 - 2005 %
West Coast	16,220,942	16,451,478	16,474,755	253,813	2%
Oregon	1,343,430	1,383,822	1,387,651	44,221	3%
Portland Region	709,876	696,532	704,262	-5,614	-1%
Food Processing	7,973	7,874	7,021	-952	-12%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

The decline in employment in Food Processing has been most concentrated in Beverage Manufacturing (NAICS 3121). The other sub sectors with significant employment decline have been Fruit & Vegetable Preserving & Specialty Food Manufacturing (NAICS 3114) and Bakeries & Tortilla Manufacturers (NAICS 3118).

With the exception of Beverage Manufacturing (NAICS 3121), most job loss in the food processing industry has been small. The larger declines that have occurred are likely due to increased production efficiencies or closing of operations. For example, the "Wonder Bread" bakery recently closed in Wilsonville and national reports have highlighted production gains that have resulted in layoffs at major bottling plants. While not anticipating layoffs, one of Portland's largest food processors is upgrading its production line and plans on a reduction of jobs through attrition. All of these factors are driving declining employment in the food processing industry.

The Portland region has appeared on the culinary radar only recently. What initially seemed to be an outgrowth of the restaurant industry has diversified and become a number of different specialty food businesses. Examples include everything from local retailers that have gained national exposure (New Seasons) to coffee roasters who specialize in single varietals (Stumptown). Much of this growth has occurred under the backdrop of sustainability in the food industry, with many companies focusing on organic and locally-sourced products. A new trend is beginning to appear in Portland's food processing industry, where sauces, pastas, chocolates and any number of other products are entering the marketplace made with locally-produced ingredients. A similar trend is occurring in the beverage industry where beer brewers were the vanguard and are now being followed by wineries and micro-distilleries. The major factor tying many of the new processors together is a concentration on quality and sustainability, with a commitment to locally-sourced products.

5. Workforce

According to the Oregon Employment Department, employment in Food Processing is expected to grow in Oregon through 2012. Employing an estimated 43,000 people in the state in 2002, food processing is projected to add 1,500 jobs by 2012. This is a projected growth of three percent, among the lowest of any of Oregon's targeted industries.

In the Food Processing industry in the Portland region, employment is expected to decline through 2012. Employing roughly 6,000 people in 2002, Portland area food processors are expected to shed 100 jobs for an employment decline of two percent. This predicted decline in food processing is consistent with the decline that has occurred since 2001, and is part of an overall trend for nondurable manufactured goods.

Even with a general loss of jobs, some food processing industries will continue to see growth and require certain skills to fill those jobs. It is likely the employment increases will occur in the Portland area's concentrated food processing sub sectors (bakeries and specialty foods). In each of these industries, a combination of low-skill labor and management-level professional services will be required. This will be especially true for the larger local companies, where owner operated small scale businesses will need to have access to skilled food handlers. Below are the occupational groupings and number of estimated job openings for the State of Oregon in the food processing industry through 2012.

Occupational Categories & Projected Change for Food Processing in Oregon 2002 - 2012

Occupational Group	2002 Employment	2012 Employment	Estimated Openings
Management & Financial	1,656	1,659	289
Professional	633	663	130
Health Care	28	27	6
Service	1,239	1,255	386
Sales	1,422	1,519	501
Office & Admin Support	2,627	2,624	565
Farming	17,120	18,775	7,342
Construction	93	90	13
Installation & Maintenance	1,474	1,451	285
Production	10,288	9,847	1,691
Transportation	6,187	6,266	1,477
Total	**42,767**	**44,176**	**12,685**

Source: Portland Development Commission Workforce Gap Analysis Report for the Portland-Vancouver MSA, June 2005; anecdotal information supplied by key stakeholders.

6. Implementation

The primary goals of strategy implementation are job retention and expansion, wealth creation and business support. The Portland Development Commission plays a support role to food processing by promoting industry initiatives, supplying financial assistance and by participating in business outreach efforts. Throughout the next fiscal year, the PDC will work with its partners to help foster a positive business climate for the food processing industry in Portland and the State of Oregon.

The Portland region is in a position to capitalize on many competitive advantages in food processing. Portland is already home to a strong local Food Processing industry. A fertile landscape, coupled with a strong entrepreneurial tendency seen among the Food Processing businesses, means that Portland can be home to an even more vigorous food processing businesses. Notable local food processors include Portland Roasting Company, Harry's Fresh Foods and YoCream. Also notable are Portland's many breweries, wineries and burgeoning distilleries. Lastly, many major food processing companies such as Nabisco, Coca-Cola and Odwalla have local operations.

With expectations of low future employment growth for food processing, job retention will be a priority activity. As part of this effort, it is important to note what actions the PDC can undertake to support food processing, along with those actions that will be more difficult to influence.

Food processing business factors that the PDC can help affect:

- Location assistance
- Commercial kitchen creation and support
- Financing of equipment and build-out improvements
- Co-packing and business connections
- Networking opportunities amongst different food processing interests
- Creation of "guilds" or other industry associations
- Branding assistance

Food processing business factors that are difficult to change:

- Availability of space
- Competition from outside Oregon
- Cost of goods
- Agricultural markets
- Transportation costs
- Federal regulations

Food processing is a relatively new target industry for the City of Portland. Recent activities undertaken to support the industry include: sponsoring the 2006 Northwest Food Processors Association's (NWFPA) annual convention (the largest regional food processing convention in the US), and supporting NWFPA's study on the competitiveness of the regional food processing cluster. Additionally, PDC has helped businesses with financial incentives, including loans, grants and property tax abatements. PDC has also supplied technical assistance to local food processors through the Oregon Manufacturing Extension Partnership. This has leveraged $53 million in private sector dollars and created or retained 1,074 jobs for Portland.

7. Top Issues Facing Industry

The following are the top issues currently facing the Food Processing industry in the Portland region:

- Higher production costs related to cost of goods
- Rising wages
- Cost pressure associated with greater regulation
- Difficulty achieving market penetration outside of the Pacific NW
- Finding local suppliers, usually for co-packing
- Access to commercial kitchens (important for start-ups)
- Lack of readily available space that meets regulation standards
- Difficulty obtaining certification assistance

8. Action Items for Fiscal Year 2006-07

In order to achieve the goals and further support the Food Processing industry, the PDC will perform the following actions in the coming year.

- Support and help implement the *Northwest Food Processors Association Cluster Initiative.*
- Complete 10 to 20 BRE visits with Food Processing Companies.
- Develop customized target industry postcards and execute direct mail campaign, sending out 100 postcards to companies and site selectors located outside of the Portland region.
- Convene Industry Breakfast Forum to roll-out *Northwest Food Processors Association Cluster Initiative*.
- Create marketing materials for Food Processing in Portland.
- Establish technical assistance matching grant program with the *Food Innovation Center.*
- Sponsorship of "Kitchen" conference in April 2007.
- Sponsorship of Portland's "Indie Wine Festival", 2007.
- Create Opportunity-Driven Fund for industry development, including establishing "micro-distillery" Guild.
- Implement relevant Northwest Food Processors Association industry initiatives.
- Create and retain Food Processing jobs to meet overall department goal of 2,000 new and retained jobs.
- Leverage private investment to contribute to overall department goal of leveraging $100 million in private investment.

Appendix A

Top 50 (by revenue) Food Processing Companies in the Portland Region[18]

Business Name	Industry
Franz Bakery	Bread, Cake, and Related Products
Gray & Company	Canned Fruits and Specialties
Pacific Foods of Oregon	Canned Fruits and Specialties
Boyds Coffee & Tea	Roasted Coffee
Coca-Cola Bottling Co Oregon	Bottled and Canned Soft Drinks
Sparkling Springs Bottled Water	Bottled and Canned Soft Drinks
Larsens Creamery Inc	Creamery Butter
Crystal Springs Water Company	Bottled and Canned Soft Drinks
Ajinomoto Frozen Foods USA	Frozen Fruits and Vegetables
Boardman Foods Inc	Frozen Fruits and Vegetables
Bobs Red Mill Natural Foods	Flour and Other Grain Mill Products
Yocream	Ice Cream and Frozen Deserts
Trailblazer Berries	Frozen Fruits and Vegetables
Scenic Fruit Company Inc	Frozen Fruits and Vegetables
Harrys Fresh Foods	Canned Specialties
Beaverton Foods Inc	Pickles, Sauces, and Salad Dressings
Piazzas	Frozen Specialties, Nec
Kerrys Sweet Ingredients	Cookies and Crackers
Marsee Baking	Bread, Cake, and Related Products
Oregon Orchard	Salted and Roasted Nuts and Seeds
Pacific Coast Seafoods Company	Fresh or Frozen Packaged Fish
Diamond Seafood LLC	Canned and Cured Fish and Seafoods
Yoshida Food Products Company	Pickles, Sauces, and Salad Dressings
Portland Bottling Company	Bottled and Canned Soft Drinks
Moonstruck Chocolate	Chocolate and Cocoa Products
Westnut	Salted and Roasted Nuts and Seeds
Delphinas Bakery	Bread, Cake, and Related Products
J Lieb Foods Inc	Canned Fruits and Specialties
Sakeone Corporation	Distilled and Blended Liquors
Cinema Cakes	Bread, Cake, and Related Products
Teeny Foods Corporation	Bread, Cake, and Related Products
Portland Brewing Company	Malt Beverages
Breadsong Baking Company LLC	Bread, Cake, and Related Products
Nature Bake	Bread, Cake, and Related Products
K & F Select Fine Coffees	Roasted Coffee
Old Trapper Smoked Products	Sausages and Other Prepared Meats
New Season Foods Inc	Dehydrated Fruits, Vegetables, Soups
Olive Farm LLC	Edible Fats and Oils
Inman and Co Div Wilbur Ellis	Prepared Feeds, Nec
Shorthill Taffy	Candy and Other Confectionery Products
Jacivas Wedding Cakes & Mints	Bread, Cake, and Related Products
Oregon Chai Inc	Food Preparations, Nec
Pacific Nutritional Foods	Food Preparations, Nec
Seabourne Ventures Inc	Canned and Cured Fish and Seafoods
Tonys Smokehouse & Cannery	Canned and Cured Fish and Seafoods
Desserts of Distinction Inc	Bread, Cake, and Related Products
Electroluxe Pepperstars	Wines, Brandy, and Brandy Spirits
Bithell Farms	Canned Fruits and Specialties
Oregon Coffee Roaster Inc	Roasted Coffee

Source: Dun & Bradstreet Marketing Solutions, May 2006.

[18] Companies listed are those solely tracked by Dun & Bradstreet and has not been independently verified by the PDC. It is recognized that some major employers may missing from this list. The PDC hopes to use this source amongst many others for outreach efforts and target industry initiatives.

Appendix B

Top 50 (by employment) Food Processing Companies in the Portland Region

Business Name	Industry
Franz Bakery	Bread, Cake, and Related Products
Boyds Coffee & Tea	Roasted Coffee
Gray & Company	Canned Fruits and Specialties
Coca-Cola Bottling Co Oregon	Bottled and Canned Soft Drinks
Scenic Fruit Company Inc	Frozen Fruits and Vegetables
Pacific Foods of Oregon Inc	Canned Fruits and Specialties
Sparkling Springs Bottled Wtr	Bottled and Canned Soft Drinks
Crystal Springs Water Company	Bottled and Canned Soft Drinks
Marsee Baking	Bread, Cake, and Related Products
Trailblazer Berries	Frozen Fruits and Vegetables
Harrys Fresh Foods	Canned Specialties
Kerrys Sweet Ingredients	Cookies and Crackers
Ajinomoto Frozen Foods USA	Frozen Fruits and Vegetables
Pacific Coast Seafoods Company	Fresh or Frozen Packaged Fish
Moonstruck Chocolate	Chocolate and Cocoa Products
Boardman Foods Inc	Frozen Fruits and Vegetables
Bobs Red Mill Natural Foods	Flour and Other Grain Mill Products
Delphinas Bakery	Bread, Cake, and Related Products
Cinema Cakes	Bread, Cake, and Related Products
Beaverton Foods Inc	Pickles, Sauces, and Salad Dressings
Teeny Foods Corporation	Bread, Cake, and Related Products
J Lieb Foods Inc	Canned Fruits and Specialties
Yoshida Food Products Company	Pickles, Sauces, and Salad Dressings
Yocream	Ice Cream and Frozen Deserts
Shorthill Taffy	Candy and Other Confectionery Products
Portland Bottling Company	Bottled and Canned Soft Drinks
Piazzas	Frozen Specialties, Nec
Westnut	Salted and Roasted Nuts and Seeds
Jacivas Wedding Cakes & Mints	Bread, Cake, and Related Products
Oregon Orchard	Salted and Roasted Nuts and Seeds
Nature Bake	Bread, Cake, and Related Products
Breadsong Baking Company LLC	Bread, Cake, and Related Products
Oregon Chai Inc	Food Preparations, Nec
Pacific Nutritional Foods	Food Preparations, Nec
New Season Foods Inc	Dehydrated Fruits, Vegetables, Soups
K & F Select Fine Coffees	Roasted Coffee
Old Trapper Smoked Products	Sausages and Other Prepared Meats
Culligan of Portland	Manufactured Ice
Larsens Creamery Inc	Creamery Butter
Summit Foods Inc	Food Preparations, Nec
Portland Brewing Company	Malt Beverages
Desserts of Distinction Inc	Bread, Cake, and Related Products
Shin Shin Foods Inc	Food Preparations, Nec
Willow Foods LLC	Frozen Specialties, Nec
Electroluxe Pepperstars	Wines, Brandy, and Brandy Spirits
Tonys Smokehouse & Cannery	Canned and Cured Fish and Seafoods
New Dimensions Inc	Food Preparations, Nec
Liberator Brewing	Malt Beverages
Ponzi Vineyard	Wines, Brandy, and Brandy Spirits
Seabourne Ventures Inc	Canned and Cured Fish and Seafoods

Source: Dun & Bradstreet Marketing Solutions, May 2006

Appendix C

Major Support & Supplier Industries for Food Processing in Portland [19]

Supplier or Support Industry	Estimated Local Input
Wholesale trade	100%
Cattle ranching and farming	28%
Management of companies	76%
Paperboard container manufacturing	0%
Metal can, box, and other containers	22%
Truck transportation	100%
Grain farming	2%
Oilseed farming	0%
Lessors of nonfinancial intangible assets	76%
Advertising and related services	76%
Fruit farming	40%
Power generation and supply	75%
Plastics bottle manufacturing	5%
Insurance carriers	57%
Monetary authorities and depository credit intermediaries	60%
Glass container manufacturing	99%
Plastics packaging materials	25%
Natural gas distribution	95%
Plastics plumbing fixtures and all other plastics	89%
Vegetable and melon farming	26%
Rail transportation	72%
Warehousing and storage	100%
All other miscellaneous professional services	76%
Sugarcane and sugar beet far	0%
All other crop farming	51%
Nondepository credit intermediaries	60%
Other State and local government	100%
Real estate	70%
Air transportation	27%
Commercial printing	23%
Commercial machinery repair	76%
Food services and drinking places	88%
Securities, commodity contracts & investments	60%
Tree nut farming	19%
Data processing services	24%
Coated and laminated paper and packing materials	0%
Machine shops	30%
Management consulting services	76%
Maintenance and repair of nonresidential buildings	88%
Poultry and egg production	53%
Other basic organic chemicals	7%
Automotive equipment rental	84%
Flexible packaging foil	21%
Architectural and engineering services	78%
Scenic and sightseeing transportation	70%
Telecommunications	53%
Paper and paperboard mills	0%
Noncomparable imports	0%
Scientific research and development	76%
Hotels and motels	74%

Source: Implan Pro 2.0 Input-Output Model for Clackamas, Multnomah and Washington Counties.

[19] The list is sorted in order of largest monetary input.

Appendix D
Advisory/Review Committee for Food Industry Plan

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High Tech Target Industry Plan 2006-2007

1. Industry Definition/Summary

Adopted by the Portland Development Commission as a key component of its economic development strategy, the High Tech industry encompasses computer and computer-related industries. It includes makers of semiconductors, electronic and computer equipment, material suppliers, software, communications products, and information and design services. PDC is interested in this sector because of its explosive growth over the past two decades in the region, and its relatively high wages.

There are over 1,700 High Tech companies presently operating in the Portland metropolitan area, employing almost 47,000 workers. Between 1990 and 2000, employment in Portland's High Tech sector grew at a 5.8 percent annual rate, significantly above the national average. Average annual salaries paid to Portland High Tech employees in 2005 are almost $85,000. See Table 6. The total payroll in this sector is nearly two billion dollars while the sector itself sells about $16.1 billion in goods and services annually. Portland and Oregon are home to some of the world leaders in High Tech such as Intel, Tektronix, Hewlett-Packard, Siltronic, In-Focus, and Novellus.

There are several sub clusters within the broader High Tech industry in which Portland excels, and accordingly directs additional support and development effort towards. These sub clusters include:

- **Silicon / Semiconductors**
  - This sub cluster includes firms engaged in the design and manufacture of semiconductors (including solar cells), firms that produce silicon wafers, and firms that manufacture/supply the equipment necessary to produce silicon ingots, wafers and semiconductors.
  - Major local firms in this cluster include Siltronic Corp., Intel, Lattice, IDT, Triquint, Sumitomo, WaferTech, Sharp Microelectronics, Linear Technologies, SEH, MicroChip, Tokyo Electron America, and On Semiconductor (formerly LSI).
  - Key stakeholders include: SEMI PACIFIC NORTHWEST North West, American Electronics Association, OECDD, Portland Regional Partners for Business, Portland Ambassadors.
  - Support industries include the following types of firms: Sheet Metal and precision machining, Plastics, Assembly, metal and electrical, PCB layout, Silk screening and graphics, Software and specialized engineering consulting, and Engineering workforce.
- **Software**
  - Oregon is home to more than 2,000 software companies, the majority located in the Portland metropolitan area. These companies employed almost 24,000 people in 2000, contributing approximately $1.49 billion in payroll to the local economy annually. Oregon's software industry grew by 75% in the 1990's.
  - Today, the local software industry remains strong, particularly in the following subclusters: Electronic Design Automation (EDA), financial solutions, outsourced software development, open source, educational and training software, embedded software, information technology, nanotechnology, and healthcare applications.
  - A few key Portland area software companies include: Vernier Software, Webtrends, Extensis, Inspiration Software, and McKesson.

- **Display Technology**
  - This cluster includes firms engaged in the design and manufacture of video or computer monitors, projectors, display devices such as LCD or OLED, display controller IC's and firms that manufacture/supply the equipment necessary to produce monitors, projectors, display devices and display controller IC's
  - Major local firms in this cluster include: Barco Medical Imaging Systems, Clarity Visual Systems, 3M, Delta Electronics, Epson, Intel, Planar, PlusVision, and Sharp Microelectronics
  - Key stakeholders include: The Society for Information Display (SID), the Oregon Display System Industry Consortium (ODSIC), The Video Electronics Standards Association (VESA), OECDD, Portland Regional Partners for Business and The Portland Ambassadors
  - Support industries include the following types of firms: electronic assembly, precision machines, software and silicon related industries.

The NAICS industries chosen to define the High Tech industry for data analysis are as follows:

- Computer & Electronic Product Manufacturing (NAICS 334)
- Software Publishers (5112)
- Computer Systems Design and Related Services (5415)
- Internet Service Providers, Web Search Portals, & Data Processing Services (518)

Support and supplier industries play an integral role in helping the cluster function. A list of key support and supplier industries is listed in Appendix C with the estimated local contribution to the Portland High Tech industry.

2. Industry Trends

The City of Portland, along with Clackamas, Multnomah and Washington counties, continues to have a concentration of High Tech industries. Identified as a locally concentrated cluster in 2002 as part of a citywide economic development strategy, an estimated 48,596 jobs were attributed to High Tech in the Portland-Salem Metro area in 1997. Using the smaller geography of Clackamas, Multnomah and Washington counties, employment as of 2005 in High Tech is estimated to be 46,912 jobs. This is a significant decrease from 2001 when employment for the cluster was an estimated 56,451. See Table 1.

Overall, the High Tech cluster is more concentrated in the 3-county Portland region than the West Coast states of California, Oregon and Washington. In 2001 High Tech had a local concentration[20] of 1.40. In 2005 the local concentration in the Portland region has increased to 1.50. This means that, on a percentage basis, the employment loss that has occurred in the Portland region from 2001 is less than what has been lost during the same period on the West Coast. Within High Tech, the computer and electronic product manufacturing sector is the largest employer in the Portland region, with an estimated 32,635 jobs in 2005.

[20] The local concentration ("location quotient" or LQ) is the calculated ratio between the local economy and the economy of some reference unit, in this case the West Coast states. This ratio is calculated for all industries to determine whether or not the local economy has a greater share of that industry than expected. If an industry has a greater share than expected of a given industry, then that "extra" industry employment is assumed to have a greater concentration and importance to the local economy because those jobs are above what a local economy should have to serve local needs. If an industry has a concentration of more than 1, it is assumed to be locally concentrated. Anything below 1 is not locally concentrated.

Tables 1-5 shows the employment and changes that have occurred from 2001 to 2005 in High Tech in the Portland region (Clackamas, Multnomah and Washington counties) compared to the West Coast (California, Oregon and Washington), along with location quotients and shift-share analyses for the High Tech industry.

Table 1
High Tech Employment Change in the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 – 2005 Change	
NAICS Code	**Industry**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**
334	Computer & Electronic Product Manufacturing	38,500	503,291	32,635	383,563	-5,865	-119,728
5112	Software Publishers	7,075	96,174	5,058	89,283	-2,017	-6,891
5415	Computer Systems Design and Related Services	8,282	239,074	6,338	202,850	-1,944	-36,224
518	Internet Service Providers, Web Search Portals, & Data Processing Services	2,594	80,085	2,885	57,121	291	-22,964
	High-Tech Total	**56,451**	**918,624**	**46,917**	**732,816**	**-9,534**	**-185,808**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 2
High Tech Percent Change in Employment for the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 - 2005 Percent Change	
NAICS Code	**Industry**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**
334	Computer & Electronic Product Manufacturing	38,500	503,291	32,635	383,563	-15%	-24%
5112	Software Publishers	7,075	96,174	5,058	89,283	-29%	-7%
5415	Computer Systems Design and Related Services	8,282	239,074	6,338	202,850	-23%	-15%
518	Internet Service Providers, Web Search Portals, & Data Processing Services	2,594	80,085	2,885	57,121	11%	-29%
	High-Tech Total	**56,451**	**918,624**	**46,917**	**732,816**	**-17%**	**-20%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 3
High Tech Employment Change in the Portland Region & West Coast from 2004 to 2005

		2004 Employment		2005 Employment		2004 – 2005 Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
334	Computer & Electronic Product Manufacturing	31,844	385,966	32,635	383,563	791	-2,403
5112	Software Publishers	4,798	88,550	5,058	89,283	260	733
5415	Computer Systems Design and Related Services	6,015	195,083	6,338	202,850	323	7,767
518	Internet Service Providers, Web Search Portals, & Data Processing Services	2,801	54,515	2,885	57,121	84	2,606
	High-Tech Total	**45,458**	**724,114**	**46,917**	**732,816**	**1,459**	**8,702**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 4
Portland Region Shift-share and Local Concentration for the High Tech Industry

		Shift-share	Local Concentration	
NAICS Code	Industry	2001 - 2005	2001	2005
334	Computer & Electronic Product Manufacturing	0.09	1.75	1.99
5112	Software Publishers	-0.21	1.68	1.33
5415	Computer Systems Design and Related Services	-0.08	0.79	0.73
518	Internet Service Providers, Web Search Portals, & Data Processing Services	0.40	0.74	1.18
	High-Tech Total	**0.03**	**1.40**	**1.50**

Source: Calculations by PDC

Table 5
High Tech Sector size in the Portland Region and the West Coast in 2001 and 2005

		2001 Employment				2005 Employment			
NAICS Code	Industry	Portland Region	% of Total	West Coast	% of Total	Portland Region	% of Total	West Coast	% of Total
334	Computer & Electronic Product Manufacturing	38,500	68%	503,291	55%	32,635	70%	383,563	52%
5112	Software Publishers	7,075	13%	96,174	10%	5,058	11%	89,283	12%
5415	Computer Systems Design and Related Services	8,282	15%	239,074	26%	6,338	14%	202,850	28%
518	Internet Service Providers, Web Search Portals, & Data Processing Services	2,594	5%	80,085	9%	2,885	6%	57,121	8%
	High-Tech Total	**56,451**	100%	**918,624**	100%	**46,917**	100%	**732,816**	100%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

3. Wages

The average annual wage paid in the Portland region by the High Tech cluster in 2005 was $84,848. This is lower than the average wage paid in High Tech for the West Coast. The average wage paid in the Portland region in High Tech in 2005 is higher than the annual wage of $72,917 paid in 2001. At the same time, West Coast annual wages increased from $88,440 to $96,820 over the same period. Overall, the Portland region's average wages for High Tech are lower than the west coast average, but are increasing at a greater rate.

Within High Tech, Software Publishing currently pays the highest wages in the Portland region. In 2005, software publishing had an average wage of $90,236 in the Portland area compared to $113,914 for the West Coast.

Tables 6-7 compare 2001 and 2005 Portland area average wages to the West Coast along with percentage change for the High Tech industry.

Table 6
High Tech Average Wages & Change in the Portland Region & West Coast from 2001 to 2005

		Avg Wage 2001		Avg Wage 2005		Change 2001 - 2005			
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	Portland Region %	West Coast	West Coast %
334	Computer & Electronic Product Manufacturing	$74,724	$80,125	$88,364	$93,088	$13,640	18%	$12,963	16%
5112	Software Publishers	$70,707	$144,477	$90,236	$113,914	$19,529	28%	-$30,563	-21%
5415	Computer Systems Design and Related Services	$71,630	$86,807	$74,193	$91,821	$2,562	4%	$5,014	6%
518	Internet Service Providers, Web Search Portals, & Data Processing Services	$56,239	$78,279	$59,036	$112,918	$2,796	5%	$34,639	44%
	High-Tech Total	**$72,917**	**$88,440**	**$84,848**	**$96,820**	**$11,930**	**16%**	**$8,380**	**9%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 7
High Tech Wage Change in the Portland Region & West Coast from 2004 to 2005

		Avg Wage 2004		Avg Wage 2005		Change 2004 - 2005	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
334	Computer & Electronic Product Manufacturing	$82,513	$87,668	$88,364	$93,088	$5,851	$5,420
5112	Software Publishers	$97,215	$116,986	$90,236	$113,914	-$6,979	-$3,071
5415	Computer Systems Design and Related Services	$74,573	$87,580	$74,193	$91,821	-$380	$4,241
518	Internet Service Providers, Web Search Portals, & Data Processing Services	$68,095	$104,631	$59,036	$112,918	-$9,060	$8,287
	High-Tech Total	**$82,126**	**$92,506**	**$84,848**	**$96,820**	**$2,722**	**$4,314**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

4. Observations

Overall, High Tech in Portland has followed a nationwide employment trend. From 2001 to 2005 High Tech employment throughout the United States declined 18 percent. High Tech employment on the West Coast declined at a slightly faster rate, while Oregon and Portland High Tech employment declined at a rate closer to the national average.

Table 8 shows the employment and change for High Tech throughout the United States compared to the West Coast, Oregon and the Portland region.

Table 8
High Tech Employment & Change in the United States, West Coast, Oregon and Portland Region from 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	2001-2005 %
United States	3,785,096	3,076,803	3,105,970	-679,126	-18%
West Coast	918,624	724,114	732,816	-185,808	-20%
Oregon	73,532	60,041	60,676	-12,856	-17%
Portland Region	56,451	45,458	46,917	-9,534	-17%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

The decline in employment from 2001 to 2005 in the Portland area for High Tech occurred at a time when Oregon employment across all industries increased three percent. So, while High Tech had an overall smaller employment decline than the West Coast as a whole, the industry lost jobs at the same time that overall employment increased throughout the State. However, from 2004-2005 the High Tech industry has seen modest employment growth as the economy continues to show signs of recovery.

Table 9 compares High Tech to overall employment trends from 2001 to 2005 in the Portland region, Oregon and the West Coast.

Table 9
High Tech Employment in the Portland Region Compared to all other Industries on the West Coast, Oregon and in Portland 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	% 2001 - 2005
West Coast	16,220,942	16,451,478	16,474,755	253,813	2%
Oregon	1,343,430	1,383,822	1,387,651	44,221	3%
Portland Region	709,876	696,532	704,262	-5,614	-1%
High-Tech in Portland	56,451	45,458	46,917	-9,534	-17%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

The major cause of job loss in High Tech from 2001-2005 can be explained by major downturns in the national and global High Tech industry. Specifically, Semiconductors and related industries experience cyclical business patterns in relation to broader industry and economic trends. Consequently, they have been impacted by the recent slowing of economic growth and the downturn in manufacturing industries over the 2001-2005 period. Another factor explaining the recent downturn in the High Tech sector is acquisitions. Two local examples include Extensis and Webtrends, both of which could have continued to grow in the city of Portland. Notably, from 2004-2005 the High Tech industry and the general economy have shown signs of improvement. For example, LSI's recent agreement to sell its Gresham facility to On Semiconductor is indicative of a turnaround in the semiconductor market.

Even with layoffs and job losses in High Tech, wages experienced a moderate increase. From 2001 to 2005 Portland area High Tech employees saw a wage increase of almost 16 percent, outpacing the nine percent experienced along the West Coast.

Since the Portland region is beginning to see signs of an economic turn-around, it may be time to capitalize on its High Tech advantages. The availability of a lower cost, highly educated workforce gives Portland a significant advantage over many other metropolitan areas in the US.

The Economic Development Strategy for the City of Portland (2002) identified a number of key issues important to the High Tech industry. The following represents a summary of these key issues:

- Access to high-quality local talent and superior schools is a major concern of both the manufacturing and services components of High Tech in the PMSA.
- Firms in manufacturing are also concerned about the availability of land. The City of Portland lacks the contiguous acreage of industrial land needed to attract a large High Tech manufacturer.
- The City also lacks a sufficient resident labor force and lacks an agglomeration of High Tech manufacturing establishments within City limits.
- The City of Portland would gain by having more direct growth in High Tech knowledge-based jobs. Not only are the wages higher than in manufacturing, but knowledge workers are apt to prefer living in the City – especially those in the creative content fields.

5. Workforce

Occupational needs in the High Tech industry include Computer software engineers (applications and systems analysts), computer hardware engineers, computer systems analysts, network systems and data communications analysts, computer support specialists, administrators (database and network systems), computer and information systems managers.

6. Implementation

The primary goals of strategy implementation are High Tech job retention and expansion, wealth creation and business support. The Portland Development Commission plays a support role to High Tech target industries by promoting industry initiatives, supplying financial assistance and by participating in business outreach efforts. Throughout the next fiscal year, the PDC will work with its partners in helping to foster a positive business climate for the High Tech industry in Portland and throughout the State of Oregon.

The Portland region has a competitive advantage in High Tech, with a diverse, technology-oriented labor force, a competitive cost structure, strong software-oriented business networks, easy access to the Bay Area and International markets, and an attractive community to relocate managers, with affordable housing and safe neighborhoods. Noting Portland's competitive advantage, along with other factors that affect overall High Tech

business helps to asses what actions the PDC can undertake to support High Tech industries. Below is a listing of factors that the PDC recognizes it can help affect in promoting the High Tech industries, along with a list of factors that are more difficult to change.

High Tech business factors that the PDC can help affect:

- Business & economic climate
- Financing
- Local and state government policy
- Industry advocacy
- Industry Networking
- Industry support and coalescence
- Land use issues
- Permitting
- Recruitment
- Retention and expansion of existing High Tech businesses
- Workforce development
- Better coordination with institutions of higher learning

Types of High Tech business factors that are difficult to affect:

- Access to markets
- Availability of space
- Competition
- Escalating real estate costs
- Global and national economic conditions
- Physical barriers
- Transportation infrastructure
- Technology transfer
- Off shoring of manufacturing processes

Strategy goals were outlined for the City of Portland to implement for the High Tech strategy were developed in 2002. Many of the goals listed were of a supporting nature and the City's future role will continue to be in this manner. Previous strategy goals included:

- Improve the university system
- Increase the capital and technical resources for emerging businesses
- Strengthen the airport
- Increase City involvement and regional cooperation

To date, there has been considerable activity around many aspects of these goals. Regarding the first bullet, PDC was involved with PSU in the establishment of the Portland Business Accelerator, which provides a venue for startups to accelerate technology translation and improve connections between business and university resources. Regarding the second bullet, PDC has increased its funding to emerging businesses considerably in the past five years, with over $2.9 million given out directly in support of emerging High Tech companies. PDC also works with regional and state partners to bring all relevant resources to the table to support business retention, expansion and recruitment, including grants, loans, and tax credits, as well as a host of technical resources. Regarding the third bullet PDC in partnership with Siltronic and other industry leaders created a travel bank which helped to attract direct flights to Germany on Lufthansa airlines. Regarding the fourth bullet, the establishment of the Portland Regional Partners for Business ratified an informal relationship among the economic development practitioners in Portland and surrounding cities that make up the three county metropolitan region. Each of these identified strategies categories requires ongoing support.

7. Top Issues Facing Industry

The following are the top issues currently facing the High Tech industry in the Portland region:

- **Need for improved coordination with university systems:**
  - Work force development: Alignment of curriculum and workforce development programs with industry needs.
  - Tech Transfer: Increased coordination with institutions of higher learning on research and development activities.
- **Land availability:** Insufficient availability of large tracts of land for new development.
- **Regulatory issues:** Cumbersome permitting processes, fees and timelines.
- **National and global business and economic climate:** Reducing the need to off shore manufacturing in order to stay competitive.
- **High cost of doing business:** State and local tax structure, labor costs, costs of facilities.

8. Action Items for Fiscal Year 2006-07

- **BRE and Recruitment**: Continued business retention, expansion and recruitment programs.
  - Conduct at least 15 business retention visits to High Tech companies in Portland.
  - Exhibit at and/or attend conferences and trade shows to generate recruitment leads. Planned events include:
    - Oregon Entrepreneurs Forum events (ie, Venture Oregon);
    - Semiconductor Industry: SEMI Pacific Northwest Outlook Dinner, Strategic Business Conference, SEMICON West 2007;
    - Open Source cluster: Open Source Business Conference West; OSCON; GOSCON; Recent Changes Camp, Barcamp
    - Information Display cluster: Society of Information Display 2007 Conference.
    - Schedule and conduct a minimum of 3 appointments with companies and/or site selectors at each conference taking place outside Oregon.
  - Convene at least two industry meetings focused on cluster development. Provide general support for Target Industry meetings/events. Clusters to convene include open source, Internet/Web 2.0, educational software groups, and eCommerce Group.
  - Sponsor at least 6 industry events to support industry development, generate recruitment leads, and address specific industry challenges such as lack of venture funding and workforce development:
    - Semiconductor Industry cluster: SEMI Annual Dinner, SEMI High Tech U
    - Open Source cluster: OSCON, GOSCON, Recent Changes Camp
    - High Tech general: Innotech, OEF events, AEA Dinner, Oregon Technology Investor Tour (potential).
  - Assist in coordination of Barcamp, new conference for open source/Internet communities.
  - Create and retain High Tech jobs to meet overall department goal of 2,000 new and retained jobs.
  - Leverage private investment to contribute to overall department goal of leveraging $100 million in private investment.
  - Update marketing materials for High Tech in Portland, including Target Industry Brochures for Software and general High Tech sectors.
  - Develop customized postcards for the High Tech industry, and execute direct mail campaign, sending out at least 50 postcards to companies and site selectors located outside of the Portland region.
  - Develop Move DVD in partnership with Software Association of Oregon which provides one-stop resource for software companies and professionals interested in relocating to Oregon/Portland.

- **Regional Focus**: Work with the Portland Regional Partners for Business and the private sector:
  - Co-host networking opportunities for private sector executive leadership to meet with regionally elected public officials. Specific events include Business Leaders 2006 Ambassador event.
- **Industry Engagement**:
  - Convene advisory committees for various segments of the High Tech industry, including semiconductors, information display, open source software, Internet/Web 2.0, and educational software. Continue work with High Tech Advisory Committee to develop and guide overall High Tech industry initiatives.
  - Work with and support existing industry associations within the High Tech Target Industry. Industry associations include: SEMI NW, Oregon Display System Industry Consortium (OSDIC), the Software Association of Oregon (SAO), and the educational software cluster.
- **Special Projects:**
  - **Unwire Portland**: Work with the City of Portland to facilitate deployment of the citywide wireless network on an accelerated timeline, over the next 1-2 years, in partnership with MetroFi, the company selected through the City's RFP process. The citywide network will provide T-1 replacement service for fixed locations and citywide access for mobile workers. Participate on Unwire Portland Steering Committee. Encourage businesses to take advantage of new infrastructure. Incorporate network into marketing and recruitment messaging.
  - **Fiber to the Premises Network Planning**: Partner with City to develop business plan and feasibility analysis for fiber to the premises telecommunications infrastructure for Portland businesses and residents.
  - **Coworking Facility Proposal**: Develop proposal for coworking facility to provide short term and dedicated office space and event space for startups and independent technology workers.
- **Coordination with University System**: Work with institutes of higher learning to:
  - Improve coordination and encourage technology transfer initiatives that will foster additional research in support of startups and existing industry.
  - Strengthen the relationship between the private sector and higher learning institutions.
- **Financing:** Facilitate connections between companies and financing organizations and explore methods to fill gaps in available financing for startups.
- **Workforce Development**: Work with workforce organizations to focus programs and assistance on connecting companies to appropriately qualified workforce. Specific programs supported include:
  - Develop program to train IT professionals about open source software solutions for the enterprise (on hold).
  - Sponsor High Tech U.

Appendix A
Top 50 (by revenue) High Tech Companies in Portland

Business Name	Industry
Tektronix	Instruments To Measure Electricity
Mentor Graphics Corporation	Computer Integrated Systems Design
Infocus Systems	Computer Peripheral Equipment, Nec
FSI	Search and Navigation Equipment
Fei Company	Analytical Instruments
Triquint Semiconductor Inc	Semiconductors and Related Devices
Radisys Corporation	Computer Peripheral Equipment, Nec
Esi	Electrical Equipment and Supplies, Nec
Planar Systems Inc	Electronic Components, Nec
Lattice Semiconductor Corp	Semiconductors and Related Devices
Merix Corporation	Printed Circuit Boards
Pixelworks Inc	Semiconductors and Related Devices
Lacie Ltd	Computer Peripheral Equipment, Nec
Wacker Semicdtr Holdg Corp	Semiconductors and Related Devices
Digimarc Corporation	Computer Integrated Systems Design
Sentrol Industrial	Electrical Equipment and Supplies, Nec
Merant Inc	Prepackaged Software
Cascade Microtech Inc	Instruments To Measure Electricity
Shinei USA Inc	Electronic Computers
Corillian Corporation	Prepackaged Software
Timberline Software Corp	Prepackaged Software
Leupold & Stevens Inc	Optical Instruments and Lenses
Sumitomo Elc Semicdtr Mtls	Semiconductors and Related Devices
Jae Oregon Inc	Electronic Connectors
Epson Portland Inc	Computer Peripheral Equipment, Nec
Tut Systems Inc	Radio and T.v. Communications Equipment
Micropower Electronics Inc	Electrical Equipment and Supplies, Nec
Oeco LLC	Electronic Components, Nec
Clarity Visual Systems Inc	Radio and T.v. Communications Equipment
Vernier Software & Tech LLC	Custom Computer Programming Services
Welch Allyn Monitoring	Surgical and Medical Instruments
Christenson Velagio Inc	Computer Integrated Systems Design
Nextlink Interactive	Information Retrieval Services
Unicru Inc	Prepackaged Software
Prosight Inc	Custom Computer Programming Services
Micro Systems Engineering	Semiconductors and Related Devices
Inspiration Software Inc	Custom Computer Programming Services
Viewpoint Construction Sftwr	Custom Computer Programming Services
Viablelinks Inc	Information Retrieval Services
Toyo Tanso USA Inc	Carbon and Graphite Products
Pacific Crest Technology Inc	Custom Computer Programming Services
Network Computing Devices Inc	Computer Terminals
Maxtek	Semiconductors and Related Devices
Ctl	Computer Peripheral Equipment, Nec
Shel Lab	Laboratory Apparatus and Furniture
Db Professionals Inc	Computer Related Services, Nec
Thortex	Surgical and Medical Instruments
Prodx	Computer Related Services, Nec
E C D	Process Control Instruments
Westak of Oregon Inc	Printed Circuit Boards

Source: Dun & Bradstreet Marketing Solutions, May 2006.

Appendix B
Top 50 (by employment) High Tech Companies in Portland

Business Name	Industry
Intel	Semiconductors and Related Devices
Tektronix	Instruments To Measure Electricity
Mentor Graphics Corporation	Computer Integrated Systems Design
Triquint Semiconductor Inc	Semiconductors and Related Devices
Fei Company	Analytical Instruments
Merix Corporation	Printed Circuit Boards
Wacker Semicdtr Holdg Corp	Semiconductors and Related Devices
Sentrol Industrial	Electrical Equipment and Supplies, Nec
FSI	Search and Navigation Equipment
Lattice Semiconductor Corp	Semiconductors and Related Devices
Infocus Systems	Computer Peripheral Equipment, Nec
Radisys Corporation	Computer Peripheral Equipment, Nec
Merant Inc	Prepackaged Software
Esi	Electrical Equipment and Supplies, Nec
Leupold & Stevens Inc	Optical Instruments and Lenses
Timberline Software Corp	Prepackaged Software
Shinei USA Inc	Electronic Computers
Pixelworks Inc	Semiconductors and Related Devices
Epson Portland Inc	Computer Peripheral Equipment, Nec
Digimarc Corporation	Computer Integrated Systems Design
Planar Systems Inc	Electronic Components, Nec
Oeco LLC	Electronic Components, Nec
Welch Allyn Monitoring	Surgical and Medical Instruments
Micro Systems Engineering	Semiconductors and Related Devices
Christenson Velagio Inc	Computer Integrated Systems Design
Cascade Microtech Inc	Instruments To Measure Electricity
Unicru Inc	Prepackaged Software
Micropower Electronics Inc	Electrical Equipment and Supplies, Nec
Corillian Corporation	Prepackaged Software
Westak of Oregon Inc	Printed Circuit Boards
Everest Consultants Inc	Data Processing and Preparation
MTI Inc	Electronic Components, Nec
Tut Systems Inc	Radio and T.v. Communications Equipment
Shel Lab	Laboratory Apparatus and Furniture
Maxtek	Semiconductors and Related Devices
Sure Power Industries	Engine Electrical Equipment
Viewpoint Construction Sftwr	Custom Computer Programming Services
Thortex	Surgical and Medical Instruments
Lacie Ltd	Computer Peripheral Equipment, Nec
Moore Electronics Inc	Electronic Components, Nec
Gogosh Incricha	Data Processing and Preparation
Meridian Technology Group Inc	Computer Related Services, Nec
Celartem Inc	Custom Computer Programming Services
Prodx	Computer Related Services, Nec
Tripwire Inc	Custom Computer Programming Services
Ctl	Computer Peripheral Equipment, Nec
A Colson Associate	Surgical Appliances and Supplies
Nextlink Interactive	Information Retrieval Services
Phoenix Gold International	Household Audio and Video Equipment
Network Computing Devices Inc	Computer Terminals

Source: Dun & Bradstreet Marketing Solutions, May 2006

Appendix C
Major Support & Supplier Industries for High Tech in Portland[21]

Major Support & Supplier Industries for the High Tech Industry in Portland	
Supplier or Support Industry	**Estimated Local Input**
Wholesale trade	100%
All other electronic components	66%
Employment services	76%
Real estate	70%
Advertising and related services	76%
Lessors of nonfinancial intangible assets	76%
Management of companies and enterprises	76%
Telecommunications	53%
Noncomparable imports	0%
Office administrative services	26%
Monetary authorities and depository credit intermediaries	60%
Data processing services	24%
Architectural and engineering services	78%
Legal services	78%
Other support services	76%
Services to buildings	76%
Air transportation	27%
Power generation and supply	75%
Food services and drinking places	88%
Management consulting services	75%
Nondepository credit intermediaries	60%
Securities, commodity contracts & investments	60%
Other basic inorganic chemicals	33%
Colleges, universities, and junior colleges	76%
Hotels and motels	73%
All other miscellaneous professional services	76%
Postal service	64%
Automotive equipment rental	84%
Commercial printing	23%
Commercial machinery repair	76%
Scientific research and development	76%
Software reproducing	0%
Couriers and messengers	70%
Semiconductor machinery	76%
Business support services	76%
Accounting and bookkeeping	78%
Machine shops	30%
Investigation and security services	76%
Maintenance and repair of nonresidential buildings	88%
Machinery and equipment rental	76%
Information services	17%
Plastics plumbing fixtures and all other plastics	89%

[21] The list is sorted in order of largest monetary input.

Warehousing and storage	100%
Sheet metal work manufacturing	1%
Primary nonferrous metal	50%
Other communication and wire manufacturing	1%
Industrial gas manufacturing	0%
Electronic equipment repair	89%
Waste management and remedial services	76%
Insurance carriers	57%

Source: Implan Pro 2.0 Input-Output Model for Clackamas, Washington, and Multnomah Counties.

Appendix D
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Metals and Transportation Equipment
Target Industry Plan 2006-2007

1. Industry Definition/Summary

Metals and Transportation Equipment as an industry cluster is composed of businesses which produce, shape or make metal into parts or machinery. Also included in this industry are companies which manufacture equipment for transportation purposes. The establishments operating in Portland that are part of this industry include steel mills, foundries, aluminum metal extruders, architectural metal parts manufacturers, industrial machinery manufacturers, pump manufactures, and construction and mining machinery manufacturers. NAICS industries included in this cluster are: Primary Metal Manufacturers (NAICS 331), such as ESCO; Fabricated Metal Products Manufacturers (NAICS 332) which shape that raw material into equipment or parts of machinery, such as Portland Bolt; Machinery Manufacturers (NAICS 333), such as Sulzer Pumps; and, the Transportation Equipment Manufacturers (NAICS 336) who manufacture a final product (Gunderson, Freightliner), primarily composed of metal machined parts.

Clackamas, Multnomah and Washington counties are home to approximately 30,725 Metals and Transportation Equipment jobs, averaging 44 jobs per company. This means that the majority of the Metals and Transportation Equipment companies in the Portland region are small businesses. The average revenue for companies in the Metals and Transportation Equipment industry in the Portland region is $12 million a year.

The Metals and Transportation Equipment industry is defined for the purposes of this plan by companies classified by four NIACS industry classifications:

- **Primary Metal Manufacturing (NAICS 331)**
- **Fabricated Metal Product Manufacturing (332)**
- **Machinery Manufacturing (333)**
- **Transportation Equipment Manufacturing (336)**

2. Industry Trends

The City of Portland, along with Clackamas, Multnomah and Washington counties, continues to have a concentration of Metals and Transportation Equipment industries. First identified as a locally concentrated cluster in 2002 as part of a citywide economic development strategy, an estimated 34,115 jobs were attributed to Metals and Transportation Equipment industry in the Portland Metro Statistical Area (PMSA) in 1997. Using the smaller geography of Clackamas, Multnomah and Washington counties, employment as of 2005 in Metals and Transportation Equipment is estimated to be 30,725 jobs. This is an eight percent decrease from 2001 when employment for the cluster was an estimated 33,344 jobs, but an increase of 2% or 685 jobs over 2004. While the eight percent reduction of jobs was significant, however, the West Coast as a whole lost an even higher percentage (15 percent) of its jobs in the industry. See Tables 1 & 2.

Overall, the Metals and Transportation Equipment cluster is more concentrated in the 3-county Portland region than the West Coast states of California, Oregon and Washington. In 2001 Metals and Transportation Equipment had a local concentration[22] of 1.2. In 2005, the local concentration in the Portland region increased to 1.34. These numbers show that the industry is more concentrated in the 3-County Portland region than the West Coast as a whole. Furthermore, on a percentage basis, the employment loss that has occurred in the

[22] The local concentration ("location quotient" or LQ) is the calculated ratio between the local economy and the economy of some reference unit, in this case the West Coast states. This ratio is calculated for all industries to determine whether or not the local economy has a greater share of that industry than expected. If an industry has a greater share than expected of a given industry, then that "extra" industry employment is assumed to have a greater concentration and importance to the local economy because those jobs are above what a local economy should have to serve local needs. If an industry has a concentration of more than 1, it is assumed to be locally concentrated. Anything below 1 is not locally concentrated.

Portland region between 2001 and 2005 is less than what was lost during the same period on the West Coast. See Table 4 .

Within the Metals and Transportation Equipment industry cluster, each sub sector has its own trends and characteristics. Some of these major trends are outlined below, starting with the sub sector with the highest regional employment descending to the sub sector which employs fewest people.

The **Fabricated Metal Manufacturing** sub sector is the largest employer in this industry in the Portland region, with an estimated 10,816 jobs in 2005. From 2001 to 2005 local Fabricated Metal Manufacturing businesses lost roughly four percent of their jobs, compared to a 12 percent job loss for the entire West Coast. See Table 2.

After Fabricated Metal Manufacturing, **Transportation Equipment Manufacturing** companies are the next largest employer in the Portland region. While this industry is the second largest sub sector in the cluster locally, it is interesting to note that this industry is by far the largest employer on the West Coast, comprising 41 percent of all jobs in the cluster, while accounting for only 26 percent of the cluster's jobs locally. In 2005, there were an estimated 7,968 jobs in Transportation Equipment Manufacturing in the Portland region. This is an increase from 2001 when there were an estimated 7,738 jobs in this sub sector and an increase of 10 percent over 2004 when jobs in this sector dipped to 7,234. The increase in employment in Transportation Equipment Manufacturing in the Portland region was significant, particularly in comparison to the West Coast. See Tables 2, 3 & 5.

Following closely behind jobs in Transportation Equipment Manufacturing are jobs in the **Machinery Manufacturing** sub sector. The Portland region held 6,589 Machinery Manufacturing jobs in 2005, down six percent from 2004 and 20 percent from 2001. The overall six percent loss of jobs in Portland since 2001 was significantly higher than the rest of the West Coast, which only decreased by four tenths of one percent (see Tables 3 & 4). Within the Metals cluster, this category, along with Fabricated Metal Manufacturing, lost the most regional jobs in the 2001-2005 time frame.

The sub sector with the smallest number of jobs in the Portland region is **Primary Metal Manufacturing**. As of 2005, this industry had 5,353 jobs locally, down 12 percent from 2001 employment levels but up five percent from 2004. The entire West Coast, although down 20 percent from 2001, also showed a slight increase in jobs of four tenths of a percent between 2004 and 2005. Overall, this subcategory lost the most jobs of all the Metals sectors locally as well as on the west coast. See Tables 2 & 3 (percent change between 2004-2005 calculated from Table 3).

Table 1 shows absolute employment change from 2001 to 2005 for Metals and Transportation Equipment in the 3-county Portland region (Clackamas, Multnomah and Washington counties) and the three West Coast states (California, Oregon and Washington).

Table 1
Metals and Transportation Equipment Industry Employment Change in the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 – 2005 Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
331	Primary Metal Manufacturing	6,098	47,460	5,353	38,202	-745	-9,258
332	Fabricated Metal Manufacturing	11,229	197,092	10,816	172,681	-413	-24,411
333	Machinery Manufacturing	8,279	130,684	6,589	104,865	-1,690	-25,819
336	Transportation Equipment Manufacturing	7,738	257,952	7,968	222,013	230	-35,939
	Metals and Transportation Equipment Industry Total	**33,344**	**633,188**	**30,725**	**537,760**	**-2,619**	**-95,428**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 2 shows the employment and changes that have occurred from 2001 to 2005 in Metals and Transportation Equipment in the Portland region (Clackamas, Multnomah and Washington counties) compared to the West Coast (California, Oregon and Washington).

Table 2
Metals and Transportation Equipment Industry Percent Change in Employment for the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 - 2005 Percent Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
331	Primary Metal Manufacturing	6,098	47,460	5,353	38,202	-12%	-20%
332	Fabricated Metal Manufacturing	11,229	197,092	10,816	172,681	-4%	-12%
333	Machinery Manufacturing	8,279	130,684	6,589	104,865	-20%	-20%
336	Transportation Equipment Manufacturing	7,738	257,952	7,968	222,013	3%	-14%
	Metals and Transportation Equipment Industry Total	**33,344**	**633,188**	**30,725**	**537,760**	**-8%**	**-15%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 3 shows the change in employment from 2004 to 2005 for Metals and Transportation Equipment in the Portland region and the West Coast.

Table 3
Metals and Transportation Equipment Industry Employment Change in the Portland Region & West Coast from 2004 to 2005

		2004 Employment		2005 Employment		2004 – 2005 Change	
NAICS Code	**Industry**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**
331	Primary Metal Manufacturing	5,112	38,035	5,353	38,202	241	167
332	Fabricated Metal Manufacturing	10,666	173,854	10,816	172,681	150	-1,173
333	Machinery Manufacturing	7,028	105,266	6,589	104,865	-439	-401
336	Transportation Equipment Manufacturing	7,234	220,493	7,968	222,013	734	1,520
	Metals and Transportation Equipment Industry Total	**30,040**	**537,648**	**30,725**	**537,760**	**685**	**112**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 4 shows the local concentration and shift-share for Metal and Transportation Equipment in the Portland region between 2001 and 2005.

Table 4
Portland Region Shift-share and Local Concentration for the Metals and Transportation Equipment Industry

		Shift-share	Local Concentration	
NAICS Code	**Industry**	**2001 - 2005**	**2001**	**2005**
331	Primary Metal Manufacturing	0.07	2.94	3.28
332	Fabricated Metal Manufacturing	0.09	1.30	1.47
333	Machinery Manufacturing	-0.01	1.45	1.47
336	Transportation Equipment Manufacturing	0.17	0.69	0.84
	Metals and Transportation Equipment Industry Total	**0.07**	**1.20**	**1.34**

Source: Calculations by PDC

Table 5 shows the employment and percent employment by sector for the Metals and Transportation Equipment industry in the Portland region and on the West Coast.

Table 5
Metals and Transportation Equipment Industry Sector size in the Portland Region and the West Coast in 2001 and 2005

		2001 Employment				2005 Employment			
NAICS Code	**Industry**	**Portland Region**	**% of Total**	**West Coast**	**% of Total**	**Portland Region**	**% of Total**	**West Coast**	**% of Total**
331	Primary Metal Manufacturing	6,098	18%	47,460	7%	5,353	17%	38,202	7%
332	Fabricated Metal Manufacturing	11,229	34%	197,092	31%	10,816	35%	172,681	32%
333	Machinery Manufacturing	8,279	25%	130,684	21%	6,589	21%	104,865	20%
336	Transportation Equipment Manufacturing	7,738	23%	257,952	41%	7,968	26%	222,013	41%
	Metals and Transportation Equipment Industry Total	**33,344**	100%	**633,188**	100%	**30,725**	100%	**537,760**	100%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

3. Wages

The average annual wage paid in the Portland region by the Metals and Transportation Equipment cluster in 2005 was $50,817. This is slightly higher than the West Coast average wage of $50,629. From 2004-2005, Portland region average wages have increased by eight percent, or $3,833 while West Coast wages have increased by three percent or $1,483. When comparing the cluster's sub sectors in Portland to the rest of the West Coast, it becomes apparent that some pay considerably more than the West Coast sub sector average (Primary Metal Manufacturing), while others pay a great deal less (Transportation Equipment Manufacturing), and others are very similar to the rest of the West Coast (Fabricated Metal and Machinery Manufacturing). See Tables 6 & 7,

Within Metals and Transportation Equipment, **Primary Metal Manufacturing** pays the highest wages in the Portland region. In 2005, Primary Metal Manufacturing paid an average wage of $57,924 in the Portland region, about nineteen percent above the West Coast average of $48,639. Unlike Metals and Transportation Equipment as a cluster, Primary Metal Manufacturing in the Portland region had a large increase in annual pay, growing 19 percent ($9,100) from 2001. The West Coast also experienced an impressive pay surge of $5,231 from 2001-2005. See Tables 6 & 7,

Machinery Manufacturing jobs presently pay slightly less than primary metal manufacturing jobs in the Portland region. In 2005, Machinery Manufacturing jobs paid an average wage of $57,002, almost two percent less than Primary Metal Manufacturing. This is a significant reversal from 2001, when at $52,107, these positions paid nearly seven percent more than the average Primary Metal Manufacturing wage of $48,824. See Tables 6 & 7,

Local **Transportation Equipment Manufacturers** paid an average wage of $47,890 in 2005. This represents a rebound from an eight percent decline between 2001 when wages averaged $47,329 to 2004 when they dipped to $43,642. The gap between West Coast wages and Portland region wages also closed from a high in 2004 of $18,104, when West Coast wages averaged $61,746, to $5,626 in 2005. West Coast wages had been growing at an annual rate of 11 percent per year. In 2005, wages in this sub sector declined by 13 percent or $8,230 from 2004. See Tables 6 & 7,

The lowest paid employees among Metals and Transportation Equipment manufacturers are employed in **Fabricated Metal Manufacturing**. In the Portland region, on average, they made $40,450 in 2005, up eight percent from 2001. This is slightly below the West Coast average wage of $40,983, which also rose eight percent from 2001. See Tables 6 & 7,

Tables 6 & 7 compare 2001 and 2005 Portland area average wages to the West Coast along with the change for the Metals and Transportation Equipment industry.

Table 6
Metals and Transportation Equipment Industry Average Wages & Change in the Portland Region & West Coast from 2001 to 2005

		Avg Wage 2001		Avg Wage 2005		Change 2001 - 2005			
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	Portland Region %	West Coast	West Coast %
331	Primary Metal Manufacturing	$48,824	$43,409	$57,924	$48,639	$9,100	19%	$5,231	12%
332	Fabricated Metal Manufacturing	$37,401	$37,774	$40,450	$40,983	$3,050	8%	$3,209	8%
333	Machinery Manufacturing	$52,107	$56,778	$57,002	$59,377	$4,895	9%	$2,600	5%
336	Transportation Equipment Manufacturing	$47,329	$55,795	$47,890	$53,516	$561	1%	-$2,279	-4%
	Metals and Transportation Equipment Industry Total	**$46,415**	**$48,439**	**$50,817**	**$50,629**	**$4,401**	**9%**	**$2,190**	**5%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 7
Metals and Transportation Equipment Industry Wage Change in the Portland Region & West Coast from 2004 to 2005

		Avg Wage 2004		Avg Wage 2005		Change 2004 - 2005	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
331	Primary Metal Manufacturing	$50,295	$39,018	$57,924	$48,639	$7,629	$9,621
332	Fabricated Metal Manufacturing	$37,982	$39,047	$40,450	$40,983	$2,468	$1,936
333	Machinery Manufacturing	$55,816	$56,773	$57,002	$59,377	$1,187	$2,604
336	Transportation Equipment Manufacturing	$43,642	$61,746	$47,890	$53,516	$4,248	-$8,230
	Metals and Transportation Equipment Industry Total	**$46,934**	**$49,146**	**$50,817**	**$50,629**	**$3,883**	**$1,483**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

4. Observations

The decline in employment from 2001 to 2005 in the Portland area for Metals and Transportation Equipment was a smaller percent than occurred throughout the West Coast. At the same time, Oregon employment across all industries increased by three percent. Thus, while Metals and Transportation Equipment industry in the Portland region had an overall smaller employment decline than the West Coast as a whole, the industry lost jobs while overall employment increased throughout the State. The same is also true when Metals and Transportation Equipment is compared to all West Coast industries where employment had a slight increase. Finally, when Metals and Transportation Equipment is compared to all industries in the Portland region, it experienced a significantly larger decrease in employment. See Tables 8 & 9.

Tables 8 & 9 compare Metals and Transportation Equipment to overall employment trends from 2001, 2004 and 2005 in the Portland region, Oregon, the West Coast, and the United States.

Table 8
Metals and Transportation Equipment Industry Employment & Change in the United States, West Coast, Oregon and Portland Region from 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	2001-2005 %
United States	5,523,122	4,948,848	4,899,763	-623,359	-11%
West Coast	891,140	758,141	759,773	-131,367	-15%
Oregon	56,093	52,691	53,961	-2,132	-4%
Portland Region	33,344	37,274	30,725	-2,619	-8%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 9
Metals and Transportation Equipment Industry Employment in the Portland Region Compared to all other Industries on the West Coast, Oregon and in Portland 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	% 2001 - 2005
West Coast	32,441,884	32,902,956	32,949,511	507,627	2%
Oregon	2,686,860	2,767,644	2,775,302	88,442	3%
Portland Region	1,419,752	1,393,064	1,408,524	-11,228	-1%
Metals and Transportation Equipment Industry in Portland	33,344	30,040	30,725	-2,619	-8%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

5. Workforce

Top 5 Workforce Issues for Metals Manufactures in Portland Area:

1. **Lack of basic skills:** The high schools are not doing an adequate job of teaching basic skills (e.g. math, reading and writing) and "soft skills" (e.g. work ethics, problem solving and communication skills) which puts a tremendous burden on companies for in-house training costs.

2. **Workforce shortage:** The state projects a shortage of 14,000 workers by 2012 in the metals industry; 75 percent of that shortage stems from retiring baby boomers. Even with this projected shortfall, community college and high school shop programs are being dismantled.

3. **Negative industry image:** There is a general perception that manufacturing is "dirty" and "old-world". High school teachers and counselors continue to promote this negative image and stress going to college over going into a trade or a manufacturing job.

4. **Training is needed at all levels:** The demand for training extends beyond basic entry skills, welding and fitting. Workers need to be trained for upper level and management positions, including: CNC Programmers, CNC Laser Operator, press brake operators and engineers. Additionally, there is a need for plant management

positions - sales, estimating, purchasing/material management, accounting and human resources. All of these positions will need to be filled along with plant workers, many do not require a college degree. Students need to understand the wide variety of positions available in the industry.

5. **Presence of a disconnect between training providers and companies:** The communication between community colleges, other training providers, and the industry needs to be improved. Companies frequently complain that community college graduates are not trained on the right machinery or in the correct manner to be employable.

6. Implementation

The primary goals of the Metals and Transportation Industry strategy implementation are job retention and expansion, wealth creation and business support. The Portland Development Commission plays a supporting role to the Metals and Transportation Equipment industry by promoting industry initiatives, supplying financial assistance and by participating in business outreach efforts. Throughout the next fiscal year, the PDC will work with its partners in helping to foster a positive business climate for the Metals and Transportation Equipment industry in Portland and throughout the State of Oregon.

Below is a listing of factors that the PDC recognizes it can impact in promoting the Metals and Transportation Equipment industry, along with a list of factors that are more difficult to change.

Metals and Transportation Equipment manufacturing business factors that the PDC can impact:

- Business & economic climate
- Metals and Transportation Equipment business development
- Financing
- Local and state government policy
- Industry advocacy
- Industry networking
- Industry support and coalescence
- Land use issues
- Permitting
- Recruitment
- Retention and expansion of existing metals businesses
- Transportation initiatives
- Workforce development

Metals and Transportation Equipment manufacturing business factors that are difficult to impact:

- Access to markets
- Availability of space/land
- Competition
- Escalating real estate costs
- Global and national economic conditions
- Physical barriers
- Roadway and other transportation infrastructure
- Technology transfer

7. Top Issues Facing Industry

The following are the top issues currently facing the Metals and Transportation Equipment industry in the Portland region:

- Insufficient workforce development and availability
- Insufficient research and development
- Lack of cohesion between metals and manufacturing organizations
- Lack of available industrial land

8. Action Items for Fiscal Year 2006-07

In order to achieve the goals and further support the Metals and Transportation Equipment industry, the PDC will perform the following actions to help support the industry.

- Conduct 60 BRE visits to Metals and Transportation Equipment Industry businesses.

- Participate in one recruitment trip to Fabtech International & AWS Welding Show 2006 in Atlanta, GA from October 21 – November 2, 2006. A total of eight appointments with companies will be made at this trade show.

- Convene three industry meetings focused on the following topics: NW Center for Manufacturing and Infrastructure Engineering (CMIE), workforce development, and research and development.

- Sponsor two industry events including the Manufacturing Summit and the NW Youth Careers Expo.

- Complete the following special projects for the industry:
    - Finalize PDC response for Request for Sites proposal for CMIE
    - Identify, prepare and submit three to five suitable site locations for construction of CMIE.
    - Conduct NW Youth Careers Expo

- Create and retain Metals and Transportation Industry jobs to meet overall department goal of 2,000 new and retained jobs.

- Leverage private investment to contribute overall department goal of leveraging $100 million in private investment.

- Develop customized target industry postcards and execute direct mail campaign sending out 70 postcards to companies and site selectors located outside of the Portland region.

Appendix A
Top 50 (by revenue) Metals and Transportation Equipment Companies in Multnomah, Clackamas, and Washington Counties

Business Name	Industry
Precision Castparts Corp	Steel Investment Foundries
Freightliner LLC	Motor Vehicles and Car Bodies
Hyster-Yale Materials Handling	Industrial Trucks and Tractors
Oregon Steel Mills Inc	Blast Furnaces and Steel Mills
Greenbrier Companies Inc	Railroad Equipment
Blount International Inc	Lawn and Garden Equipment
Cascade Corporation	Industrial Trucks and Tractors
Esco Corporation	Mining Machinery
Northwest Pipe Company	Steel Pipe and Tubes
Precision Cast Products	Aircraft Parts and Equipment, Nec
Sulzer Pumps (us) Inc	Fluid Power Pumps and Motors
Sapa Inc	Aluminum Extruded Products
Gunderson Rail	Railroad Equipment
Beall Corporation	Truck Trailers
Consolidated Metco Inc	Aluminum Foundries
St Johns Corporation	Truck Trailers
Oregon Iron Works Inc	Fabricated Structural Metal
Warn Industries Inc	Motor Vehicle Parts and Accessories
Williams Controls Inc	Motor Vehicle Parts and Accessories
Oregon Steel Works	Rolling Mill Machinery
Synetics Solutions Inc	Special Industry Machinery, Nec
Tube Specialties Co Inc	Fabricated Pipe and Fittings
Pella Vnyl-Portland Operations	Metal Doors, Sash, and Trim
Allied Systems Company	Construction Machinery
Kershaw Knives	Cutlery
Cascade General	Shipbuilding and Repairing
Huntair Inc	Refrigeration and Heating Equipment
Columbia Advertising	Steel Foundries, Nec
Atlas Copco Wagner Inc	Mining Machinery
Key Knife Inc	Hand and Edge Tools, Nec
Western Group/Portland The	Miscellaneous Fabricated Wire Products
Empire Pacific Windows Corp	Metal Doors, Sash, and Trim
Helser Industries	Fabricated Plate Work (boiler Shop)
Komfort Corp	Travel Trailers and Campers
Cascade General Shipyard	Shipbuilding and Repairing
Boydstun Metal Works Inc	Truck Trailers
Ped Manufacturing Ltd	Steel Investment Foundries
Eagle Foundry Co	Steel Foundries, Nec
Cleanpak International Inc	Blowers and Fans
Armstrong Manufacturing Co	Machine Tools, Metal Cutting Type
S S I Compaction	Service Industry Machinery, Nec
Isspro Inc	Motor Vehicle Parts and Accessories
Hanna Car Wash Systems Interna	Service Industry Machinery, Nec
Flextronics Photonics Tpt Inc	Nonferrous Wiredrawing and Insulating
Hansen International	Aluminum Rolling and Drawing, Nec
Tube Forgings of America Inc	Fabricated Pipe and Fittings
McLagan Co	Saw Blades and Handsaws
Portland Bolt & Mfg Co	Bolts, Nuts, Rivets, and Washers
Sundial Marine Cnstr & Repr	Shipbuilding and Repairing

Source: Dun & Bradstreet Marketing Solutions, July 2005.

Appendix B
Top 50 (by employment) Metals and Transportation Equipment Companies in Multnomah, Clackamas, and Washington Counties

Business Name	Industry
Blount International Inc	Lawn and Garden Equipment
Precision Cast Products	Aircraft Parts and Equipment, Nec
PCC Structurals Inc	Copper Foundries
Freightliner LLC	Motor Vehicles and Car Bodies
Gunderson Rail	Railroad Equipment
Freightliner LLC	Motor Vehicles and Car Bodies
Blount Inc	Power-driven Handtools
Esco Corporation	Mining Machinery
St Johns Corporation	Truck Trailers
Oregon Steel Mills Inc	Blast Furnaces and Steel Mills
Sapa Inc	Aluminum Extruded Products
Oregon Steel Works	Rolling Mill Machinery
Warn Industries Inc	Motor Vehicle Parts and Accessories
Cascade Corporation	Industrial Trucks and Tractors
Stanley Works Inc	Power-driven Handtools
Fiskars Brands Inc	Cutlery
Sulzer Pumps (us) Inc	Fluid Power Pumps and Motors
Allied Systems Company	Construction Machinery
Johnson Controls	Motor Vehicle Parts and Accessories
Cascade General Shipyard	Shipbuilding and Repairing
Pella Vnyl-Portland Operations	Metal Doors, Sash, and Trim
Continental Brass	Plating and Polishing
Northwest Pipe Company	Steel Pipe and Tubes
Coors Tech Ctr Owners Assn Inc	Farm Machinery and Equipment
Northwest Pipe Company	Steel Pipe and Tubes
Warn Industries Inc	Motor Vehicle Parts and Accessories
Inter-American Foods Inc	Food Products Machinery
Synetics Solutions Inc	Special Industry Machinery, Nec
East Side Plating Inc	Plating and Polishing
Williams Controls Inc	Motor Vehicle Parts and Accessories
Komfort Corp	Travel Trailers and Campers
Oregon Iron Works Inc	Fabricated Structural Metal
Tube Specialties Co Inc	Fabricated Pipe and Fittings
Boydstun Metal Works Inc	Truck Trailers
Novellus Systems Inc	Special Industry Machinery, Nec
Huntair Inc	Refrigeration and Heating Equipment
Cleanpak International Inc	Blowers and Fans
Precision Wire Components	Miscellaneous Fabricated Wire Products
Eagle Foundry Co	Steel Foundries, Nec
Carlton Company	Saw Blades and Handsaws
Helser Industries	Fabricated Plate Work (boiler Shop)
Sundial Marine Cnstr & Repr	Shipbuilding and Repairing
Hyster-Yale Materials Handling	Industrial Trucks and Tractors
Crown Cork & Seal Company Inc	Metal Cans
Ped Manufacturing Ltd	Steel Investment Foundries
Western Group/Portland The	Miscellaneous Fabricated Wire Products
Empire Pacific Windows Corp	Metal Doors, Sash, and Trim
S S I Compaction	Service Industry Machinery, Nec
Cornell Pump Company	Pumps and Pumping Equipment
Greenbrier Companies Inc	Railroad Equipment

Source: Dun & Bradstreet Marketing Solutions, July 2005

Appendix C Major Support & Supplier Industries for Metals and Transportation Equipment in Portland[23]

Supplier or Support Industry	Estimated Local Input
Other State and local government	100%
Truck transportation	100%
Warehousing and storage	100%
Wholesale trade	100%
Natural gas distribution	95%
Plastics plumbing fixtures and all other plastics	89%
Food services and drinking places	88%
Maintenance and repair of nonresidential buildings	88%
Electronic equipment repair	87%
Automotive equipment rental	84%
Accounting and bookkeeping services	78%
Architectural and engineering	78%
Legal services	78%
Semiconductors and related devices	78%
Advertising and related services	76%
All other miscellaneous professional and technical services	76%
Commercial machinery repair	76%
Custom computer programming	76%
Lessors of nonfinancial intangible assets	76%
Machinery and equipment rental	76%
Management consulting services	76%
Management of companies and enterprises	76%
Scientific research and development	76%
Waste management and remediation	76%
Power generation and supply	75%
Rail transportation	72%
Real estate	70%
All other electronic components	66%
Monetary authorities and depository credit intermediaries	60%
Nondepository credit intermediaries	60%
Securities, commodity contracts & investments	60%
Telecommunications	53%
Motor vehicle parts	29%
Air transportation	27%
Relay and industrial control	26%
Data processing services	24%
Other miscellaneous chemicals	15%
Motor and generator manufacturing	12%
Other communication and energy wire manufacturing	6%
Other basic organic chemicals	4%
Copper, nickel, lead, and zinc	1%
Scrap	0%

Source: Implan Pro 2.0 Input-Output Model for Clackamas, Multnomah and Washington Counties.

The list is sorted in order of largest monetary input.

Appendix D
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Professional Services Target Industry Plan 2006-2007

1. Industry Definition/Summary

The Professional Services sector consists of businesses that provide direct services to various clients that range from every sector of private industry to non-profit organizations, trade associations and universities. Many of these businesses are small firms including many self-employed Professional Services providers.

The NAICS codes used to define the Professional Services industry for the purposes of this report are provided below[24]:

NAICS	Industry
5411	Legal Services
5412	Accounting, Tax Prep, Bookkeeping & Payroll Services
5413	Architectural, Engineering and Related Services
5418	Advertising and Related Services
54161	Management Consulting Services

According to the Oregon Employment Department, professional service firms collectively are the fourth largest employer category, represent the third largest payroll and offer the second highest average pay in the state of Oregon. Professional service firms provide family wage jobs for more than 26,000 people in the Portland area[25] with an average annual wage of $54,147.

There is some overlap with the creative services industry. Advertising and Related Services account for approximately 3,100 jobs in the Portland area.

Architectural, Engineering and Related Services (NAICS 5413) & Legal Services (NAICS 5411) account for 62 percent of the Professional Services jobs (16,056) in the Portland area. This is similar to the West Coast as a whole, where these industries account for approximately 55 percent of the Professional Services jobs (377,449).

2. Industry Trends

In 2002 when the Economic Development Strategy was developed, there were an estimated 41,069 jobs attributed to the Professional Services sector for the Portland-Salem Metro area using 1997 data. Focusing on the three-county area, a smaller geographic area consisting of Clackamas, Multnomah and Washington counties, employment as of 2005 in the Professional Services industry is estimated to be 26,000 jobs. In reviewing these numbers, there appears to be a large decline in the employment in the industry. However, it is important to recognize that this report focuses on a much smaller geographic area and somewhat different industry definition. Throughout this report, the Portland area will refer to the three counties referenced above.

Table 1 shows the employment and changes that have occurred from 2001 to 2005 in Professional Services in the Portland area compared to the West Coast (California, Oregon

[24] It is important to note that different definitions are used to describe this category although similar industries are included which presents a challenge for data collection and comparison. For example, the Professional Services Council of Oregon recently added some creative services clusters, namely computer systems and design. And, the Oregon State Employment Department defines the industry as professional and business services including: computer systems and design and related services [NAICS 5415] management of companies and enterprises [NAICS 5500]; administrative and waste services [5600]; administrative and support services [NAICS 5610]. The Oregon Employment Department also interchanges "professional and business services" and "professional and technical services" in industry related articles. PDC encountered the challenge in defining the industry during the development of the Economic Development Strategy in 2002. The intent of PDC staff was to include professional services and business services. The first draft report included three NAICS codes: 54, professional, scientific and technical services; 561, administrative and support services; and 52429, other insurance related activities. However the Professional and Business Services Industry Panel concluded that professional services and business services were quite different and had many different issues. Therefore, their recommendation was that the report focus on professional services and this definition has been consistently used by PDC when focusing on implementation of the economic development strategy.

[25] Portland area includes three counties: Clackamas, Multnomah and Washington.

and Washington). Although the industry declined in overall employment during this time period, it is interesting to note that during the last year, employment grew by three percent. In 2004, the Professional Service firms accounted for 25,260 jobs in the Portland area. In 2005, that number jumped to 26,030, an increase of 770 jobs. Continued growth in Professional Services is projected by the Oregon Employment Department. According to the Oregon Employment Department (OED), during 2004-2014, employment in all occupational groups is expected to increase by 15 percent[26]. The professional and business services sector is projected to lead the growth, adding close to 50,000 jobs between 2004-2014, growing by 28 percent.

The Oregon Employment Department includes Portland in their Region 2[27] employment outlook. Compared with the rest of the state, Region 2 has significantly more employment in office and administrative support, professional and management and business and financial occupations[28]. Within Region 2, nearly half of the region's employment is covered in three groups: trade and services, office and sales and professional occupations[29]

Tables 1-5 show the employment and changes that have occurred between 2001, 2004 and 2005 in the Professional Services industry in the Portland region (Clackamas, Multnomah and Washington counties) compared to the West Coast (California, Oregon and Washington), along with shift-share and concentration data for the Portland region.

Table 1
Professional Services Industry Employment Change in the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 – 2005 Change	
NAICS Code	**Industry**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**	**Portland Region**	**West Coast**
5411	Legal Services	6,854	160,685	7,063	169,898	209	9,213
5412	Accounting, Tax Prep, Bookkeeping & Payroll Services	4,700	153,704	4,642	133,857	-58	-19,847
5413	Architectural, Engineering & Related Services	9,576	201,462	8,998	207,551	-578	6,089
5418	Advertising & Related Services	3,633	78,028	3,159	71,909	-473	-6,119
54161	Management Consulting Services	2,301	81,751	2,168	99,275	-134	17,524
	Professional Services Total	**27,064**	**675,630**	**26,030**	**682,490**	**-1,034**	**6,860**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

[26] OLMIS: Services Sector Bolster Job Outlook, Eric Moore, June 2005
[27] Oregon Employment Department, Regional Profile – Occupational Employment in Region 2, Fall 2005
[28] Ibid.
[29] Ibid.

Table 2
Professional Services Industry Percent Change in Employment for the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 - 2005 Percent Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
5411	Legal Services	6,854	160,685	7,063	169,898	3%	6%
5412	Accounting, Tax Prep, Bookkeeping & Payroll Services	4,700	153,704	4,642	133,857	-1%	-13%
5413	Architectural, Engineering & Related Services	9,576	201,462	8,998	207,551	-6%	3%
5418	Advertising & Related Services	3,633	78,028	3,159	71,909	-13%	-8%
54161	Management Consulting Services	2,301	81,751	2,168	99,275	-6%	21%
	Professional Services Total	**27,064**	**675,630**	**26,030**	**682,490**	**-4%**	**1%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 3
Professional Services Industry Employment Change in the Portland Region & West Coast from 2004 to 2005

		2004 Employment		2005 Employment		2004 – 2005 Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
5411	Legal Services	7,020	170,189	7,063	169,898	43	-291
5412	Accounting, Tax Prep, Bookkeeping & Payroll Services	4,289	109,380	4,642	133,857	354	24,477
5413	Architectural, Engineering & Related Services	8,657	204,763	8,998	207,551	341	2,788
5418	Advertising & Related Services	3,093	71,251	3,159	71,909	66	658
54161	Management Consulting Services	2,201	99,178	2,168	99,275	-34	97
	Professional Services Total	**25,260**	**654,761**	**26,030**	**682,490**	**770**	**27,729**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 4
Portland Region Shift-share and Local Concentration for the Professional Services Industry

		Shift-share	Local Concentration	
NAICS Code	Industry	2001 - 2005	2001	2005
5411	Legal Services	-0.03	0.97	0.97
5412	Accounting, Tax Prep, Bookkeeping & Payroll Services	0.12	0.70	0.81
5413	Architectural, Engineering & Related Services	-0.09	1.09	1.01
5418	Advertising & Related Services	-0.05	1.06	1.03
54161	Management Consulting Services	-0.27	0.64	0.51
	Professional Services Total	**-0.05**	**0.92**	**0.89**

Source: Calculations by PDC

Table 5
Professional Services Industry Sector size in the Portland Region and the West Coast in 2001 and 2005

		2001 Employment				2005 Employment			
NAICS Code	**Industry**	**Portland Region**	**% of Total**	**West Coast**	**% of Total**	**Portland Region**	**% of Total**	**West Coast**	**% of Total**
5411	Legal Services	6,854	25%	160,685	24%	7,063	27%	169,898	25%
5412	Accounting, Tax Prep, Bookkeeping & Payroll Services	4,700	17%	153,704	23%	4,642	18%	133,857	20%
5413	Architectural, Engineering & Related Services	9,576	35%	201,462	30%	8,998	35%	207,551	30%
5418	Advertising & Related Services	3,633	13%	78,028	12%	3,159	12%	71,909	11%
54161	Management Consulting Services	2,301	9%	81,751	12%	2,168	8%	99,275	15%
	Professional Services Total	**27,064**	100%	**675,630**	100%	**26,030**	100%	**682,490**	100%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Note: does not include self-employed firms and owners/shareholders/partners are also not likely included in these numbers

3. Wages

Professional Services industry jobs tend to be higher-wage jobs with full benefits and are competitive with wages on the rest of the West Coast. The average annual wages paid in the Portland area and the West Coast in 2005 were $54,147, and $62,444, respectively. The average annual wage paid in the Portland area for the Professional Services sector in 2005 is two percent higher than the average annual wage of $52,874 paid in 2001. At the same time, West Coast average wages increased by three percent. The Accounting, Tax prep, Bookkeeping and Payroll sub sector suffered the greatest wage decline on the West Coast (three percent) while in the Portland region the average wage in this sub sector grew by six percent. Locally, the highest wage increases were in Management Consulting Services, where wages increased by $9,301 or 15 percent.

In the Portland region in 2005, Management Consulting Services also paid the highest overall wages for the industry, with an average wage of $69,903. The next highest average wages were paid to Legal Services, at $56,080. Across the West Coast, the order was reversed, with the highest average wage paid in the Legal Services sub sector at $69,552, followed by Management Consulting Services at $68,498.

It is important to note that these wages include administrative and clerical jobs, which tend to pay less than some of the professional jobs and that owner's/shareholder's/partner's salaries and other payments are not included. This would likely increase calculated average wages by a significant amount across all sub sectors and geographic areas.

Tables 6 & 7 compare 2001 and 2005 Portland area Professional Services average wages to the West Coast along with the percent change for Professional Services average wages.

Table 6
Professional Services Industry Average Wages & Change in the Portland Region & West Coast from 2001 to 2005

		Avg Wage 2001		Avg Wage 2005		Change 2001 - 2005			
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	Portland Region %	West Coast	West Coast %
5411	Legal Services	$56,181	$68,720	$56,080	$69,552	-$101	0%	$832	1%
5412	Accounting, Tax Prep, Bookkeeping & Payroll Services	$42,059	$48,867	$44,551	$47,182	$2,492	6%	-$1,685	-3%
5413	Architectural, Engineering & Related Services	$55,961	$61,719	$55,678	$65,294	-$283	-1%	$3,575	6%
5418	Advertising & Related Services	$47,594	$56,758	$48,756	$57,476	$1,162	2%	$718	1%
54161	Management Consulting Services	$60,602	$67,427	$69,903	$68,498	$9,301	15%	$1,071	2%
	Professional Services Total	**$52,874**	**$60,578**	**$54,147**	**$62,444**	**$1,273**	**2%**	**$1,866**	**3%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 7
Professional Services Industry Wage Change in the Portland Region & West Coast from 2004 to 2005

		Avg Wage 2004		Avg Wage 2005		Change 2004 - 2005	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
5411	Legal Services	$61,180	$66,906	$56,080	$69,552	-$5,099	$2,647
5412	Accounting, Tax Prep, Bookkeeping & Payroll Services	$45,062	$47,360	$44,551	$47,182	-$511	-$178
5413	Architectural, Engineering & Related Services	$57,479	$61,601	$55,678	$65,294	-$1,801	$3,693
5418	Advertising & Related Services	$48,773	$53,972	$48,756	$57,476	-$17	$3,504
54161	Management Consulting Services	$76,986	$63,033	$69,903	$68,498	-$7,083	$5,465
	Professional Services Total	**$57,033**	**$59,987**	**$54,147**	**$62,444**	**-$2,886**	**$2,456**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Note: does not include self-employed firms and owners/shareholders/partners are also not likely included in these numbers

4. Observations

Generally, the Professional Services industry in Portland has followed a nationwide employment trend. The 3% increase in employment from 2004 to 2005 for the Professional Services industry in the Portland area was greater than the state, which experienced a seven percent decline.

Table 8 shows the employment and change for the Professional Services industry throughout the US compared to the West Coast, Oregon and the Portland area.

Table 8
Professional Services Industry Employment & Change in the United States, West Coast, Oregon and Portland Region from 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	2001-2005 %
United States	4,353,508	4,322,392	4,455,503	101,995	2%
West Coast	675,630	654,761	682,490	6,860	1%
Oregon	39,115	39,669	36,930	-2,185	-6%
Portland Region	27,064	25,260	26,030	-1,034	-4%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 9 provides information about the changes in Professional Services employment in the Portland area compared to all other industries 2001-2005. The Professional Services industry increased 3 percent.

Table 9
Professional Services Industry Employment in the Portland Region Compared to all other Industries on the West Coast, Oregon and in Portland 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	% 2001 - 2005
West Coast	16,220,942	16,451,478	16,474,755	253,813	2%
Oregon	1,343,430	1,383,822	1,387,651	44,221	3%
Portland Region	709,876	696,532	704,262	-5,614	-1%
Professional Services Industry in Portland	27,064	25,260	26,030	-1,034	-4%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Employment in the Professional Services industry is expected to increase during the next few years. The professional and business services sector (note: not exactly the same as PDC's Professional Services industry classification) is expected to be one of the three industry sectors to account for most of the state's job growth, along with education and health services; and trade, transportation and utilities[30]. This can be partially attributed to Portland's reputation for livability and as a creative and sustainable economy. However with a lack of Fortune 500 companies, Portland area professional service firms will be forced to continue expanding their markets outside the Portland area and the industry landscape will become more competitive for small and medium-sized businesses competing for contracts. Given advances in technology, the increasing global marketplace and Portland's location on

[30] OLMIS: Services Sector Bolster Job Outlook, Eric Moore, June 2005

the Pacific Rim, there are tremendous opportunities for local firms to expand and sell their services domestically and internationally. It is also important to recognize that many Professional Services firms are small and that a key element of a promotion strategy should be to help start-up and existing businesses access the resources they need to expand, grow and create jobs.

Within the Professional Services industry geographic barriers are becoming less important, especially given advances in technology and the entry of local firms into the global marketplace. Business growth depends on positive positioning and sharply-differentiated expertise. In Oregon, the Professional Services industry has the opportunity to utilize the state's green image and Portland's commitment to sustainable business practices to differentiate Portland Professional Services from firms in other cities. There is also the opportunity to collaborate with other PDC target industries to provide higher visibility for the industry and to integrate the Professional Services industry into broader PDC retention and recruitment strategies.

With industry priorities placed on recruitment of other target industries, and increased visibility for the Professional Services industry, a key component of the 2006-2007 plan will be a marketing campaign. The campaign's purpose will be two-fold: 1) address the misperceptions about Portland as a poor place to do business and 2) promote Portland as a source of world-class talent for professional and creative services. To be effective, the effort will need to focus on a particular niche and involve the Professional Services industry in recruitment of other target industries.

5. Workforce

As Professional Services is the sector projected to have the greatest growth between 2001 and 2014 the demand for qualified workers will increase greatly. Below are the top occupational categories for Professional Services, in alphabetical order. Those considered the toughest positions to fill are in bold.

Top Occupational Categories for Professional Services

- **Accountants and Auditors**
- Bookkeeping, Accounting and Auditors
- **Business operations specialists**
- **Cost estimators**
- Engineering Managers
- Marketing managers
- **Project managers**
- **Lawyers**
- **Training and Development Specialists**

Source: Strategy for Economic Vitality, Portland 2002; Portland Development Commission Workforce Gap Analysis Report for the Portland-Vancouver MSA, June 2005; Anecdotal information supplied by key stakeholders.

A shortage of qualified, trained workers is anticipated for the Professional Services industry which may be attributed to the lack of strong college programs emphasizing Professional Services in the region.

Overall, trends for the Portland area industry are fairly consistent with the state, the West Coast and nation as a whole. Portland offers competitive wages for the Professional Services industry and it is well positioned to become a world-class source of talent due-to factors like

livability, advancements in technology and location on the Pacific Rim. While many local firms are already exporting their services, they will need to expand these practices to remain competitive, given the lack of a sufficiently large Professional Services market in the Portland area. As recruitment of new industry is very important to the Professional Services cluster, the needs of the Professional Services industry must be included in PDC's retention and recruitment strategy. With projected shortages in certain job categories, the industry will need to collaborate with higher education to ensure a sufficient supply of qualified and trained workers, or continue to recruit from outside the area. An excellent example of this type of collaboration is the recent partnership of the Professional Services Council of Oregon and Willamette University's Atkinson School of Management which has dedicated itself to developing a stronger presence in Portland.

6. Implementation

The primary goals of target industry strategy implementation are Professional Services job retention and expansion, wealth creation and business support. The Portland Development Commission plays a support role to the Professional Services industry by promoting industry initiatives, serving as an adjunct Board Member of the Professional Services Council of Oregon, supplying financial and business assistance and participating in outreach efforts. Throughout the next fiscal year, the PDC will work with its partners in the public and private sectors to help foster a positive business climate to encourage business formation, growth and expansion.

A key focus for the Professional Services industry is the need to recruit other industries to Portland. An important component of that strategy is promotion of Portland's "Creative Service" talent, which spans both Professional and Creative Services industries. The 2006-2007 Professional Services plan includes the development of a marketing piece to showcase local companies. This tool will be a key component of PDC's recruitment strategy and will be distributed at regional, state and national events where PDC is represented, along with being included in recruitment packets. An underlying objective of this piece will be to ensure a supply of trained, young professionals to help sustain a quality workforce. In addition, PDC will encourage individuals in the professional service industry to participate in Portland Ambassadors to take a more active role in business recruitment and retention .

Successful implementation will require the public and private sectors to work collaboratively to leverage resources and maximize efficiency. It should also be noted that this is a living strategy and therefore subject to change based on industry input and budget constraints.

The reputation of the Portland region as highly livable and sustainable appeals to all ages, but is particularly appealing to young creative professionals. In a time of increasing global commerce, this ensures that Portland's Professional Services community thrives. Below is a listing of factors that the PDC recognizes it can help affect in promoting the Professional Services industry, along with a list of factors that are more difficult to changes. Although not a factor that PDC can easily influence, the Business License Fee (BLF) and Business Income Tax (BIT) continue to be critical issues for the industry.

Professional Services business factors that PDC can help affect:

- Business and economic climate including City of Portland Business License Fee and Multnomah County Business Income Tax (BLF/BIT)
- Professional Services business development
- Financing
- Local and state government policy
- Industry advocacy
- Industry networking
- Industry support and coalescence
- Permitting
- Recruitment
- Retention and expansion of existing Professional Services businesses
- Workforce development

Professional service business factors difficult to change:

- Access to markets
- Availability of office space
- Competition
- Escalating real estate costs
- Global and economic conditions
- Technology transfer

The 2002 Economic Development Strategy included goals for the Professional Services industry. These goals were developed to support the industry and the City will continue its role in this manner. Previous strategy goals included:

- Creating an accountable and customer-driven permitting process
- Revising the Business Income Tax
- Creating a fair procurement process for professional service contracts
- Recruiting non-professional service firms to the Portland area

To date there has been significant progress on the first bullet, with improved customer service in the Bureau of Development Service (BDS) as a result of extensive training at all levels. Furthermore, an ongoing regulatory improvement work plan has been implemented, including a Regulatory Improvement Stakeholder Advisory Team (RISAT) comprised of citizens, business owners and City staff led by the BDS and Planning Bureau. Additionally, a Small Business Liaison has been created within the City's permitting bureau (BDS) to assist small businesses, particularly those new or unfamiliar with the process, in navigating the City bureaucracy, including regulations such as zoning and occupancy codes as well as the permit process.

In an era of a new Administration with ongoing discussion about the Business Income Tax and Business License Fee, the City of Portland is taking a closer look at the cost of doing business in Portland including, but not limited to, the Business License Fee and Business Income Tax.

With regard to contracts, in February 2004, the City Council passed a local preference initiative which strongly encourages city staff to consider local firms in the procurement process. More recently, contracting was identified as one of the top 20 priorities in Mayor Potter's Bureau Innovation Project (BIP). A task force led by the City Bureau of Purchases and a local business owner, has been established and is working on this issue. This taskforce includes representation from the Professional Services Council (PSC).

Finally, recruitment of new firms to the Portland area is a priority for this industry. PDC recruitment efforts are two-pronged (proactive and reactive), and also involve collaboration with our regional and state partners. PDC identifies and initiates contact with companies through strategic attendance at national and international industry and trade events. PDC targets firms that are consistent with the needs and strengths of the Portland region and that are likely to open new facilities, expand or relocate here. PDC also responds to inquiries from businesses seeking a new location and cooperates with other partners in the region and the state to pool staff and leverage resources to increase efficiency and effectiveness. The Portland Ambassadors play a strategic role in the PDC's retention and recruitment efforts. Going forward PDC will continue to encourage the involvement of the Professional Services industry in the Ambassador program. In addition, PDC will work with the industry to develop an overview of the industry to be included as a component of industry recruitment packets.

Goals to promote and strengthen the Professional Services industry are:

- Create and retain jobs through business start-ups, retention, expansion and recruitment.
- Recruit PDC target industry firms to Portland and the region
- Improve the business climate through: 1) revisions to the Business License Fee/Business Income Tax with the goal of distributing the tax burden more equitably, rather than disproportionately taxing small and non-employee businesses; 2) foster a true public-private partnership between local government and the business community; 3) continue to implement regulatory improvement plan to create an accountable and customer-driven permitting process; and 4) encouraging the use of local Professional Services firms.
- Promote Portland's Professional Service industry as a source of world-class talent locally, regionally and nationally.
- Engage Professional Service firms in PDC's recruitment strategy through the development of a marketing piece and participation with the Portland Ambassador program.

7. Top Issues Facing Industry

The following are the top issues currently facing the Professional Services industry in the Portland region:

- High cost of doing business.
- Insufficient visibility and promotion of local Professional Services firms.
- Need for increased recruitment of traded sector industries to the region.
- Lack of available office space.

8. Action Items for Fiscal Year 2006-07

Note: some of the items are taken from other PDC target industry strategies, given that one of the most important economic development goals for the Professional Services industry is to retain and recruit firms from other industries.

- 15 retention visits to companies in the industry.
- Create and retain jobs to meet the overall department goal of 2,000 new and retained jobs.
- Leverage private investment to contribute to overall department goal of leveraging $100 million in private investment.
- Develop customized postcards and execute direct mail campaign, sending out 50 postcards to companies and site selectors located outside the Portland region.
- Create a strong local portfolio of sustainable industry expertise in architecture and engineering.
    - In partnership with the Sustainable Industries target industry, implement the Memorandum of Understanding with the Office of Sustainable Development to coordinate, strengthen and create appropriate public sector tools needed to foster sustainable business practices, promote sustainable development, and expand the sustainable industries sector of the regional economy.
    - Become member of the Northwest Environmental Business Council and participate in joint sponsorship of events that will promote the services offered by local professional firms.
- Attend (PDC) various regional, state and national industry trade shows and events as part of PDC's recruitment strategy. Recruit other PDC target industries to the Portland area and promote Portland as a source for world-class talent in the Professional Services industry.
- Engage professional and creative service firms in PDC's retention and recruitment strategy and program through involvement with the Portland Ambassadors.
- Sponsor other PDC target industry events to provide exposure for local professional service firms and encourage the purchase of local services and talent.
- Develop marketing materials to promote Portland as a creative capital, showcasing local talent with a focus on the Professional and Creative Services industries.

Appendix A Top 50 (by revenue) Professional Services Companies in Portland

Business Name	Industry
Regence Group	Accounting, Auditing, and Bookkeeping
Kennedy Wieden Inc	Advertising Agencies
Metro One Telecommunications	Advertising Agencies
Engineers	Engineering Services
Pdx	Engineering Services
Stoel Rives LLP	Legal Services
Zimmer Gunsul Frasca Partnr	Architectural Services
Cmedia	Advertising Agencies
Fred Meyer Vanguard Mktg Svcs	Management Consulting Services
Schwabe Williamson & Wyatt PC	Legal Services
Otak Inc	Engineering Services
VELAGIO SOLUTIONS	Engineering Services
Irama Corporation	Advertising Agencies
W R G Designs	Engineering Services
Ankrom Moisan Assod Architects	Architectural Services
Anesthesiologists Associated	Accounting, Auditing, and Bookkeeping
Bates Private Capital Inc	Management Consulting Services
Hmh Advertising	Advertising Agencies
Interface Engineering Inc	Engineering Services
Hmh Advertising	Advertising Agencies
Bench Craft Company	Advertising Agencies
Klarquist Sparkman LLP	Legal Services
Bradshaw Advertising	Advertising Agencies
Boora Architects Inc	Architectural Services
Ater & Wynne LLP	Legal Services
Tonkon Torp LLP	Legal Services
Opus Creative	Advertising Agencies
Fassel Jack Unlimited	Engineering Services
Yesmail Inc	Management Consulting Services
Ball Janik LLP	Legal Services
Borders Perrin & Norrander	Advertising Agencies
Metropolitan Public Defender	Legal Services
Saito Eric T	Architectural Services
Edc	Engineering Services
Geodesign Inc	Management Consulting Services
Johnsonsheen Advertising Inc	Advertising Agencies
Asyst Shinko America Inc	Management Consulting Services
Stephen H Barram	Legal Services
Reese Dennis S	Legal Services
CB & S Advertising Agency	Advertising Agencies
Forest City Services LLC	Management Consulting Services
Digiwest Internet Services	Engineering Services
Pbs	Engineering Services
Srg Partnership Inc	Architectural Services
Scanware Inc	Engineering Services
Planned Mktg Solutions Intl	Management Consulting Services
Integrity Marketing Services	Management Consulting Services
Via Training Holdings Inc	Management Consulting Services
Boora Architects Inc	Architectural Services
Gbd Interiors	Architectural Services

Source: Dun & Bradstreet

Appendix B Top 50 (by employment) Professional Services Companies in Portland

Business Name	Industry
Regence Group	Accounting, Auditing, and Bookkeeping
Metro One Telecommunications	Advertising Agencies
CNF Service Company Inc	Accounting, Auditing, and Bookkeeping
Pdx	Engineering Services
Fred Meyer Vanguard Mktg Svcs	Management Consulting Services
Stoel Rives LLP	Legal Services
Engineers	Engineering Services
Kennedy Wieden Inc	Advertising Agencies
Zimmer Gunsul Frasca Partnr	Architectural Services
Schwabe Williamson & Wyatt PC	Legal Services
Otak Inc	Engineering Services
W R G Designs	Engineering Services
VELAGIO SOLUTIONS	Engineering Services
Anesthesiologists Associated	Accounting, Auditing, and Bookkeeping
Bates Private Capital Inc	Management Consulting Services
Ankrom Moisan Assod Architects	Architectural Services
Glumac International	Engineering Services
Ater & Wynne LLP	Legal Services
Tonkon Torp LLP	Legal Services
Edc	Engineering Services
Metropolitan Public Defender	Legal Services
Yesmail Inc	Management Consulting Services
Klarquist Sparkman LLP	Legal Services
Interface Engineering Inc	Engineering Services
Ball Janik LLP	Legal Services
Saito Eric T	Architectural Services
Rm International Inc	Engineering Services
Protocall Services Inc	Management Consulting Services
Irama Corporation	Advertising Agencies
Digiwest Internet Services	Engineering Services
Pbs	Engineering Services
Isler & Co LLC	Accounting, Auditing, and Bookkeeping
Integrity Marketing Services	Management Consulting Services
Gbd Interiors	Architectural Services
Geodesign Inc	Management Consulting Services
Stephen H Barram	Legal Services
Srg Partnership Inc	Architectural Services
Sera Architects Inc	Architectural Services
Ace Communications Inc	Engineering Services
Planned Mktg Solutions Intl	Management Consulting Services
Boora Architects Inc	Architectural Services
Bridge City Legal Inc	Legal Services
Via Training Holdings Inc	Management Consulting Services
Ziba Design Inc	Engineering Services
Direct Marketing Solutions	Management Consulting Services
Asyst Shinko America Inc	Management Consulting Services
Dolphin Software Inc	Management Consulting Services
City of Portland Auditors	Management Consulting Services
Reese Dennis S	Legal Services
Boora Architects Inc	Architectural Services

Source: Dun & Bradstreet

Appendix C Major Support and Supplier Industries for Professional Services in Portland[31]

Supplier or Support Industry	Estimated Local Input
Employment services	76%
Real estate	197%
Telecommunications	53%
Environmental and other technical consulting services	76%
Office administrative services	30%
Monetary authorities and depository credit intermediaries	60%
Postal service	64%
Food services and drinking places	88%
Business support services	76%
Specialized design services	76%
Hotels and motels	74%
Air transportation	27%
Services to buildings	76%
Other support services	76%
Data processing services	24%
Couriers and messengers	70%
Commercial printing	23%
Motion picture and video industries	76%
Management of companies	76%
Nondepository credit intermediaries	60%
Securities, commodity contracts	60%
Independent artists, writers and performers	55%
Power generation and supply	75%
Wholesale trade	100%
Noncomparable imports	0%
Custom computer programming	76%
Lessors of nonfinancial intangible assets	76%
Automotive equipment rental	84%
Maintenance and repair of nonresidential buildings	88%
All other miscellaneous Professional Services	76%
Information services	17%
Investigation and security services	76%
Insurance carriers	57%
Other computer related services	75%
Machinery and equipment rental	76%
Computer storage device manufacturing	19%
Commercial machinery repair	76%
Transit and ground passenger service	74%
Other State and local government	100%
Periodical publishers	21%
Paper and paperboard mills	0%
Colleges, universities, and junior colleges	76%
Book publishers	19%
Other personal services	89%
Fitness and recreational sports centers	79%
Truck transportation	100%
All other electronic components	67%
Magnetic and optical recording	28%
Database, directory, and other publishers	22%
Photographic services	75%

Source: Implan Pro 2.0 Input-Output Model for Clackamas, Multnomah and Washington Counties.

[31] The list is sorted in order of largest monetary input.

APPENDIX D

Distribution List for Professional Services Target Industry Work plan 2006 -2007[32]

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[32] The draft work plan was distributed to all individuals for comment/feedback.

Sustainable Industries
Target Industry Plan 2006-2007

1. Industry Definition/Summary

Sustainable Industries are traded sector businesses which produce a product or service in a more environmentally-responsible and/or energy efficient manner than standard production methods. A broader definition may be provided: "Sustainable industries are for-profit businesses having environmental innovation, resource conservation or superior environmental practices as a core component of their business.[33]"

Sustainable Industries were first identified as a city target industry in the 2002 City of Portland Economic Development Strategy. Energy, green building, recycled products, environmental remediation and sustainable agriculture are frequently thought of as examples of Sustainable Industries. It must be noted that, due to lack of sufficient data, sustainable agriculture could not be included in the wage and employment analysis in this document.

The following NAICS classifications are used to define Sustainable Industries in this document:

- HVAC & Commercial Refrigeration Equipment Manufacturing (NIACS 3334)
- Engine, Turbine & Power Transmission Equipment Manufacturing (3336)
- Electrical Equipment, Appliance & Component Manufacturing (335)
- Recyclable Material Merchant Wholesalers (42393)
- Architectural, Engineering and Related Services (5413)
- Environmental Consulting Services (54162)
- Scientific R & D Services (5417)
- Waste Management and Remediation Services (562)

A 2003 study calculated that there are approximately 1200 sustainable businesses in the Portland metropolitan region[34]. This number was compiled based largely upon self-certification and participation in events to discuss issues related to sustainability. As a result, the number likely undercounts the total that would qualify as a "sustainable business."

A few of the larger subclusters within the Sustainable Industries cluster as defined for the purposes of this document include:

Energy Industries

- Energy industries include companies that produce nonrenewable and renewable energy.
- Nonrenewable energy production includes natural gas and electrical power.
- Renewable energy companies produce energy using geothermal, solar, wind and water resources.

[33] 2003 Report Sustainable Industries in the Portland Metropolitan Region, Celilo Group.
[34] Ibid.

- Leading area companies include: Cascade Energy Engineering, Christenson Electric, First Point Energy, Sequential Biofuels, Serveron, PPM Energy, local office of EC Power, Siemens International, and Vestas American Wind Systems.
- The Portland area is home to a network of advocacy organizations including: Northwest Energy Efficiency Alliance, Oregon Environmental Council, Energy Trust, and Renewable Northwest Project.
- Utilities have a strong presence in the Portland area, and include: PGE, Pacific Power, NW Natural, Bonneville Power Administration.

Green Building

- Green building includes businesses that implement green building programs, technologies, design practices, and operations.
- Key stakeholders include: SERA Architects, Office of Sustainable Development, Green Building Services, Cascadia Chapter of the USGBC, Gerding/Edlen Development Co., Zimmer Gunsul Frasca Partnership.
- Demand for green products and services is growing as consumers learn of green building benefits such as energy savings and air quality and worker productivity.
- The PDC Green Building Program requires developers receiving financial assistance to integrate green building practices into construction projects to meet established Leadership in Energy and Environmental Design (LEED) standards.

Recycled Products

- The Recycled Products subcluster includes: engineering and materials science firms, and firms specializing in markets for recycled materials.
- Leading area companies include: Schnitzer Steel Industries, PC Plastics, Far West Fibers, SP Recycling Corp, and RB Rubber.

2. Industry Trends

Given the broad definition above, Sustainable Industries are typically difficult to capture accurately based upon NIACS codes alone. For example, not every architectural firm or dairy farmer focuses his/her business model on a sustainable product or service, and presently there is no NAICS or other standardized economic database which provides data on firms producing products in a sustainable fashion. Additionally, sustainable business practices can be implemented by almost any industry, further complicating measurement.

The 2002 city-wide Economic Development Strategy grouped the following NAICS industries together as a starting point for analysis: HVAC & Commercial Refrigeration Equipment Manufacturing (3334), Engine, Turbine & Power Transmission Equipment Manufacturing (3336), Electrical Equipment, Appliance & Component Manufacturing (335), Recyclable Material Merchant Wholesalers (42393), Architectural, Engineering and Related Services (5413), Environmental Consulting Services (54162), Scientific R & D Services (5417) and Waste Management and Remediation Services (562).

Note that for the purposes of analysis, we have also presented the subcluster Energy Industries separately, due to its distinctive nature. Please see Table 5b and 6b.

Tables 1-5 show the employment and changes that have occurred between 2001, 2004 and 2005 in Sustainable Industries, in the Portland region (Clackamas, Multnomah and Washington counties) compared to the West Coast (California, Oregon and Washington), along with shift-share and concentration data for the Portland region. Table 5b shows employment for the years 2001-2005 for the Energy Industries subcluster of Sustainable Industries.

Table 1
Sustainable Industries Employment Change in the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 – 2005 Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
3334 & 3336	HVAC & Commercial Refrigeration Equipment Manufacturing + Engine, Turbine & Power Transmission Equipment Manufacturing	927	16,487	585	13,831	-342	-2,657
335	Electrical Equipment Appliance & Component Manufacturing	2,083	49,953	1,556	38,637	-527	-11,316
42393	Recyclable Material Merchant Wholesalers	916	16,779	1,005	14,717	89	-2,062
5413	Architectural, Engineering & Related Services	9,576	202,729	8,998	207,551	-578	4,822
54162	Environmental Consulting Services	329	11,872	399	13,739	70	1,867
5417	Scientific R&D Services	1,685	111,114	1,980	117,831	295	6,717
562	Waste Management & Remediation Services	1,946	52,576	1,951	57,562	5	4,986
	Sustainable Industries Total	**17,462**	**461,510**	**16,473**	**463,868**	**-989**	**2,357**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 2
Sustainable Industries Percent Change in Employment for the Portland Region & West Coast from 2001 to 2005

		2001 Employment		2005 Employment		2001 - 2005 Percent Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
3334 & 3336	HVAC & Commercial Refrigeration Equipment Manufacturing + Engine, Turbine & Power Transmission Equipment Manufacturing	927	16,487	585	13,831	-37%	-16%
335	Electrical Equipment Appliance & Component Manufacturing	2,083	49,953	1,556	38,637	-25%	-23%
42393	Recyclable Material Merchant Wholesalers	916	16,779	1,005	14,717	10%	-12%
5413	Architectural, Engineering & Related Services	9,576	202,729	8,998	207,551	-6%	2%
54162	Environmental Consulting Services	329	11,872	399	13,739	21%	16%
5417	Scientific R&D Services	1,685	111,114	1,980	117,831	17%	6%
562	Waste Management & Remediation Services	1,946	52,576	1,951	57,562	0%	9%
	Sustainable Industries Total	**17,462**	**461,510**	**16,473**	**463,868**	**-6%**	**1%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 3
Sustainable Industries Employment Change in the Portland Region & West Coast from 2004 to 2005

		2004 Employment		2005 Employment		2004 – 2005 Change	
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
3334 & 3336	HVAC & Commercial Refrigeration Equipment Manufacturing + Engine, Turbine & Power Transmission Equipment Manufacturing	599	14,391	585	13,831	-14	-561
335	Electrical Equipment Appliance & Component Manufacturing	1,522	39,424	1,556	38,637	34	-787
42393	Recyclable Material Merchant Wholesalers	1,087	14,961	1,005	14,717	-82	-244
5413	Architectural, Engineering & Related Services	8,658	204,747	8,998	207,551	340	2,804
54162	Environmental Consulting Services	406	12,714	399	13,739	-7	1,025
5417	Scientific R&D Services	1,980	115,512	1,980	117,831	-1	2,319
562	Waste Management & Remediation Services	1,788	54,265	1,951	57,562	163	3,297
	Sustainable Industries Total	**16,040**	**456,014**	**16,473**	**463,868**	**433**	**7,853**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 4
Portland Region Shift-share and Local Concentration for the Sustainable Industries Sector

		Shift-share	Local Concentration	
NAICS Code	Industry	2001 - 2005	2001	2005
3334 & 3336	HVAC & Commercial Refrigeration Equipment Manufacturing + Engine, Turbine & Power Transmission Equipment Manufacturing	-0.21	1.28	0.99
335	Electrical Equipment Appliance & Component Manufacturing	-0.03	0.95	0.94
42393	Recyclable Material Merchant Wholesalers	0.22	1.25	1.60
5413	Architectural, Engineering & Related Services	-0.08	1.08	1.01
54162	Environmental Consulting Services	0.06	0.63	0.68
5417	Scientific R&D Services	0.11	0.35	0.39
562	Waste Management & Remediation Services	-0.09	0.85	0.79
	Sustainable Industries Total	**-0.06**	**0.86**	**0.83**

Source: Calculations by PDC

Table 5a
Sustainable Industries Sector size in the Portland Region and the West Coast in 2001 and 2005

		2001 Employment				2005 Employment			
NAICS Code	**Industry**	**Portland Region**	**% of Total**	**West Coast**	**% of Total**	**Portland Region**	**% of Total**	**West Coast**	**% of Total**
3334 & 3336	HVAC & Commercial Refrigeration Equipment Manufacturing + Engine, Turbine & Power Transmission Equipment Manufacturing	927	5%	16,487	4%	585	4%	13,831	3%
335	Electrical Equipment Appliance & Component Manufacturing	2,083	12%	49,953	11%	1,556	9%	38,637	8%
42393	Recyclable Material Merchant Wholesalers	916	5%	16,779	4%	1,005	6%	14,717	3%
5413	Architectural, Engineering & Related Services	9,576	55%	202,729	44%	8,998	55%	207,551	45%
54162	Environmental Consulting Services	329	2%	11,872	3%	399	2%	13,739	3%
5417	Scientific R&D Services	1,685	10%	111,114	24%	1,980	12%	117,831	25%
562	Waste Management & Remediation Services	1,946	11%	52,576	11%	1,951	12%	57,562	12%
	Sustainable Industries Total	**17,462**	100%	**461,510**	100%	**16,473**	100%	**463,868**	100%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 5b
Energy Industries Sector size in the Portland Region and the West Coast in 2001 and 2005

		2001 Employment				2005 Employment			
NAICS Code	**Industry**	**Portland Region**	**% of Total**	**West Coast**	**% of Total**	**Portland Region**	**% of Total**	**West Coast**	**% of Total**
3334	HVAC & Commercial Refrigeration Equipment Manufacturing	859	18%	10,459	6%	512	12%	7,988	5%
3336	Engine, Turbine & Power Transmission Equipment Manufacturing	68	1%	6,610	4%	73	2%	5,843	3%
335	Electrical Equipment Appliance & Component Manufacturing.	2,083	44%	49,999	28%	1,556	38%	38,637	23%
5417	Scientific R&D Services	1,685	36%	111,144	62%	1,980	48%	117,831	69%
	Energy Total	**4,695**	100%	**178,212**	100%	**4,121**	100%	**170,299**	100%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

3. Wages

Sustainable Industry employment opportunities may be broken down into those subsectors typically requiring an education level above a bachelor's degree (Scientific R&D, Architectural, Engineering & Related Services, Environmental Consulting Services), and those that do not (Energy, Turbine & Power Transmission Equipment Manufacturing, Recyclable Material Merchant Wholesalers). Sustainable agriculture positions may also be included in this category, but as noted above, are not included in this analysis due to measurement difficulties.

Both categories of employment provide average wages above family-wage levels.[35] The average annual wage for Sustainable Industries in the 3 county area in 2005 was $51,587. The average wage for the three West Coast states in 2005 was $66,625. See table 6a.

There are notable differences in average wages among the various Sustainable Industries subsectors. The highest paid Sustainable Industries positions in the 3 County area of Multnomah, Washington and Clackamas counties were found in Scientific Research &

[35] A "family-wage job" is defined as one that provides a minimum of two times Oregon's minimum wage plus benefits. The minimum wage in the state is $7.50 for 2006.

Development Services, with a 2005 average wage of $63,594. The lowest average wage could be found among turbine and power transmission equipment manufacturing, with a 2005 average salary of $34,566. See Tables 6a & 6b.

Employment and Wages – Energy

While narrower in scope than "Sustainable Industries," the Energy Industries subcluster still includes a wide spectrum of companies. The following NAICS classifications were used to define this subcluster: HVAC & Commercial Refrigeration Equipment Manufacturing (3334), , Engine, Turbine & Power Transmission Equipment Manufacturing (3336), Electrical Equipment, Appliance & Component Manufacturing (335), and Scientific R & D Services (5417)

In 2001, approximately 4,695 people in the 3 County area were employed in Energy industries. This number declined between 2001-05 to 4,121 in the 3-County area. Overall employment on the West Coast was approximately 170,299 in 2005. This number was down from 178,212 in 2001. See Table 5b.

Companies in the Energy Industries subcluster provide above average compensation The 3 County Average average wage for Energy Industries in 2005 was $56,853. See Table 6b.

Tables 6a & 7 compare 2001, 2004 and 2005 Portland area average wages for the Sustainable Industries Cluster to Sustainable Industries and overall industry wages in Oregon, the West Coast and the nation. Table 6b compares wages paid in the Portland region and on West Coast in the Energy Industries subcluster.

Table 6a
Sustainable Industries Average Wages & Change in the Portland Region & West Coast from 2001 to 2005

		Avg Wage 2001		Avg Wage 2005		Change 2001 - 2005			
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	Portland Region %	West Coast	West Coast %
3334	HVAC & Commercial Refrigeration Equipment Manufacturing + Engine, Turbine & Power Transmission Equipment Manufacturing	$41,535	$40,643	$40,349	$44,367	-$1,186	-3%	$3,724	9%
3336	Electrical Equipment Appliance & Component Manufacturing	$33,702	$61,214	$34,556	$81,142	$854	3%	$19,928	33%
335	Recyclable Material Merchant Wholesalers	$46,860	$43,905	$41,860	$46,874	-$5,001	-11%	$2,969	7%
42393	Architectural, Engineering & Related Services	$30,866	$30,281	$35,808	$37,203	$4,943	16%	$6,922	23%
5413	Environmental Consulting Services	$55,962	$61,041	$55,678	$65,294	-$283	-1%	$4,252	7%
54162	Scientific R&D Services	$45,989	$55,389	$51,377	$55,075	$5,388	12%	-$314	-1%
5417	Waste Management & Remediation Services	$50,009	$74,874	$63,594	$89,188	$13,584	27%	$14,313	19%
562	**Sustainable Industries Total**	$37,933	$44,239	$40,052	$50,390	$2,119	6%	$6,151	14%
	HVAC & Commercial Refrigeration Equipment Manufacturing + Engine, Turbine & Power Transmission Equipment Manufacturing	**$49,992**	**$58,905**	**$51,587**	**$66,625**	**$1,595**	**3%**	**$7,720**	**13%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 6b
Energy Industries Average Wages & Change in the Portland Region & West Coast from 2001 to 2005

		Avg Wage 2001		Avg Wage 2005		Change 2001 - 2005			
NAICS Code	Industry	Portland Region	West Coast	Portland Region	West Coast	Portland Region	Portland Region %	West Coast	West Coast %
3334	HVAC & Commercial Refrigeration Equipment Manufacturing	$41,535	$38,333	$40,349	$44,367	-$1,186	-3%	$6,034	16%
3336	Engine, Turbine & Power Transmission Equipment Manufacturing	$33,702	$61,232	$34,556	$81,142	$854	1%	$19,910	33%
335	Electrical Equipment Appliance & Component Manufacturing.	$46,860	$43,874	$41,860	$46,874	-$5,001	-11%	$2,999	7%
5417	Scientific R&D Services	$50,009	$74,818	$63,594	$89,188	$13,584	18%	$14,370	19%
	Energy Total	**$52,159**	**$62,944**	**$56,853**	**$78,366**	**$4,694**	**7%**	**$15,422**	**25%**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 7
Sustainable Industries Wage Change in the Portland Region & West Coast from 2004 to 2005

NAICS Code	Industry	Avg Wage 2004		Avg Wage 2005		Change 2001 - 2005	
		Portland Region	West Coast	Portland Region	West Coast	Portland Region	West Coast
3334	HVAC & Commercial Refrigeration Equipment Manufacturing + Engine, Turbine & Power Transmission Equipment Manufacturing	$41,612	$41,135	$40,349	$44,367	-$1,264	$3,232
3336	Electrical Equipment Appliance & Component Manufacturing	$35,032	$67,144	$34,556	$81,142	-$475	$13,998
335	Recyclable Material Merchant Wholesalers	$42,884	$47,599	$41,860	$46,874	-$1,025	-$725
42393	Architectural, Engineering & Related Services	$33,555	$33,260	$35,808	$37,203	$2,254	$3,943
5413	Environmental Consulting Services	$57,471	$61,606	$55,678	$65,294	-$1,793	$3,688
54162	Scientific R&D Services	$53,621	$53,223	$51,377	$55,075	-$2,244	$1,852
5417	Waste Management & Remediation Services	$62,293	$83,337	$63,594	$89,188	$1,301	$5,851
562	**Sustainable Industries Total**	$42,731	$50,717	$40,052	$50,390	-$2,679	-$328
	HVAC & Commercial Refrigeration Equipment Manufacturing + Engine, Turbine & Power Transmission Equipment Manufacturing	**$52,701**	**$63,135**	**$51,587**	**$66,625**	**-$1,114**	**$3,490**

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

4. Observations

The loss of jobs during the last four year period may be attributed at least in part to the regional recession which impacted the state of Oregon during the same time period. Between 2004 and 2005 employment increased in the Portland area by three percent adding 433 jobs. See Table 3. As Portland continues to increase consumer awareness, reduce cost differentials and support efforts to encourage sustainable businesses and practices, employment and investment within this cluster is expected to increase. Interestingly, anecdotal observations indicate an actual increase in the number of companies identifying themselves as sustainable. These include an increased level of activity among professional organizations, such as Businesses for a Livable Local Economy, the increased number of requests for information received at public agencies, and observations from technical assistance providers that work with sustainable companies. See Tables 8 & 9.

Sustainable Industries in the Portland area fared better than average the national average in terms of job retention. Nationally, the number of jobs within these industries decreased 30 percent between 2001 and 2005, resulting in a loss of 1.3 million positions. 2005 employment nation-wide in Sustainable Industries was just over 3 million. However, Oregon as a whole lost a smaller percentage of jobs in the Sustainable Industries cluster, while the West Coast actually added 2,400 positions. See Table 8.

Table 8 shows the employment and change for Sustainable Industries throughout the United States compared to the West Coast, Oregon and the Portland region.

Table 8
Sustainable Industries Employment & Change in the United States, West Coast, Oregon and Portland Region from 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	2001-2005 %
United States	4,324,978	3,011,218	3,047,731	-1,277,247	-30%
West Coast	461,510	456,014	463,868	2,357	1%
Oregon	27,243	26,257	26,962	-281	-1%
Portland Region	17,462	16,040	16,473	-989	-6%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

Table 9 compares Portland employment in the Sustainable Industries cluster to overall employment trends from 2001 to 2004 in the Portland region, Oregon and the West Coast.

Table 9
Sustainable Industries Employment in the Portland Region Compared to all other Industries on the West Coast, Oregon and in Portland 2001 to 2005

	Employment			Change	
	2001	2004	2005	2001 - 2005	% 2001 - 2005
West Coast	16,220,942	16,451,478	16,474,755	253,813	2%
Oregon	1,343,430	1,383,822	1,387,651	44,221	3%
Portland Region	709,876	696,532	704,262	-5,614	-1%
Sustainable Industries in Portland	17,462	16,040	16,473	-989	-6%

Source: Oregon Employment Department, California LMID, Washington State Labor Market and Economic Analysis Branch - Covered Employment and Wages; Calculations by PDC

It is important to note that different industries within the sustainable industry fared differently during the local recession. A breakdown of the different industries shows that 3 of the subgroups (Recyclable Material Merchant Wholesalers, Environmental Consulting Services and Scientific R&D Services) experienced job growth in the Portland region.

A closer look at local job growth within different subsections of Sustainable Industries may be an appropriate action for the advisory panel to consider. For example, within Environmental Consulting Services or Scientific Research & Development, further research may be helpful to determine what types of jobs are being created and where local growth is lacking.

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5. Workforce

Sustainable Industries, due to the extreme diversity of industries in the cluster, employs a workforce with an extremely diverse skill-set. However, technical knowledge, including engineering training, electromechanical skills, design capabilities, and materials science training are often cited as desirable backgrounds for employment in the industry. Professional management experience within each of the industry subsectors is also typically in demand.

Skills typically in demand in the various subclusters of Sustainable Industries include:

Energy industries – Electrical engineering (generally related to renewable energy systems and energy efficiency), electrical systems monitoring, transmission network repair, financial analysis, technical management, silicon manufacturing engineering.

Green Building – Architectural design, real estate development, landscape architecture, building systems energy management, knowledge of sustainable building materials, on site water management, LEED certification.

Recycled Products – Engineering and materials science, knowledge of markets for recycled materials.

There is a need to increase the level of local talent graduating from Portland and Oregon universities. During Portland Development Commission staff business retention visits, a number of companies have stated that they have found it necessary to hire people from outside Oregon, or have hired employees that have recently moved to the area. This issue is clearly connected to external perceptions of the quality of life of the state. Resources for local schools are an additional area of concern.

Portland State University (PSU) and the University of Oregon have both devoted resources in the past 5 years to develop curricula that support sustainable industries, including certification in sustainable frameworks for professional development. PSU has made recent strides to expand its engineering school, including the construction and expansion of engineering facilities. The university is also engaged in a long-term effort to establish a research and development facility for photovoltaic materials, currently called the Northwest Center for Photovoltaic Excellence.

6. Implementation

As with all of PDC's target industry work, the primary goals of strategy implementation are job retention and expansion within Sustainable Industries, wealth creation and business support. The City of Portland and the state of Oregon enjoy a national and international reputation as locations where both business and government are leaders in sustainable industry knowledge. PDC's partner agencies include the Office of Sustainable Development (OSD), City Hall staff (particularly Commissioner Dan Saltzman's office), Portland State University, the Oregon Natural Step Network, the Oregon Business Association and the Portland Business Alliance, among others.

Business factors that PDC can help affect:

- Economic development recommendations formulated by the newly revised Sustainable Development Commission
- Development and distribution of a guide of Portland area companies in Sustainable Industry subsectors.
- Coordination of city policies with the Portland Business Alliance and its 2005 survey of PBA member priorities regarding sustainability
- Research and identification of import substitution opportunities for Sustainable Industries
- Support state legislative policies to promote sustainable industries
- Promotion of Portland and the Northwest as productive opportunity areas for investment capital
- Undertake policy discussions with educational institutions regarding energy programs and commercialization of environmentally-sustainable research products.

Sustainable Industries business factors that are difficult to affect:

- Price of electricity
- Availability of commercial space
- Competition from other "Green" cities
- Other market transformation processes

7. Top Issues Facing Industry

The following are the top issues currently facing sustainable industries in the Portland region:

- Insufficient public policy to foster sustainable development.
- Lack of technical assistance and education for local firms to implement sustainable business practices.
- Need to increase national and international levels of awareness of leading companies and regional resources.
- Need for increased coordination between local agencies providing support and resources to expand the sustainable industry.

8. Action Items for Fiscal Year 2006-07 – Sustainable Industries

- **15 retention visits to companies in the industry**
- **Provide grant assistance to four to six companies** to adopt sustainable practices through the Sustainable Business Assistance program which provide process improvement and development assistance.

- **3 Recruitment trips with a minimum of three appointments with companies and/or site selectors at each conference.**
  Greenbuild International Conference & Expo; November 15-17, 2006; Denver, CO.
  Northwest Environmental Conference & Tradeshow; December 7-8, 2006; Portland, OR
  Mayoral Mission to Suzhuo, China; Fall 2006
- **Coordination with the Sustainable Development Commission[36].** Meet quarterly with the Sustainable Development Commission's economic development committee to inform them of available economic development tools and collaboration efforts with the Office of Sustainable Development (OSD) on energy and green building.
- **Green Building Cost and Opportunity Study** conducted in partnership with the Office of Sustainable Development and private sector partners. The study will provide a detailed cost estimate associated with specific LEED variables and will provide a sourcing list for materials and services procured. The sourcing list will be used to identify gaps in products and services available in the metropolitan region, and to establish possible corresponding business opportunities.
- **BioDiesel Market Analysis**. Conduct study of Oregon's feedstock market to support the expansion of biodiesel production.
- **Continue to implement the Memorandum of Understanding with the Office of Sustainable Development focusing on six main areas**: business retention, business expansion, business recruitment, education and technical assistance, promotion of the Portland area and research related to sustainable technologies. The goal of the memorandum is to create, coordinate and strengthen the appropriate public sector tools to foster sustainable business practices, promote sustainable development, and expand the sustainable industries sector of the regional economy. Appendix D includes the Memorandum of Understanding.
- **Sponsorship and organization of three networking events and/or educational forums of interest to Sustainable Industries businesses.**
  2007 BEST Awards Breakfast, April 2007
  Consumer Marketing Summit, Kitchen 2007, April 2007.
  The Business of Biofuels in the Pacific Northwest, October, 2006.
- **Become member of Sustainable Industry groups to educate local businesses on the tools and resources available**. Enroll PDC as a member with the Northwest Environmental Business Council and Oregon Natural Step.
- **Update marketing materials for Sustainable Industries cluster**
- **Create and retain Sustainable Industries jobs to meet overall department goal of 2,000 new and retained jobs.**
- **Leverage private investment to contribute to overall department goal of leveraging $100 million in private investment.**
- **Develop customized Sustainable Industries postcards and execute direct mail campaign,** sending out 100 postcards to companies and site selectors located outside the Portland region.

[36] The Sustainable Development Commission (SDC) is a citizen advisory panel that reports directly to Portland City Council and Multnomah County Commissioners. The SDC is charged with promoting city and county policies to promote sustainable government operations, a set of indicators to measure sustainable performance, and sustainable economic development.

Appendix A

Top 50 (by revenue) Sustainable Industries in Multnomah, Clackamas, and Washington Counties

Company Name	Industry
Pacificorp Holdings, Inc	Electric Services
Tektronix, Inc	Instruments To Measure Electricity
Northwest Natural Gas Company	Natural Gas Distribution
Schnitzer Steel Industries, Inc.	Scrap and Waste Materials
FLIR Systems, Inc.	Photographic Equipment and Supplies
FEI Company	Analytical Instruments
TriQuint Semiconductor, Inc.	Semiconductors and Related Devices
Electro Scientific Industries, Inc.	Electrical Equipment and Supplies
Denton Plastics Inc	Refuse Systems
Merix Corporation	Printed Circuit Boards
Pcc Structurals, Inc	Turbines and Turbine Generator Sets
David Evans and Associates, Inc.	Engineering Services
Sentrol Inc	Electrical Equipment and Supplies
Cascade Microtech, Inc.	Instruments To Measure Electricity
Zimmer Gunsul Frasca Partnership	Architectural Services
Williams Controls, Inc.	Internal Combustion Engines, Nec
Waste Management Of Oregon	Refuse Systems
Metro Metals Northwest, Inc	Scrap and Waste Materials
PPM Energy, Inc.	Gas and Other Services Combined
Otak Inc	Engineering Services
Microfield Group, Inc	Networking & Communication Devices
Wrg Design, Inc.	Engineering Services
Advanced Technology Group Inc	Plumbing, Heating, Air-conditioning
OECO, LLC	Electronic Components, Nec
Far West Fibers, Inc	Scrap and Waste Materials
Huntair Inc.	Refrigeration and Heating Equipment
Sure Power, Inc	Engine Electrical Equipment
Ssi Shredding Systems Inc	Scrap and Waste Materials
Ankrom Moisan Associated Architects	Architectural Services
K B Recycling Inc	Refuse Systems
First Call Heating And Cooling	Fuel Oil Dealers
Helser Industries	Fabricated Plate Work
Viablelinks Inc	Information Retrieval Services
Toyo Tanso Usa, Inc	Carbon and Graphite Products
Peco Inc	Plastics Products, Nec
Cleanpak International Llc	Blowers and Fans
Isspro Inc	Motor Vehicle Parts and Accessories
Flextronics Photonics Tpt Inc	Nonferrous Wiredrawing and Insulating
Ldc Design Group Of Oregon Llc	Surveying Services
Calbag Metals Co	Scrap and Waste Materials
Dennis' Seven Dees Landscaping	Lawn and Garden Services
Shimadzu Usa Manufacturing Inc	Analytical Instruments
Interface Engineering, Inc	Engineering Services
Boora Architects Inc	Architectural Services
Imperial Manufacturing Ice Cold Coolers, Inc	Refrigeration and Heating Equipment
Browning- Ferris Industries Of	Refuse Systems
Container Recovery, Inc	Refuse Systems
Lumilite Intenational Ltd	Lighting Equipment, Nec

Source: Hoovers, 2006.

Appendix B

Top 50 (by employment) Sustainable Industries in Multnomah, Clackamas, and Washington Counties

Company Name	Industry
Pacificorp Holdings, Inc	Electric Services
Tektronix, Inc.	Instruments To Measure Electricity
Pcc Structurals, Inc	Turbines and Turbine Generator Sets
TriQuint Semiconductor, Inc.	Semiconductors and Related Devices
Denton Plastics Inc	Refuse Systems
Schnitzer Steel Industries, Inc.	Scrap and Waste Materials
FEI Company	Analytical Instruments
Merix Corporation	Printed Circuit Boards
Northwest Natural Gas Company	Natural Gas Distribution
Sentrol Inc	Electrical Equipment and Supplies
FLIR Systems, Inc.	Photographic Equipment and Supplies
David Evans and Associates, Inc.	Engineering Services
Electro Scientific Industries, Inc.	Electrical Equipment and Supplies
Waste Management Of Oregon	Refuse Systems
Williams Controls, Inc.	Internal Combustion Engines, Nec
Zimmer Gunsul Frasca Partnership	Architectural Services
OECO, LLC	Electronic Components, Nec
Huntair Inc.	Refrigeration and Heating Equipment
Otak Inc	Engineering Services
Wrg Design, Inc.	Engineering Services
Microfield Group, Inc	Networking & Communication Devices
Cascade Microtech, Inc.	Instruments To Measure Electricity
Peco Inc	Plastics Products, Nec
Advanced Technology Group Inc	Plumbing, Heating, Air-conditioning
Dennis' Seven Dees Landscaping	Lawn and Garden Services
Metro Metals Northwest, Inc	Scrap and Waste Materials
Helser Industries	Fabricated Plate Work
Ankrom Moisan Associated Architects	Architectural Services
PPM Energy, Inc.	Gas and Other Services Combined
Sure Power, Inc	Engine Electrical Equipment
K B Recycling Inc	Refuse Systems
Cleanpak International Llc	Blowers and Fans
Interface Engineering, Inc	Engineering Services
Glumac International	Engineering Services
Engineering Design Consultant Ltd, Inc	Engineering Services
Carlson Testing Inc	Engineering Services
Ssi Shredding Systems Inc	Scrap and Waste Materials
Toyo Tanso Usa, Inc	Carbon and Graphite Products
Isspro Inc	Motor Vehicle Parts and Accessories
Group Mackenzie Incorporated	Architectural Services
Flextronics Photonics Tpt Inc	Nonferrous Wiredrawing and Insulating
Imperial Manufacturing Ice Cold Coolers, Inc	Refrigeration and Heating Equipment
Lumilite Intenational Ltd	Lighting Equipment, Nec
Rm International Inc	Motor Vehicle Parts and Accessories
Ldc Design Group Of Oregon Llc	Architectural Services
Browning- Ferris Industries Of	Refuse Systems
Far West Fibers, Inc	Scrap and Waste Materials
Container Recovery, Inc	Refuse Systems
Gaylord Industries Inc.	Refrigeration and Heating Equipment

Source: Hoovers, 2006.

Appendix C
Sustainable Industries Plan Participants

This workplan was reviewed by the following organizations for comment/feedback.

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Memorandum of Understanding
between the
City of Portland Office of Sustainable Development
and
The Portland Development Commission

This Memorandum of Understanding (MOU), dated this 8th day of February, 2006 is made and entered into by and between the City of Portland Office of Sustainable Development (OSD) and the Portland Development Commission (PDC) (collectively referred to as "the Parties").

Preamble

The purpose of this MOU is to memorialize the understanding between the Parties of their respective intentions to coordinate, strengthen and create appropriate public sector tools needed to foster sustainable business practices, promote sustainable development, and expand the sustainable industries sector of the regional economy. This agreement is indicative of the commitment of Portland's public sector leadership to sustainability principles and to the belief that the economic and social wellbeing of the metropolitan region depends upon such principles.

Part One of this MOU focuses on activities related to economic and business development. Subsequent parts will be added by amendment and will incorporate strategies related to commercial and residential development. As with Part One of the MOU, additional amendments will strengthen the collaboration among staff of the two agencies, develop shared workplan goals, and create synergy to strengthen sustainable development in Portland and the metropolitan region. It is contemplated by the Parties that subsequent agreements will be necessary to implement the specific activities described in Part One of the MOU and any subsequent Parts added thereto by Amendment. For example, subsequent agreements may pertain to the PDC Development or Housing Departments, so that each of the operating Departments within the agency has specific activities in conjunction with OSD.

PDC and OSD shall designate a primary staff contact person or persons for named activities and for the implementation of the MOU as a whole. As part of this effort, PDC intends to create an agency-wide manager position to coordinate projects and policies related to sustainable development.

The strategies identified in this MOU assume the following goals:

- Increase Portland-area employment in sustainable industries
- Bolster revenue to Portland sustainable industries
- Reduce costs and improve efficiencies for businesses by implementing sustainable practices

Background

Investment in economic development is a top priority as government and industry look for new strategies to increase workforce competitiveness, invest in local communities and ensure the future economic health and prosperity of the region.

Much of the work to retain, recruit and expand business stems from existing strategies. These include the 2002 citywide Economic Development Strategy, which identified Sustainable Industries as a citywide target for economic growth, and the 2005-2006 Sustainable Industries Action Plan

developed by the Portland Development Commission. This action plan defines Sustainable Industries as traded sector businesses which produce a product or service whose consumer is able to use resources in a more environmentally-responsible and/or energy-efficient manner. The broad term "Sustainable Industries" encompasses green building products and services, energy-related products and services, environmental remediation, recycled products, and sustainable agriculture.

Current Efforts

The Office of Sustainable Development

Through policy development[37] and programs to educate and train businesses and residents, the City of Portland Office of Sustainable Development (OSD) has helped to:

1) Increase regional market demand for sustainable technologies, products and services
2) Create a strong local portfolio of sustainable industry expertise in architecture and engineering; building materials; clean energy; healthy, locally-grown food products and systems; recycled products; lighting; water and energy efficiency.

Since the launch of the City's green building program, G/Rated, in 2001, OSD has worked with other City agencies, PDC, and private-sector partners to accelerate the transition to green building as standard practice in Portland. OSD's menu of green building training, resources, and project-specific assistance has helped lay the groundwork for Portland's national leadership in green building, with more Leadership in Energy and Environmental Design (LEED)[38] certified buildings than any other city. G/Rated has two fundamental objectives:

- **Expand market demand** by educating building industry professionals and the public about the benefits of green building; and
- **Make green building practices easier to implement** by reducing regulatory and financial barriers and developing technical services and resources for building industry professionals.

To accomplish these objectives, OSD provides project-specific technical assistance, develops technical resources, provides outreach to the development industry and the public, and provides financial assistance through the Green Investment Fund.[39]

Through the BlueWorks Business and Multifamily Assistance programs, OSD provides customized assistance to individual small businesses on a variety of resource conservation practices to help create efficiencies and save money.

The Portland Development Commission

The PDC Target Industry Plan efforts are undertaken to attract and retain industry, advance best practices and increase industry knowledge. The Sustainable Industries target industry plan provides a working definition of firms within the cluster, a regional market overview, and outlines steps to encourage business growth within the sector. These steps include:

1) **Business retention visits**: Meetings with individual businesses to determine company needs, including physical space, financial and workforce development issues.
2) **Financial incentives**: PDC's financial incentives include grants and business loans to assist with permanent physical improvements.

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[37] City of Portland Green Building Policy, http://www.portlandonline.com/index.cfm?&a=80338&c=34835&y=12&x=7
[38] The LEED certification system was developed and is maintained by the US Green Building Council.
[39] City of Portland Green Investment Fund, http://www.green-rated.org/GIF.asp

3) **Sustainable Business Assistance Program**: PDC contracts with the Zero Waste Alliance to provide process improvement and development assistance. The Oregon Manufacturing Extension Partnership also provides technical assistance to increase company efficiency.
4) **Industry forums**: Sponsorship and organization of networking events and educational forums of interest to constituent businesses.
5) **Business recruitment and area promotion**: Provide recruitment assistance to companies interested in a Portland metropolitan location, share best practice resources, and promote Portland and the state of Oregon.

The Portland Development Commission provides business development tools, including financial incentives and technical assistance, and works to foster target industry development. The Office of Sustainable Development has technical expertise and large networks related to sustainable technologies, products and services. Working together, these two agencies can provide personalized assistance to businesses producing sustainable products and services and create a welcome business environment for sustainable industry growth.

Part One: Economic and Business Development

Agreement To Support and Implement Citywide
Sustainable Industry Economic Development Strategies

Statement of Purpose

In order to achieve real, measurable success in City efforts to retain, grow, and recruit sustainable industries, PDC and OSD must first establish a clear set of goals. This MOU is designed to stimulate greater collaboration and improve communication between the two agencies. Private sector partners are also included in several of the specific action items identified.

OSD and PDC programs related to sustainable industries focus on six main areas: business retention and expansion, business recruitment, education and technical assistance, promotion of the Portland metropolitan area, and research. Each area provides opportunities to focus existing efforts and to create new strategies.

Section I. Business Retention and Expansion

Business development is a core function of the PDC Economic Development Department. Current business retention and expansion activities include:

- business retention and expansion visits
- technical assistance resources
- financial incentives
- business networking and educational opportunities

A weekly report of business visits is provided to the Mayor's Office, which provides personalized letters to each company visited. The technical assistance provided by OSD and described herein also supports a positive business climate in the city and supports business development.

Deliverables:

A. Improved Interagency Resource Guide and Coordination. In 2005, the Parties increased the level of resource sharing related to business development. This practice will continue and improve. This suggested action calls for interagency training so that staff can learn directly about each other's programs. This training will improve staff's ability to inform our clients of available resources. Regular meetings and resource sharing will be scheduled among PDC, OSD, and the Sustainable Development Commission's economic development committee[40] to review the flow of information and to compare the needs being expressed by our mutual constituencies.

An interagency resource guide will be updated on a regular basis, and will be available in printed and electronic formats.[41] Staff at both agencies (including staff that are not engaged in business development) will be briefed regarding resources and programs that each agency provides to its

[40] The Sustainable Development Commission (SDC) is a citizen advisory panel that reports directly to Portland City Council and Multnomah County Commissioners. The SDC is charged with promoting city and county policies to promote sustainable government operations, a set of indicators to measure sustainable performance, and sustainable economic development.

[41] Program information is currently shared between agencies and the public.

business constituents. The Lunch Brown Bag events are one good forum for staff to share information.

Timeframe: A revised interagency resource guide will be completed by late 2006. Staff presentations will be scheduled at both PDC and OSD in Q3 2006 and Q1 2007.[42] A business development and technical assistance committee comprised of staff from both organizations will meet regularly (2 to 3 times per year or as needed) to inform each other of their activities and monitor the progress of annual workplans.

B. Agency Referral Tracking System. Staff from both agencies regularly refer incoming business development inquiries to one another. An OSD Blue Works brochure, for example, is currently included in PDC business retention packets. Referrals to other city agencies and private sector partners (e.g., Small Business Development Centers, Mercy Corps) are also made. However, there is no current system in place to track the number of agency referrals. A list of companies who have received a business retention and expansion (BRE) visit and/or who have made a request to the Blue Works program will be shared between the agencies on a regular basis. The list will allow staff to review common clients and client follow-up resulting from referrals.

Timeframe: In Q3 2006, staff from both agencies will meet to review efficient and effective methods for tracking the number of referrals. Such methods may include simple phone logs, training staff to ask clients how they learned of a given program, and so on. Once systems are put in place, the results will be evaluated to determine if a tracking system should continue, or if periodic tracking is sufficient to monitor client inquiries and referrals. The same business and technical assistance interagency group described above could also serve this function.

C. Resource Conservation and Business Assistance Center (working title). The barriers to reaching small businesses with resource efficiency programs are well-known. Small businesses face numerous constraints on their time, attention, and finances, with the frequent result that activities not considered part of the core business have little chance of gaining traction. From the provider's perspective, program costs tend to be high relative to resource savings per business, which seriously hampers program cost-effectiveness. However, small businesses comprise the vast majority of Portland's business community. Ninety-four percent of businesses in the city employ less than fifty people. Though individually these businesses may be modest in their resource consumption and waste generation, the cumulative environmental impact of small businesses is significant. In Portland, the commercial sector accounts for roughly 25-47 percent of the electric utility load, 75% percent of the solid waste stream, and 45 percent of water consumption.[43]

The Office of Sustainable Development will take the lead in creating a partnership of service providers that have a direct interest in working with the small business sector to achieve specific resource conservation goals. The intent is to offer small businesses a menu of resource conservation services and incentives that are locally available to them in a customer-focused, result-oriented online resource. OSD would house the program and serve as the coordinating body, providing information resources and facilitating referrals to other agencies when appropriate. Such a program would enable city bureaus and other agencies to be more effective in serving a hard-to-reach target audience by assembling related resource conservation services under a single umbrella.

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[42] Timeframes for deliverable actions are described in terms of calendar year, unless otherwise noted. Fiscal years beginning July 1, 200A and ending June 30, 200B are referenced as FY 0A-0B.

[43] Percentages are based on rough estimates. The various entities that collect resource consumption data do not employ uniform definitions of "small commercial," nor is commercial usage consistently broken out from other, non-residential uses such as industrial or institutional.

Staff at the Center will be able to directly assist and refer companies to business development and resource conservation resources, certification information for companies seeking to achieve recognized standards and OSD-provided certifications related to green building, energy efficiency, and other resource areas. the establishment and operation of the Center. PDC, partner agencies and utilities may contribute to its development and operation.

Timeframe: Planning for a proposed center is underway and will continue in Q1 and Q2 2006. The proposed center is planned to begin operations in early 2007. OSD will take the lead in this endeavor with active support from other partner agencies and PDC.

Section II. Business Recruitment

PDC's business recruitment program provides support and resource information to entities evaluating a location in the Portland metropolitan area. Partner organizations, including the Regional Partners for Business, the Portland Business Alliance, and individual municipal economic development organizations, also respond to inquiries concerning business climate and resources in the Portland metropolitan region. Potential coordinated actions among OSD, PDC and other partner agencies could include:

- Recruitment appointments with site location consultants and businesses to coincide with trade show attendance
- Trade delegation - city to city visits

Deliverables:

A. Business Education and Targeted Business Recruitment – Annual Calendar. Portland business understands the value of attracting quality jobs in target industry sectors. The Regional Business Plan and Sustainable Industries Target Industry Plan include an emphasis on quality jobs. An active plan for regional recruitment of sustainable industries would build upon existing initiatives and focus efforts.

Such a plan would include an annual trade show calendar of national and pertinent international events where leading sustainable industry, renewable energy/energy technologies, or urban development firms will be in attendance. The calendar would establish target priorities (e.g., 3-4 shows per year) and a decision making filter to assess each opportunity. Potential premier events include the US Green Building Council annual convention, renewable energy trade shows, and the Global City Forum, among many others.

The calendar will describe the typical attendees and history of the listed shows, expected outcomes in terms of business exchange, and a preliminary budget estimate of promotional opportunities. These activities will be coordinated with PDC, OSD, City Council, the Portland Ambassadors Program, the Regional Partners for Business, the Portland Business Alliance, state and regional recruitment efforts.

Timeframe: Working with SDC and the partners listed above, a timeframe and mechanism for establishing this kind of calendar will be determined by Q3 2006. Given the complexity and expense of staffing a trade show event, the calendar and accompanying budget will be discussed among the partners indicated above.

An annual calendar will be developed and adopted on a regular basis. The start of the annual city budget process may be an appropriate time to create such a calendar.

B. Annual Budget Targeting Sustainable Industry Recruitment. The city's commitment to a leadership role in sustainable industries – and a commitment to send city representatives to a limited number of strategic events – requires a dedicated budget. The city's participation in national and international events will involve public and private leadership and reinforcement.

Timeframe: In conjunction with the event calendar and prioritization discussed above, an annual budget will also be developed. A mechanism for annual budget discussions to take place will be established.

C. Global City Forum, Lyon, France, May 2006. The Global City Forum is an annual international event that offers a multi-layered opportunity for sustainable industry development, recruitment and promotion, in addition to providing a networking opportunity and convention concerning urban sustainable growth policy and best practices. Mayor Potter has agreed to lead a delegation to the conference, and work has begun with the Mayor's Office, Portland Ambassadors, OSD and PDC staff to determine and organize Portland's presence at this event. Costs related to this event will be underwritten in part by the PDC Economic Development Fund and OSD funds earmarked for best practice development and training.

Timeframe: City Hall and OSD staff began preparing for this event in Q4 05 and will continue in Q1 and Q2 2006.

D. Invite Business Leaders to Represent Portland. Portland business and academic leaders regularly attend conventions and events related to sustainable industries, nationally and internationally. Opportunities exist to work with business leaders to share Portland promotional and resource materials at these kinds of events. For example, several Portland and Oregon firms attended the national solar convention in Washington, D.C. in October 2005. These firms shared information about Portland resources with selected convention attendees.

City staff should identify conventions and events of interest, and approach private sector partners who are sponsoring or attending these events. A brief training may be given to corporate volunteers concerning Portland resources (including simple website addresses that can be easily disseminated). These activities will be coordinated with the Portland Ambassadors program and the Sustainable Development Commission

Timeframe: The completion of a calendar of events in late spring 2006 will result in a short list of targeted shows. Potential Portland volunteers will be identified and approached throughout the calendar year.

Section III. Technical Assistance/Education

As referenced above, a number of existing programs provide businesses with technical assistance. Calls concerning these programs and Portland sustainability efforts are received every day, at City Hall, OSD, PDC, other city offices, the Portland Oregon Visitors Association, the Portland Business Alliance, and others. A common script should be developed so that staff throughout the city who answer general inquiries know where to refer people.

Calls from existing and start-up Portland companies include those seeking real estate information, or information related to recycling, energy efficiency, financial support (grants and loans), promotional support, technical assistance for increased energy/environmental performance, resources on tax benefits, green building design, etc. Other calls are received from companies exploring a potential Portland location. A large number of calls are also received from student researchers, foreign and domestic public officials, and professional associations seeking an opportunity to "tour Portland."

Deliverables:

A. Business Resource Training for Other City Staff. The goal of this deliverable is to ensure that sustainable businesses locate available city resources efficiently. A simple resource guide will be developed that outlines the business development and technical assistance tools available at PDC and OSD. The guide will be provided to staff at both agencies, as well as other public agencies. This reference is not designed to replace existing technical assistance matrices but rather, will provide a quick overview for public sector staff throughout the city.

Timeframe: This resource will be developed in the third quarter of calendar year 2006 and will be updated as needed by OSD and PDC staff.

B. International and National Visitors Program. Portland receives a considerable number of inquiries and visits from government officials, company representatives and average citizens who would like to learn about how Portland operates so sustainably. There is currently no central organizing program to host such visitors. The Portland Oregon Visitors Association, World Affairs Council, Portland State University, and city staff, among others, have reviewed various program options to respond to and take advantage of the large number of visitors. For example, a series of half-day and full day agendas could be established on a fee for service basis. A feasibility analysis should be undertaken to examine the staffing, printing and other costs, as well as the anticipated income, from such a program. OSD would take the lead on this project, with support from PDC. Activities could be coordinated with the Portland Oregon Visitors Association and the World Affairs Council.

Timeframe: A feasibility and scoping exercise will be undertaken following other actions listed in this MOU, beginning at the end of calendar year 2006 or early 2007.

C. Support and Expand Existing Technical Assistance Programs. OSD and PDC both provide technical assistance resources to Portland businesses. Some of these programs include:

- The Sustainable Business Assistance Program (PDC) – a pre-development and process assessment matching grant program
- The Oregon Manufacturing Extension Partnership (PDC) – a process improvement and lean manufacturing assistance program
- BlueWorks (OSD) – a business operations assessment program to integrate recycling and resource conservation
- G-Rated Technical Assistance (OSD) – a technical assistance program to support green building projects.

Information and application materials about these existing resources would be available at the proposed Resource Conservation and Business Assistance Center (see section IC).

Section IV. Sustainable Leadership Campaign - Promotion/Marketing

City promotional activities occur through a variety of means, including trade shows, marketing campaigns, and hosting conferences and events, among others. As a city and a region, Portland does not dedicate a significant level of resources to promote its success stories. With some limited exceptions, such as Brand Oregon, few marketing campaigns have been undertaken to competitively highlight the Portland name. A coordinated promotional effort should be undertaken to increase level of awareness and understanding of Portland and Oregon strengths.

Activities could include:

- Recognition and events, such as the OSD BEST Awards (Businesses for a Sustainable Tomorrow)
- VIP communications – partner development
- Increase the number of press releases and e-mail announcements regarding successful sustainable industries

Clearly, any activities that are undertaken in this important area need to be coordinated with existing efforts. As with other actions listed in this Memorandum of Understanding, a successful approach will rely upon incumbent as well as new ideas.

Deliverables:

A. Insert Sustainable Messaging into Existing Campaigns. Identify opportunities to increase national and international levels of awareness of leading Portland companies and regional resources. As part of this effort, resource facts and figures will be provided to current promotional campaigns (including PBA, POVA, the state, Brand Oregon) so that language regarding the strength of Portland's sustainability industries is shared and available. If appropriate, a coordinating committee will determine specific existing campaigns and opportunities to include this message.

Timeframe: Partner agencies will meet in Q2 and Q3 2006 to develop a more concrete outcome and deliverables related to this action item. The meeting will be called by OSD, with support from PDC. Further detail and an accompanying timeframe for this action item will be developed at that time.

B. Develop a Communications Plan as it relates to Sustainability in Portland. A Communications Plan defines the goals, objectives, and methodologies for brand development, promotions and outreach. Following PDC Commission and City Council support of this MOU, the scope and budget for a Communications Plan will be determined. This effort will be guided by the communications/marketing staff at OSD, with input from the Mayor's Office, the SDC, the PDC, POVA, PBA, and selected private sector partner(s).

Timeframe: A professionally developed Communications Plan would likely require a staff selection committee, scope of work, and request for proposals. It will likely take 3-6 months to establish such a plan – again, depending upon the final scope determined.

The first initial meetings to determine this Scope will be held in mid to late 2006.

Budget: A likely budget amount for an externally produced Communications Plan would be approximately $20,000. Please note that this estimated price is for the professional services and does not include any of the printed materials that may be produced. Alternatively, a simpler Communications Plan or Strategy could also be developed relying upon internal resources.

C. Identify Co-sponsorship and Marketing Opportunities. Much as the public and private sectors collaborate regarding trade show attendance, opportunities may exist to collaborate with businesses interested in promoting themselves in trade journals and other appropriate media. Opportunities also exist for public agencies to leverage their promotional dollars for increased exposure.

Timing for co-sponsorship and marketing activities will be coordinated with the development of the City Communications Plan. The same committee referenced in IA and IB could also undertake this task.

D. Sustainable Industries and Actions: Best Practice Visits. Business and local government leaders regularly track the accomplishments of fellow metropolitan areas with respect to their efforts to support sustainable industry cluster growth and sustainable development assistance. The cities of Seattle and Austin, among others, are often cited as having leading programs. On occasion, a business and government delegation may arrange to visit another area – or host their representatives. The Portland visit to Vancouver, British Columbia in early November 2005, provides a good example.

Outcomes from such a trip could include a written summary of contacts made, programs identified, and possible business opportunities for Portland companies. Trips will occur on an occasional basis as valuable opportunities are identified (rather than on a standing annual basis).

Timeframe: PDC and OSD staff will prepare a briefing paper identifying potential visits and the resulting benefits; the draft will be shared with volunteers from the Portland Business Alliance sustainability committee, the SDC Economic Development Committee, and the Portland Ambassadors.

Section V. Public Policy

Both agencies support common public policy objectives related to sustainable business practices and economic revitalization. As public organizations, we collaborate with the City's elected officials and provide customer service to Portland residents and businesses. This memorandum of understanding identifies specific policy areas that will engage staff and leadership from both organizations.

Deliverables:

A. Coordination with the Portland Business Alliance. PDC and OSD will coordinate pertinent activities with the Portland Business Alliance (PBA). In September 2005, PBA reported that its members wanted to establish increased collaboration with city officials in the formation of policies related to sustainability.

PDC staff will also inform other business organizations with an interest in sustainable development policy of this MOU, such as the Portland Regional Partners for Business.

Timeframe: A meeting with PBA staff regarding this MOU and resources available to their members took place on December 7, 2005. Presentations to PBA members will take place throughout 2006 and 2007 as requested, so that area firms will gain a better understanding of public resources to foster increased sustainable development. Please also see the following sections regarding Business Recruitment and Promotions/Marketing for a description of other actions that will be coordinated with PBA.

B. Coordination with the Sustainable Development Commission. PDC and OSD are regularly engaged in policy discussions with the Sustainable Development Commission to uncover new opportunities and ideas. OSD staff already supply staff leadership and resources to the SDC. Following this MOU, each agency will provide staff and information resources to support the activities of the SDC's Economic Development Subcommittee. This will include sharing resource information with SDC members and attending subcommittee meetings. Members of the Economic Development Committee will learn about public resources available to support business development.

Timeframe: Both agencies will support and collaborate with the Economic Development Committee throughout its tenure (current members will serve through 2007). The committee's work plan will be determined in Q1 and Q2 2006.

C. Bureau Innovation Project and City of Portland Public Purchasing. OSD and PDC will work with the Bureau of General Services, Multnomah County and other city agencies to identify opportunities to increase purchasing decisions that support local, sustainable companies. The procurement of office supplies, paper products, and food services are examples, among others.

Much work has already been completed and future undertakings will build upon these resources. The Bureau Innovation Project, for example, has focused some resources on this important topic. The Bureau of General Services (BGS) and the Office of Sustainable Development will be lead contacts.

Timeframe: This activity will commence in Q2 of calendar year 2007. The lead agencies will meet to specify work plan activities to promote this objective. Further detail may also be incorporated in future amendments to this MOU.

D. Green Building and Sustainable Energy Policy. In 2005, important city policy decisions were approved related to Green Building and Sustainable Energy. The City of Portland and the Portland Development Commission both acted to elevate the standards in their existing Green Building policies. OSD committed to securing renewable sources for all energy consumed by the city, including all city operations and facilities, by the year 2010 and are expected to be online in 2007.

Future policy directives will be decided upon by our public leaders, partner companies, agency staff, and the Sustainable Development Commission, among others.

E. Opportunities for Further Regulatory Reform. PDC and OSD will investigate regulatory reforms to reduce the cost of doing business in Portland, specific to sustainable industries. In 2005, the City of Portland and PDC adopted higher certification standards for construction and renovation projects receiving public support. OSD and the Bureau of Development Services (BDS) identified steps that could be taken to facilitate city permitting related to green building development.

Timeframe: Initial discussions among staff from OSD, BDS, PDC, the Bureau of Planning, and Metro, among others, will be scheduled in late 2006 and early 2007 to determine areas for further regulatory review and a timeframe for future activity.

Section VI. Research

Over the past several years, the potential of the sustainable industries sector has been analyzed by both public and private organizations. For example, OSD and PDC have created and updated policies specific to the green building industry that have demonstrated a great deal of commercial interest. Many current efforts statewide have focused on the formation of target industry clusters. However, much still needs to be done to develop and coordinate strategies for a strong sustainable industries sector and sustainable business practices.

Deliverables:

A. Reference Bibliography. PDC will create a bibliography of existing Portland and Oregon studies concerning sustainable industries and a compendium of current city and state target industry strategies with respect to sustainable industries. This compendium will include a summary of the recommendations provided in each report. OSD staff will review a draft and contribute research information.

Timeframe: An initial bibliography will be completed in late calendar year 2006. A final bibliography and report summary will be completed in early calendar year 2007.

B. Sustainable Industries Maps and Directory. OSD and PDC will produce a short series of graphic representations and accompanying industry directories of sustainable industries in the metro region. The graphic representations will visually represent the number and respective sizes of regional companies that have implemented sustainable practices and/or that provide related products and services.

The directory will provide company name, its products or services, and a summary of the primary sustainable technology or practice each company employs. Separate directories for each area (e.g., green building, energy industries, and recycled products) as well as a single comprehensive directory may be established. The directories and visual maps will also be valuable in educating visitors to Portland and in other promotional materials (see Deliverables 4B and 5B).

OSD will take the lead on this task, with research support from PDC.

Timeframe: A project committee will meet in Q3 of calendar year 2006 to clarify time line and work products. The first graphics will be produced in the first half of 2007.

C. Green Building Cost and Opportunities Study. PDC and OSD will conduct a Green Building Cost and Opportunities Study of existing Portland buildings (LEED and energy-efficient buildings) to determine possible business opportunities in gap areas. The study will have two primary objectives: to provide detailed cost estimates associated with specific LEED variables among similar building types of recent construction (post-2000); to produce a sourcing list for materials and services procured. The sourcing list will be used to identify gaps in products and services available in the metropolitan region, and to establish possible corresponding business opportunities.

Timeframe: Preliminary project scoping has already taken place with the expectation that this work will take place in 2006. Staff plan to establish a Project Coordinating Committee comprised of private sector partners, including funding partners. The committee will meet 2-3 times as necessary to agree upon the scope of work and selected buildings.

Budget: PDC has reserved $10,000 to contribute to this study in fiscal year 05-06. While total project costs need to be determined, approximately $50,000 -$60,000 may be anticipated, depending upon the final number of buildings included in the study. Private sector funding will also be sought to support this endeavor.

D. Future Industry Opportunity Stud(ies). Following the completion of the Green Building study, PDC, OSD and the Sustainable Development Commission will review other industry clusters and determine if future opportunity studies may lead to increased economic activity. Likely sectors that could benefit from such a review may include clean energy, ecosystem services, recycling process and recycled content materials.

Timeframe: The Sustainable Development Commission and staff will review and determine the need and resources for future studies. This will occur on an ongoing basis.

Current examples of market evaluation/opportunity studies:

- Hydrogen re-use: In 2005, a large manufacturing company expressed interest in determining if hydrogen produced at their facility could be captured and re-used by other area firms. PDC provided financial assistance for a feasibility analysis.

- Biodiesel Market Analysis: PDC began working with a biodiesel company in fall 2005 to determine if and what additional market research could be conducted as a resource for their growing company. Working with a private sector partner, this research was undertaken in the early part of 2006.

IN WITNESS WHEREOF, the Portland Development Commission and the City of Portland, through the Office of Sustainable Development has executed this MOU as of the date first written above.

PORTLAND DEVELOPMENT COMMISSION		**CITY OF PORTLAND OFFICE OF SUSTAINABLE DEVELOPMENT**
By: _____ Bruce A. Warner, Executive Director		By: _____
Approved as to Form:		**Approved as to Form:**
By: _____ Michael Grieser, Staff Attorney		By: _____