

Discussion Paper for Leadership Summit 2003

REFOCUS ECONOMIC DEVELOPMENT ON INDUSTRY CLUSTERS

Overview

Oregon's economy is powered by the success of traded sector industry clusters, groups of firms utilizing similar technologies or serving similar markets, together with closely linked suppliers, a local talent base, and supporting institutions. As part of the Oregon Business Plan, we propose to bolster the state's economic future by developing a stronger set of relationships within and around these clusters, including a broad range of public and private sector actors. Our cluster initiative calls for specific actions in three distinct areas:

- **Deepening the Understanding of Industry Clusters.** We recommend that working closely with the private sector, we do a more systematic and detailed job of "mapping" the industry clusters that compose the Oregon economy. We also recommend setting up an ongoing system to identify new emerging clusters.
- **Using the Cluster Framework Strategically.** State, regional and local economic development efforts and plans need to embrace the cluster approach, identifying the relevant clusters and cluster organizations they need to work with to bolster the economy. We recommend a) that this approach be reflected in the new legislatively mandated plan that the Oregon Economic and Community Development Department produces by June 2004 and b) that we develop a website to inventory and link all of the diverse public and private sector cluster development efforts. We also propose supporting a "community of practice," documenting and sharing best practices, promoting peer learning, and upgrading the skills of all those who work with clusters.
- **Strengthening the Cluster Firm Relationship.** The public sector acknowledges the key role of trade associations and other formal and informal industry organizations, working through these entities whenever possible to communicate with and develop cluster activities. By next December an industry-cluster led organization should be designated or formed for every identified traded sector cluster in the Oregon economy.

The recommendations in this white paper were developed after close consultations with the Cluster Working Group, representatives of private, public, and non-profit organizations from a broad range of industry clusters and different regions of the state.

What We Are Trying To Accomplish

The objective of our industry cluster approach to economic development is to develop a better understanding of the way businesses in the Oregon economy compete in the global marketplace and to develop more effective means of understanding their challenges and supporting their success. A cluster approach can help firms to be more successful by promoting their common interests, and it can make the public sector more effective in supporting the economy.

Industry clusters are groups of similar and related firms in a defined geographic area that share common markets, technologies, worker skill needs, and which are often linked by buyer-seller relationships. Firms and workers in an industry cluster draw competitive advantage from their proximity to competitors, to a skilled workforce, to specialized suppliers and shared base of sophisticated knowledge about their industry.

Clusters are integral to the economic vision of the Oregon Business Plan. The state's greatest assets and best opportunities for innovation, for attracting and developing talent, like in those areas where we already have a strong concentration of firms and workers. Working with clusters can enable us to identify the most promising opportunities to encourage further innovation, develop particular worker skills, and address issues that affect productivity.

The architecture of clusters proposes a new way for the public and private sectors to work together to build on the strengths of the Oregon economy. The proposal describes new ways of thinking about the economy and of analyzing economic problems, a new approach to organizing and coordinating a wide variety of efforts that are already ongoing, and challenges us to do even more.

Clusters: Why They're Important, How They Work

Clusters illustrate why place still matters in the global economy. Businesses thrive in particular locations because their network of local connections to a specially skilled local workforce and the availability of strong local suppliers in proximity to one another generates business advantages that can easily be imitated or competed away by low cost competitors.

Oregon's industry clusters include a mix of newer high technology businesses like semiconductor manufacturing and software, as well as clusters centered around traditional resource-based industries. In addition, the state has a range of smaller industry clusters ranging from manufacturing industries like metals to more service-oriented industries like creative services.

Clusters can be used in a number of different ways to organize our thinking about the economy, to network groups of private sector firms for their mutual advantage, to efficiently promote clear lines of communication between the public and private sectors, and as a vehicle for organizing public policy. Clusters are not the exclusive province of any one organization or agency—they are a way we can all better understand our economy and work together to promote the common economic good.

Location Still Matters

The importance of clustering seems like a paradox in the age of the Internet. While many people have assumed that the emergence of the global economy has somehow diminished or reversed the importance of place – "in an information economy, anything can be anywhere," it is asserted – careful studies have shown the reverse is true. Harvard Business School's Michael Porter, one of the most influential business scholars of the past decade, documented in a wide variety of industries in every developed country that the creation and maintenance of competitive advantage hinges most critically on clusters of highly competitive firms.

In his study of the competitive advantage of national economies, Porter found that location characteristics play an important role in the success of a region's industries (Porter, 1990). Where a company was located had a huge impact on its global competitiveness. Instead of focusing on factors inside the company, the industry cluster approach suggests "that a good deal of competitive advantage lies outside companies and even outside their industries, residing instead in the locations at which their business units are based." (Porter, 2000, p. 16).

What are industry clusters and how do they work? According to Michael Porter, clusters are groups of similar and related firms concentrated in a small geographic area (Porter, 1998). To

make a cluster function, they must consist of interconnected firms in the same fields, specialized suppliers, service providers, firms in related industries, and associated institutions (such as trade associations, universities, technology transfer centers, etc.). Through their competitive and cooperative dynamics, industry clusters are successful in creating competitive advantages to the firms that are located in them.

While many people equate industry clusters with high tech agglomerations like Silicon Valley, the clustering of industries in particular regions, far from being the exception, is the norm both in high tech and low tech industries. Economist Paul Krugman notes that one of the most famously clustered industries—the U.S. auto production complex in southern Michigan and the adjacent portions of Ohio and Indiana—is only slightly above the median level of spatial concentration for all U.S. industries (1991). From jewelry in Providence, Rhode Island, to recreational vehicles in Elkhart, Indiana, to medical devices in Minneapolis-St. Paul, Minnesota, such clustering is a common phenomenon.

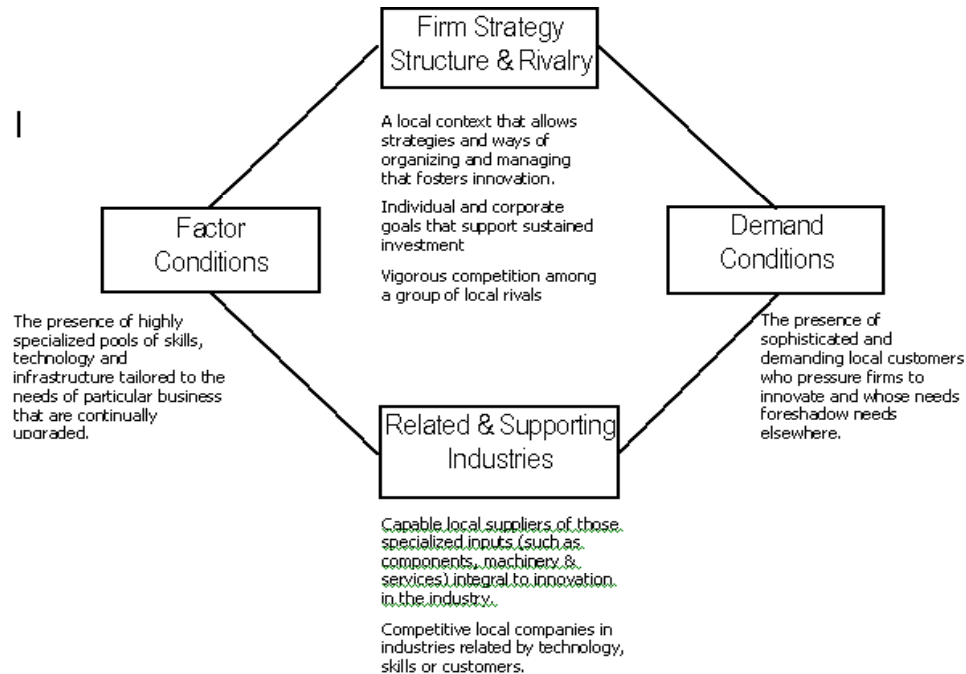
Porter's industry cluster framework provides a new perspective on the determinants of regional competitive advantage. Traditionally, economic developers have thought that they can influence a region's economy by lowering the costs for doing business in their areas. Corporate incentives such as tax breaks for individual firms were the tools of choice. But cluster thinking goes beyond the narrow cost-based view of the business environment by focusing on an extended set of factors that influence the competitive advantage of a group of firms. Within this view, public policy efforts become more effective because they not only affect one individual company. Rather, an industry cluster comprised of a set of interrelated firms benefit from such efforts.

The Diamond of Competitive Advantage

Porter's industry cluster analysis is summarized in the diamond of competitive advantage (Porter, 1990). The four components of the diamond are:

- Firm strategy and rivalry
- Demand conditions
- Related and supporting industries
- Factor conditions

If a region succeeds in developing an industry-specific diamond, then the region's industry cluster can be competitive in the global economy because individual firms belonging to the cluster can draw on specialized services, inputs, and related industries. Thus, Porter's diamond powerfully describes the mechanics of industry cluster competitiveness.



The four elements of Porter's diamond deserve highlighting because they are integral to understanding why industry clusters are more competitive than firms that are isolated from others.

Firm strategy and rivalry: This aspect of the diamond refers to the conditions governing corporate organization and aspects of rivalry among firms in the same cluster. If cluster firms choose to continuously upgrade and invest, then they will remain competitive. Additionally, if these firms compete with others in the same industry cluster, they will be motivated to constantly innovate in order to differentiate themselves from their rivals. Both firm strategy and rivalry contribute to regional competitiveness drawing on regional innovation dynamics.

Demand conditions: The presence of sophisticated and demanding local customers will force industry cluster firms to continuously innovate and stay on the leading edge. Cluster firms must cooperate with their customers in order to meet their needs. Additionally, meeting the demand of sophisticated local customers will help cluster firms to compete more successfully in global markets.

Related and supporting industries: The third aspect of Porter's diamond refers to the presence of capable, locally-based suppliers and of competitive related industries. These supportive industries create a web of necessary providers on which firms can draw upon. Cooperation between firms and their suppliers creates innovation because it is vital to these firms to exchange information and knowledge about new processes and products.

Factor conditions: These include factors of production such as a skilled labor force, specialized infrastructure, educational institutions that all firms in the cluster can draw on. Porter states that "to increase productivity, factor inputs must improve in efficiency, quality, and (ultimately) specialization to particular cluster areas." (Porter, 2000, p. 20). Such specialization will contribute to increased productivity. And if specialized factor conditions are only available at one location, then it is less likely that the same set of conditions will

be available elsewhere. Thus, demand for services and products from firms in this specific cluster will rise because no other location provides the same set of services and products.

Porter concludes that "the cluster is the manifestation of the diamond at work. Proximity, arising from the co-location of companies, customers, suppliers, and other institutions, amplifies all of the pressures to innovate and upgrade." (Porter, 2000, p. 21).

Innovation in Clusters

The Oregon Business Plan identifies four P's that are critical to our state's future prosperity: pioneering innovation, people, place and productivity. The starting point of this framework is pioneering innovation, the ability of Oregon workers and businesses to develop new and better products and processes as a way of succeeding. Clusters play a crucial role in driving innovation. They are typically areas in which Oregon has a strong knowledge base and that capacity to turn ideas into businesses and jobs.

Industry clusters increase the capacity of firms to innovate and grow their productivity. A cluster enhances productivity by providing firms with the privilege of accessing specialized inputs and employees, as well as unique information and knowledge. Firms that are connected to other firms and whose employees are part of cluster networks, will ultimately have an advantage because they are able to more rapidly respond to market needs. Firms that recognize the benefits of information and knowledge flows will benefit because they notice new technological or market possibilities faster than others.

Box 1: Cluster-Specific Institutions For Collaboration

- Promote cluster awareness.
- Engage in ongoing diagnosis of cluster's competitive position.
- Compare position relative to other regional clusters.
- Identify constraints, obstacles, and advantages.
- Develop training and management programs.
- Provide programs through institutions for collaboration.
- Coordinate with local institutions to provide programs.
- Actively participate with government in recruitment efforts.
- Communicate with firms in clusters to identify gaps in the cluster and recruit accordingly.
- Widen institutional membership to include all cluster constituents.

(Porter, 2001)

Cluster development is in many ways closely related to the growing importance of the knowledge-based economy. The process that creates and sustains these agglomerations of industry in particular places is in large part a process of knowledge creation. Groups of firms compete fiercely against one another to achieve a technological edge, building their own knowledge, as well as building and drawing on the knowledge of customers, suppliers, workers, and others. Industry clusters tend to be vibrant sources of innovation, both in existing companies and through the creation of new businesses.

“The forces in the diamond that are supercharged in an industry or cluster are geographically concentrated in a region or even in a city within a region. This heightens the speed of information flow, the responsiveness of institutions to needs for specialized investments, the pressures provided by capable suppliers, customers and competitors, and the extent to which pride and a sense of local responsibility stimulate dynamism even further.”[Porter, 1991 #468]

Traded Sector Industry Clusters

We’re particularly interested in what economists call the “traded-sectors” of Oregon’s economy, those industry clusters that consist primarily of businesses that sell their good and services in competition with businesses located outside Oregon (and in many cases outside the United States). Traded sector businesses are important for a variety of reasons, most importantly because they sell their products and services outside the state, bringing in new income that is re-spent in other sectors of the Oregon economy. Unlike the local sector of the economy—those businesses that sell their goods and services primarily to local residents, and only in competition with other local businesses—these traded sector businesses can grow either much more quickly (or more slowly than the rest of the economy). When they grow more quickly, they provide an impetus to the overall economy’s growth and development.

Oregon’s Clusters

Oregon’s economy is driven by a series of traded sector industry clusters. The largest of these clusters include traditional industries like the wood products industry and the agriculture and food processing industries, as well as newer industries, like high technology electronics manufacturing and software. In addition to these well known industries, there are other industry clusters, that are established but somewhat smaller than the leading industries, including metals, machinery, transportation equipment, nursery products. Finally, there are groups of firms that are still quite small in number, but which may represent actual or potential clusters of future economic activity, what we call “emerging industry clusters.” These include candidates such as biomedical products.

- High Technology/Software
- Wood & Paper Products
- Food Processing and Agriculture
- Apparel & Sporting Goods
- Transportation Equipment
- Creative Services
- Recreation-Related
- Metals/Machinery
- Nursery Products
- Professional Services
- Biomedical

The Oregon Economic and Community Development Department has commissioned an initial statistical study that is the first step in identifying statewide industry clusters. This report identifies groups of firms in different sectors of the economy that are more concentrated in Oregon than in the typical state, where an industry is growing faster in Oregon than the same industry nationally, and where an industry pays higher wages than the comparable industry nationally. These indicators signify good potential candidates for clusters. (The full study is available on line through the OECD website).

But this kind of analysis is just the first step. What we'll need to do next is work together statewide to pool efforts to more accurately identify the composition, contours and competitive advantage of these clusters. This will involve conversations with a variety of actors, as we explain in our recommendations.

What Clusters Are Not

The term clusters has come into common use in the last few years, and in many cases there is some confusion about what it does and doesn't mean. Because clusters are often discussed as part of public sector-led economic development efforts, some people assume that clusters are just some new kind of government led economic development program, and one that might involve favoring some parts of the economy over others. We address four common misconceptions about clusters.

Not (Just) A Public Sector Activity. First and most importantly clusters don't depend on the public sector. As our definition makes clear, clusters are about the relationships between private sector firms that share common inputs, similar technology, related markets or drawn on particular sets of worker skills. Ultimately, participating private sector firms decide whether there is a cluster and who its members are.

Not A Program. Does the importance of clusters mean that we ought to have a new "cluster" program for our state or for individual communities? To be effective, the public sector approach to clusters has to cut across programs, departments and levels of government. Clusters become a way for all government entities (as well as private firms) to think about the way their activities influence the private sector of the economy. The efforts to work with some clusters may be lead by particular arms of government with a special mission or competence (like the Film and Video Commission working with creative service firms, or the Department of Agriculture working with food processors), but clusters can't be treated as a separate program or activity.

Not Creating Clusters or Picking Winners. While government policy can play an important supporting role, it is abundantly clear that government can't create clusters where none exist. Some people fear that engaging in an effort to work with and develop industry clusters involves having government pick winners. But a cluster view doesn't involve ranking or excluding any industry. We should view our entire economy as being composed of cluster and recognize that we can work with large, well-established and growing clusters, just as well as working with smaller, newer and even slow-growing clusters.

Not "One Size Fits All." A final concern about clusters is that there is a single set of policies or activities that is required to be a successful cluster. In fact, clusters form a basis for systematically addressing the important differences among industries, and tailoring one's thinking, conversations and actions to the particular challenges and characteristics of each industry. Some industry clusters may value a strong formal industry organization and cooperate very closely on issues of market development (like the nursery industry). Other industry clusters may have much less formal kinds of collaboration, and be concerned about energy

policy, job training, or resource management. Too frequently, our economic development efforts present the private sector with a pre-determined array of programs and services; clusters give us a way of crafting our efforts to develop each industry to its most pressing concerns.

Recommendations

The Oregon Business Plan Cluster Working Group met three times in October and November 2003 to share experiences and insights on industry cluster development activities around the state and to develop a consensus on next steps for promoting effective cluster development statewide. This group consisted of representatives of individual businesses, trade associations, economic development professionals from a variety of communities, as well as educators and workforce development officials.

It’s time to integrate cluster thinking into all our efforts to improve the Oregon economy. This group developed three practical steps we can take to use this cluster concept to help secure prosperity.

1. Deepen understanding of industry clusters

Desired Outcome	Indicator	Timing/Responsibility
Clusters are defined and understood based on cluster firm input and preferences, not just statistical analyses.	All clusters are defined at an effective level of granularity, with supply chain and evolution mapped, and key needs identified, based on cluster firm input and preferences.	By 6/1/04
Oregon’s emerging clusters are quickly identified and supported.	A process for identifying emerging clusters is in place. At least one new high-potential cluster has been identified, and initial steps have been taken to strengthen cluster firm relationships.	By 12/1/04

Our first task is to deepen our understanding of the industry clusters that drive Oregon’s economy. We have a good base to work from, but there’s a lot more work to do. At the state level, the Economic and Community Development Department and the Employment Department have analyzed economic data to identify statewide candidate clusters. A number of studies have been undertaken of industry clusters in different parts of the state, led by educational institutions, industry groups and economic developers.

We recommend that we define all of the state’s industry clusters, utilizing the existing base of statistical research, and validating it with industry supplied information about the connections and relationships among principal cluster firms, their suppliers, and related and supporting institutions. For each identified industry cluster we propose to identify an industry-led organization—one tailored to the needs of the particular cluster--ranging from a formal, membership based trade association, to less formal working groups. This task of cluster identification should be complete by June 30, 2004. These efforts to identify clusters will be coordinated and documented through our cluster matrix (see below).

Our second task is to develop an ongoing method for quickly identifying the emergence of new industry clusters, and assuring that they are understood and appropriately supported. By the end of 2004, we anticipate setting up a system to survey employment data,

corporation records, patent information and other sources to identify new business formation that may be the precursor of cluster formation. This effort should be led by the Council for Knowledge and Economic Development working with OECD, the Oregon Employment Department, business groups, and regional economic development organizations.

Most fundamentally, clusters are a concept for making sense of the way our complex and evolving economy works. Oregon's modern economy is huge and complicated, consisting of more than 1.5 million workers, more than 100,000 businesses with a payroll, and more than \$100 billion in economic activity, annually. It's difficult to comprehend all of the issues and aspects of this system based solely on one's personal experience.

Clusters provide a basis for simplifying this complex system into a manageable and reasonably accurate model of how the economy works.

As citizens, consumers, workers and entrepreneurs, we're all participants in the Oregon economy. The first step in applying the concept is to think clusters in all these roles. As consumers, some of the local demand we provide, particularly for Oregon food products, can help provide the basis for an industry that can develop international competitiveness. As workers, our particular skills, and those of our peers are a critical ingredient in the success of the clusters that form the Oregon economy.

It can be particularly helpful in stimulating public knowledge about clusters if our states news media address the economy, not just as the ups and downs of the stock market and individual companies, but as observations about the health of interrelated industry clusters.

Beyond understanding the way the economy works, clusters provide a basis for improving the way that governments (and other efforts that work to stimulate the economy) communicate with private businesses. Right now, organizing a conversation with the Oregon business community is a difficult task. There are more than 100,000 business owners in the Oregon economy. To simplify our communication chore, we often think about how to divide these thousands of businesses into representative groups, and have conversations with a sample of businesses in each group. Most commonly we divide businesses into groups according to their size or location; we have conversations with small businesses, large businesses, medium sized businesses, or businesses in a particular neighborhood, city or county.

But size and location are a poor basis for structuring useful communication with a large group of businesses. Businesses frequently have little in common with other businesses just happen to employ the same number of people or be in the same county. For example, a ten person software firm in Bend may have more in common with a 50 person software firm in Beaverton than it does with a ten person dry-cleaner down the street.

Grouping businesses according to industry sector, or more usefully, according to industry cluster elevates the range of opportunities for useful communication. Businesses in a cluster often share common problems, deal with the same technology, sell into the same markets and generally "speak the same language" as one another.

2. Use cluster framework strategically

Desired Outcome	Indicator	Timing/Responsibility
This cluster framework is used widely to organize and drive economic development policy.	OECDD has developed an ED plan for Oregon that incorporates cluster strategy (HB2011)	By 6/30/04
	All regional ED plans use the cluster framework	By 9/04
Industry cluster efforts (Hot Teams, OECDD, City of Hillsboro, INEAS, etc.) are aligned, with minimal duplication of effort, and resources pooled where possible.	The Web Site keeps links to (or includes) current plans and status for all Oregon cluster efforts.	By 6/1/04
An Oregon industry cluster community of practice is in place. People who do industry cluster development work have a wide assortment of knowledgeable peers they communicate with regularly to spread war stories, successes, best practices, share practical knowledge and insights.	Cluster practitioners are having x conversations per week with other practitioners outside their organization and outside their local area.	By 12/1/04

We propose three specific steps for employing the cluster concept strategically.

First, we'll integrate clusters into a wide range of economic development policy and planning efforts. Already a number of local and regional plans have developed cluster components. Over the next year, we recommend that the statewide economic strategy that the Oregon Economic and Community Development is required to develop under House Bill 2011 include a substantial cluster element. This task should be completed when the strategy is submitted by its June 30, 2004 statutory deadline. Also, we recommend that the regional economic development strategies developed by Economic Development Districts with the guidance and support of the US Economic Development Administration also include strong cluster elements. These plans should be completed by September 2004.

Second, we recommend that we align industry cluster development efforts throughout the state into a well coordinated network that widely shares information, pools resources, and minimizes duplication of effort (for the both the public and private sectors). As a first step, the cluster working group has developed its own matrix of tentative industry cluster classifications, and categories of supporting activities. We envision continuously improving this framework and using it to help everyone understand the range of actors and efforts involved in helping support Oregon clusters.

Provisional List of Industry Clusters	Organization and Strategy			Policies Programs and Actions to Support Clusters						
	1. Deepen Understanding of Cluster	2. Use Cluster Framework Strategically	3. Strengthen Cluster Firm Relationships	4. Remove Reg. / Policy Barriers	5. Facilitate Financial Access	6. Build Innovation Capacity	7. Develop Sustainable Workforce	8. Facilitate Infrastructure Access	9. Educate Customers & Public	10. Recruit Cluster Businesses
All / Multiple	1 2 3 4	5	6 7 8	9	10	11 12	13 14		15 16	
High Tech / Software*	17 18 19 20 21 22	23 24	25 26 27 28 29 30		31 32	33 34	35 36 37 38 39 40 41			
Forest / Wood / Paper	42		43 44 45	46 47		48 49	50		51 52 53	
Food Processing		54 55 56	57 58 59 60 61 62				63			
Apparel / Sporting Goods			64							
Transportation Equipment										
Creative Services	65		66	67			68			
Recreation			69							
Metals							70			
Nursery Products	71		72			73			74	
Professional Services										
Biomedical	75 76 77		78 79 80	81	82	83 84	85			
Renewable Energy			86							

By June 30, 2004, we propose development of an Oregon Clusters website to make the information contained in this matrix readily available to all interested parties, and updated on a real-time basis, with information about ongoing activities, meetings, and providing progress reports. Responsibility for the development of this website would be in the hands of the Cluster Working Group, and would be supported by the Oregon Economic and Community Development Department.

Third, we recommend building an explicit “community of practice” around clusters in Oregon, an ethic, a set of relationships and supporting mechanisms to develop the skills and understanding of all those working with industry clusters. The objective of this effort would be to steadily improve the skill, professionalism and effectiveness of all those involved in supporting clusters in Oregon, and to reinforce the seamless networking of all of the various parties involved in cluster development. The community of practice would expand and deepen the relationship of cluster efforts tracked in the cluster matrix, providing meetings to analyze and learn from best practices, training opportunities and information sharing. This community of practice would be led by the Cluster Working Group and membership and initial activities would be underway by June 2004.

If we want to get a good understanding of the future possibilities for our economy, clusters may be the best way to systematically gather information. Each of the state’s major industry clusters faces different sets of opportunities and challenges in the coming decades. The effects of changes in technology, the growth of different kinds of markets, the challenge of particular competitors, and the opportunities for Oregon to compete, vary from industry to industry.

Firms in industry clusters are frequently engaged in thinking about these issues as they face their individual firms. Working with firms in industry clusters affords the opportunity to pool that knowledge and develop a more comprehensive assessment of possibilities.

Ultimately, we can make use of the cluster concept to act jointly to solve problems that affect the competitiveness of an entire group of firms.

Actions can be purely industry-led and driven. A number of industry associations operate their own programs for job training and marketing that enable all the participating firms to be more competitive.

Some actions will involve intermediaries, like community colleges and universities. Instead of developing training programs or conducting research on behalf of a single firm, educational institutions and work with a broad group of firms representing an entire cluster, multiplying the impact of the services they provide, and assuring that their efforts are relevant to a wide range of circumstances.

It also makes sense to use the cluster concept to organize the execution and delivery of many economic development services.

3. Strengthen cluster firm relationships

Desired Outcome	Indicator	Timing/ Responsibility
The public sector recognizes that clusters are self-organizing, and acknowledges and works through existing trade associations and leadership.	Trade associations and other leadership structures are mapped, with current contacts available on the Web Site, for each identified cluster.	By 6/1/04
The private sector, with public sector support, galvanizes the formation of trade associations and other leadership for clusters that are currently not organized.	An industry-led cluster organization is in place for each identified cluster.	By 12/1/04
Cluster development plans identify best opportunities to promote Oregon's economy.	All identified clusters have plans in place (needs, expected outcomes, indicators, responsibilities, due dates, etc.)	Ongoing

Strengthening the relationships among the firms that compose industry clusters is one critical way to improve the competitiveness of the Oregon economy. We offer three recommendations to strengthen these relationships.

First, the public sector needs to recognize the key role that clusters play. All public sector entities involved with the economy and economic development need to recognize the existence of industry cluster organizations.

Second, the private sector needs to organize each cluster in a fashion appropriate to that cluster's needs. In many cases, trade associations and similar industry organizations already exist, serving as forums for cluster related activity. Where organizations exist, the public sector role is to work with and through such organizations to support cluster development. Where such organizations do not exist, the public sector can

Third, for each cluster, we need to develop a competitiveness assessment, an analysis of its strategic strengths and weaknesses, and identify specific actions that can enable it to be a vital part of the Oregon economy in the years ahead. We recommend that each cluster develop and maintain a competitiveness assessment that examines key trends in the

industry cluster, identifies public policies and other factors that affect Oregon firms' competitiveness, and identify specific actions that firms and the public sector can take to promote the success of the cluster. These assessments should be developed according to a timetable appropriate to each industry cluster. Primary responsibility for developing these assessments would be in the hands of the appropriate cluster organizations, with support from public organizations where needed. We anticipate that the first of these assessments would be complete by June 2004, and that more assessments would be completed periodically thereafter.

One of the central concepts of industry clusters is that individual private firms draw real business advantages from being located in close proximity to other similar firms. In many cases this synergy occurs in the form of a variety of relationships among firms, including buyer-supplier relationships, the provision of supporting services, joint promotional activities, and collaborative efforts to build up shared industry infrastructure. The relationships among firms range from formal contractual obligations to informal working relationships to membership in industry associations and trade groups of many kinds.

The pattern of networking among firms varies substantially from industry to industry, reflecting their different needs and histories. One of the opportunities in working with industry clusters, however, is to encourage the development of more ways in which firms can engage in mutually advantageous joint action.

While we often look at an industry – like the forest products industry – and assume that all of the actors in the industry know each other, it is regularly the case that industry clusters meetings, even in relatively small geographic areas, result in firms being introduced to competitors or colleagues that they have never met. Simply promoting greater interaction among firms with similar sets of challenges and issues often leads to firm-to-firm relationships that result in purely private sector action to address industry problems.