

The Internet and Oregon's Future

A Panel Discussion on the Implications of the
Internet for Work, Community and Public
Investment in Oregon

Willamette University's Public Policy Research Center
Oregon Governor's Office
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TABLE OF CONTENTS

Introduction	i
Panelists and Agenda	iii
Executive Summary	iv
Report on Panel Discussions	1
Panel One: The Transformation of the Workplace	1
Panel Two: Participation in Community and Digital Democracy	6
Panel Three: The Role of Public Investment	11
Conclusions	14
Resources	15

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INTRODUCTION

The 1999 Oregon Legislature instructed Governor John Kitzhaber to convene the Oregon Internet Commission with the mandate of developing a program which would “ensure that internet commerce will continue to grow and prosper while delivering social and economic benefits to Oregon's citizens, government and business.” This commission has done an excellent job identifying the immediate legal and policy implications facing Oregon as it tries to promote vibrant online business and government in the 21st century. The commission found:

“that Oregon is well positioned to pursue the opportunities offered by the Internet as part of building a sound base for sustainable economic growth benefiting all Oregonians. However, the need to act is urgent and will require a substantial commitment of energy and resources. In particular, the State must make a substantial investment in education, aggressively promote the development of statewide essential broadband access, commit to first-class electronic government and provide the necessary business and legal infrastructure, which together are essential elements in ensuring that electronic commerce can grow and prosper in Oregon.”¹

Emerging Internet technology is sure to have implications that extend even more broadly into our society, beyond the economic base that electronic commerce and online government might provide. It promises to change how the world's citizens live, work, shop, communicate and participate in their communities. We want to begin answering the question, what is the Internet likely to mean for Oregon? As a first step toward finding the answer, the Oregon Governor's Office and Willamette University's Public Policy Research Center jointly sponsored a forum to discuss the role that the Internet and information technology may play in transforming our experiences as workers and community members. This report focuses on the issues that were identified at this forum. We seek to complement the work of the Internet commission by rounding out the picture of the Internet's future for the state. In particular, we want to set the context for future discussion of issues that are likely to appear and linger long after the recommendations of the Internet Commission have been successfully incorporated into state policy.

“The Internet and Oregon's Future: A Day of Discussion” was a day-long forum that took place on October 18th, involving 22 panelists who discussed ‘The Transformation of the Workplace’, ‘Participation in Community and Digital Democracy,’ and ‘The Role of Public Investment’ on three separate panels. Panelists included representatives from the business community, the nonprofit sector, academia and state and local government (see a participant list in Appendix A). All had considerable experience with one or more of the

¹ See <http://www.econ.state.or.us/icom/>.

issues being discussed. The discussion was open to the public, and included state and local government officials and private sector representatives. Each discussion included a question and answer period with the audience.

The growing role of the Internet is likely to influence the future shape of our community in a number of ways. Some of these issues have been widely discussed in a variety of public policy arenas. Other topics have received little public attention and may have only been the subject of a small amount of academic scrutiny. The panel topics chosen were among those that have received relatively little attention and that we believe to be particularly important to the unique environment of Oregon. These choices were not intended to imply an elevation of some topics above others, but only to meet those two criteria. Accordingly, we did not take up two particularly prominent issues – the ‘digital divide’ and the role of the Internet in education. Though these are both complex and important issues, there is already a significant amount of material written on them.

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PANELISTS AND AGENDA

THE INTERNET AND OREGON'S FUTURE -- A DAY OF DISCUSSION

Wednesday, October 18th, 2000

Hatfield Room, Mark O. Hatfield Library, Willamette University

**Sponsored by The Office of Governor John Kitzhaber and
Willamette University's Public Policy Research Center**

Session 1: Transformation of the Workplace, 9:30-11:30,

**Moderator: Laura Leete, Associate Professor and Director, Willamette University
Public Policy Research Center**

Panelists:

Jim Johnson, Vice President and Oregon Site Manager, Intel

Duncan Wyse, Executive Director, Oregon Business Council

Art Ayre, Labor Economist, Oregon Employment Department

Chris Benner, Institute for Industrial Relations, University of California Berkeley

Rich Bader, CEO, EasyStreet.com

Mike Lasher, Director - Information Technology, Umatilla-Morrow Educ. Service District

Madelyn Elder, President, Communication Workers of America, Local 7901

Session 2: Participation in Community and Digital Democracy, 1-2:30 p.m.

**Moderator: Ethan Seltzer, Associate Professor and Director, Institute for Portland
Metropolitan Studies, Portland State University**

Panelists:

Bill Bradbury, Secretary of State

Beverly Stein, Chair, Multnomah County Commissioners

David Douglass, Professor of Rhetoric and Media Studies, Willamette University

Peter Courtney, Oregon State Senator

Peter Lovrovich, Director, Ashland Electric Utilities

Session 3: The Role of Public Investment, 2:45-4:15 p.m.

**Moderator: Vince Chiappetta, Associate Professor, Willamette University College of
Law and Chair, Oregon Internet Commission**

Panelists:

Judy Pepler, State Vice President, Qwest

Alan Eliason, Professor of Management, Willamette University

Nancy Jesuale, Manager of Communications Services, City of Portland

David Rowe, Director of Business Development, Healtheon/WebMD

Brian Scott, Executive Director, Livable Oregon

Bill Scott, Director, Oregon Dept. of Economic & Community Development

Greg Wolf, Policy Advisor, Oregon Governor's Office

It is hard to imagine technological breakthroughs appearing completely out of nowhere, but it is equally difficult to credit Mother Nature with obligingly coughing up inventions on demand. Perhaps it is most accurate to say that we make our technologies, then our technologies make us, and so on recursively.

– William J. Mitchell, “The City of Bits Hypothesis”²

EXECUTIVE SUMMARY

This report summarizes three panel discussions on the growing use of the Internet and information technology. The panels covered the topics of ‘the transformation of the workplace,’ ‘participation in community and digital democracy’ and ‘the role of public investment’. The purpose of the discussions was to collect a variety of perspectives on how we can expect changing technology to affect the way Oregon’s communities will be working, living and participating in the 21st century. Panelists came from the business community, the nonprofit sector, academia and state and local government. All of the participants had significant knowledge and experience related to the topics at hand. Discussions of future policy implications of the Internet and information technology are, of necessity, wide-ranging. Individual concerns and impressions aired by the panelists derive from their personal perspectives and occupational experiences. As such, these panel discussions identified numerous central ideas and themes that should help set the stage for future thinking on these topics. Major ideas are briefly summarized here and discussed at greater length in the body of this report.

The Transformation of the Workplace

In discussing the transformation of the workplace, we asked panelists to consider both implications of the growing high-tech industry in Oregon and implications of the Internet and information technology for employment across all sectors. Key points included:

- The state has a large unmet need for adequately trained workers with high-tech skills and abilities.
- There is a need for policies to support worker recruitment and retention in high-tech fields both in and outside of metropolitan areas of the state.
- Continuous technological change has brought with it the need for continual skill upgrading in all sectors of the economy.

² Chapter 4 in Schoen, D., Sanyal B. and W. Mitchell, editors, *High Technology and Low-Income Communities*, Cambridge, MA: MIT Press, 1999. Available at <http://mitpress.mit.edu/>.

- New workforce policies providing community-based support for flexible careers are needed. These might include portable health and pension benefits and income support for worker retraining.

Participation in Community and Digital Democracy

The Internet has the potential to bring communities together or pull them apart. In this session, panelists discussed the emerging policy challenges surrounding the use of the Internet to strengthen participation in civic life. Central policy implications included:

- Effective use of the Internet as a tool for promoting community and participation will require truly place-based applications and supporting institutions.
- Significant educational efforts are needed to overcome existing skill, cultural and emotional barriers in order to use the Internet as a universal tool of community participation.
- The Internet alters the nature of human communication, but it is unlikely that it will ever replace face-to-face interaction.
- Policymakers should continue to aggressively promote applications that harness the substantial power of the Internet to make government both transparent and accessible.

The Role of Public Investment

In this session, we asked panelists to identify the directions that public investment should be channeled towards to ensure that Oregon meets the opportunities and challenges presented by the Internet. It is particularly important to consider these issues in light of Oregon's strong historical commitment to place in the form of environmental protection, and policies favoring compact growth, urban redevelopment, and protection of farm and forest lands. Major discussion points included:

- Internet technology should be harnessed to help achieve already well-articulated goals relating to high-quality, sustainable living. The technology, however, should not be allowed to drive the process or divert resources from it.
- Intensive investments are still needed in order to provide broad-band access to much of the state.
- Investments in education are needed to facilitate the public's ability to use the Internet.
- More coordination between local governmental units and private entities would improve the efficiency of investments being made in fiber-optic cabling.

Conclusion

The Oregon Internet Commission has done an excellent job identifying the immediate actions needed to fully harness the benefits of Internet commerce and online government for all Oregonians. However, emerging technology is sure to have implications that extend even more broadly into our society. With the discussion reported here, we seek to set the stage for future policy needs that are likely to appear and linger long after the recommendations of the Internet Commission have been successfully incorporated into state policy.

REPORT ON PANEL DISCUSSIONS

Panel One: The Transformation of the Workplace

Panelists

- Jim Johnson, Vice President and Oregon Site Manager, Intel
- Duncan Wyse, Executive Director, Oregon Business Council
- Art Ayre, Labor Economist, Oregon Employment Department
- Chris Benner, Institute for Industrial Relations, University of California Berkeley
- Rich Bader, CEO, EasyStreet.com
- Mike Lasher, Director for Information Technology, Umatilla-Morrow Educational Service District
- Madelyn Elder, President, Communication Workers of America, Local 7901.
- Moderator – Laura Leete, Director, Willamette University, Public Policy Research Center

Oregon's high-tech industry faces large unmet needs for adequately trained workers with high-tech skills and abilities.

In discussing the transformation of the workplace, we asked panelists to consider both the implications of the growing high-tech industry in Oregon and the implications of the Internet and information technology for employment across all sectors. This conversation ranged over issues involving worker recruitment and retention, the relationship between work and the transformation of time and space brought about by computer technologies, and employment instability that may arise from the short product cycles currently inherent in the high-tech industry. We asked panelists to specifically consider a number of questions, including:

- What policies and investments will improve Oregon's ability to attract and retain a high-tech labor force?
- How significant will telecommuting and international electronic outsourcing be to the future of either Oregon's high-tech industry or traditional sectors?
- How can a skilled high-tech labor force be attracted to and retained in remote areas of the state?
- How will the rising use of temporary employees and frequent job changing in high-tech and other industries transform workplaces and career paths?

The panelists voiced a number of views and opinions about the issues raised. They all agreed that the Internet and information technology are affecting our workplaces and worklife in a multitude of ways. Specifically:

- Oregon's high-tech industry faces large unmet needs for adequately trained workers with high-tech skills and abilities. The state needs to improve education funding and policy at all levels to help meet these current and future needs.
- Policies that support worker recruitment and retention in high-tech fields are crucial for ensuring that the industry continues to be an engine of growth for the state economy.
- Firms outside the metropolitan areas of the state needing high-tech employees face even greater challenges in recruiting and retaining workers with appropriate skills.
- Technological change brings with it not just the need for a new skill set in the labor force, but for continual skill upgrading in all sectors of the economy.
- Information technology is predominately creating high- and low-paying jobs, causing more income inequality. This is particularly apparent in Oregon's economy, as compared with other states.
- Policies are needed that engage otherwise footloose businesses in their communities.
- New technologies and global markets are infusing the 'new economy' with both flexibility and instability. Traditional government policies that provide a 'social safety net' in the labor market may no longer suffice to support workers as they navigate these altered labor markets. A new community based career support network is needed.
- While the high-tech sector represents the most extreme circumstances, computer technology is altering the nature of work in all sectors. Thus, to some degree, virtually all employers face the issues and problems discussed here.

Skill Needs, Recruitment and Retention

One paramount concern of firms in Oregon's high-tech industry is the creation of a well-prepared labor force. *At present, Oregon lacks adequate numbers of college graduates in science and engineering fields and adequate preparation for a variety of high-tech oriented vocations at the K-12 level.* Oregon's preparedness in this area lags behind that of other states.¹ Employers are looking to both state and local governments to rectify this situation.

The need for policies that augment and reorient educational funding are well articulated and documented in the Internet Commission report. It calls for significant investments in K-12 and post-secondary educational programs relating to math, science, computer science and engineering. In addition to these recommendations, the panelists proposed a number of other efforts in which Oregon's system of education and workforce training can be enhanced. First, the statewide expansion of high-tech related internship programs for high school students. These provide excellent opportunities for students to become immersed in the work environment, and gain career direction and preparedness. Second, research has demonstrated the effectiveness of industry-based training collaboratives in a number of regions. Many of these involve industry, community organizations and/or the community college system. The creation of a strong infrastructure to support the ongoing creation, survival and responsiveness of such collaborations is highly recommended. The Oregon Community College system is already highly regarded and does a significant amount of worker training in collaboration with industry. But there is a sense that new models for this kind of interaction could be built that would support more investments in future successes.

Because of the inadequate number of Oregon college graduates in science and engineering fields, high-tech firms here rely on the recruitment of out-of-state college graduates to fill the majority of their higher-level jobs. A number of factors affect the success of this recruitment effort: the cost of living, the density of high-tech firms here, and the quality of life. While low housing costs once worked in favor of this effort, that advantage has eroded

¹ Atkinson, Robert D., Court, Randolph H., & Ward, Joseph M. *The State New Economy Index: Benchmarking Economic Transformation in the States.* Progressive Policy Institute Technology & New Economy Project. July, 1999. Available at <http://www.ppionline.org/>.

as housing prices in the Portland metro area have risen relative to other metro areas of the U.S. The density of high-tech industry in the area is a factor in recruiting employees, who seek employment security in a plentiful supply of similar jobs in the area. *Thus, high-tech employers from the Portland metro area argue that supporting and increasing this density (as opposed to promoting the dispersal of high-tech firms around the state) is important to the ultimate success of the state's high-tech industry.*

Firms outside the metropolitan areas of the state have the similar needs for recruitment and retention of workers in information technology fields. Their locations often prove both advantageous and detrimental. The quality of life available in much of non-metropolitan Oregon provides a great advantage, but the lack of access to ongoing educational, training and career opportunities can be a drawback. Policies and programs that provide these opportunities via high-speed Internet access to remote areas can support worker recruitment and retention in non-metropolitan areas.

Community Supported Careers

The new economy is marked by the drive for continual innovation by virtual corporations with fluid boundaries. Corporations are less rooted in geographic communities than they once were. There are fewer internal career paths than in the past. Workers now have greater career flexibility and opportunity but also face more employment insecurity and instability over a lifetime. More and more employment is temporary and contingent, and rates of worker obsolescence are high. *Many risks of the new economy have been shifted onto the individual worker instead of being absorbed by the community at large.* These labor market changes coincide with growing income inequality nationally, a trend that is even more pronounced in Oregon than in other states.²

Our existing social safety net no longer speaks to these realities.³ *In order to navigate today's labor markets, workers are in need of medical insurance and pension funds that are portable across firms,*

² Thompson, Jeff and Michael Leachman, *Prosperity in Perspective: The State of Working Oregon 2000*, Oregon Center for Public Policy, September 2000. Available at: <http://www.ocpp.org/>.

³ Benner, Chris, *Navigating Flexibility: Labor Markets and Intermediaries in Silicon Valley*, Ph.D. dissertation, University of California, Berkeley, May 2000. Available at: <http://socrates.berkeley.edu/~cbenner/cv.htm>

Access to educational, training and career opportunities via the Internet can support worker recruitment and retention in non-metropolitan areas.

education systems that support lifelong learning and job retraining, and workplaces that function as learning places. Our system of unemployment insurance needs to be adapted to a market in which spells of unemployment are longer and in which individuals more commonly require retraining in order to move into a new job.

While these forces of the new economy may be felt most strongly in the high-tech industry, they are felt throughout our economy. Virtually all industries are subject to the same global pressures, using information technology to adopt faster, more responsive and more flexible just-in-time methods of production and service.

Our existing social safety net does not speak to the realities of the high-tech economy.

Panel Two: Participation in Community and Digital Democracy

Panelists

- Bill Bradbury, Secretary of State
- Beverly Stein, Chair, Multnomah County Commissioners
- David Douglass, Professor of Rhetoric and Media Studies, Willamette University
- Peter Courtney, Oregon State Senator
- Peter Lovrovich, Director, Ashland Electric Utilities.
- Moderator – Ethan Seltzer, Director, Institute for Portland Metropolitan Studies, Portland State University.

In relation to community life and democratic participation, the Internet is viewed with both enthusiasm and trepidation. It has the potential to either bring communities together or pull them apart. It can foster communication and social interaction or to eliminate them from daily life.

In this session, panelists discussed the emerging policy challenge: How do we harness the Internet in ways that foster community and participation in democracy? They discussed the strengths and weaknesses of the Internet as a method of communication, community enrichment and community participation in Oregon. In doing so, they considered the following questions:

- How does use of the Internet alter the content and nature of communication between people?
- In an earlier era we looked first to newspapers and then to television as an agent of assimilation and teaching of democratic values. Now should we look to the Internet? Under what conditions will the Internet bring Oregonians together and to what extent will it pull them apart?
- Does the existence of virtual communities hold out promise to strengthen Oregon's strong traditions of public participation and neighborhood organization or does it threaten to weaken them?

The discussion that ensued was broad-ranging. It raised as many questions as answers, making clear that this is truly uncharted territory. The key points of interest and concern were:

The question of how to promote civic participation precedes and transcends the development of the Internet.

- The Internet may provide an effective tool for promoting community and participation if appropriate place-based applications are developed. Universal access, however, is a prerequisite to this.
- The Internet is still feared by many for whom it is an unknown. This may be particularly true for members of older generations. Thus, for many there are social and emotional barriers to using the Internet as an effective tool of community participation.
- It is unlikely that the Internet will ever eliminate human face-to-face interaction from civic life. As with all technologies and media preceding it, it is more likely that society will adapt the technology to meet our basic human needs.
- We should be wary of the fact that the Internet alters the nature of human communication, flattening the communication hierarchy and increasing the reach of voices from the top.
- The Internet has substantial power to make government both transparent and accessible, providing the public with more direct access to candidates for office and public officials. Our policies should continue to push the best applications in this area to ensure that the potential is realized.
- Internet users have both too little and too much control over what they view on the Internet. On the one hand, commercial Internet providers and search engines can selectively guide users. On the other hand, individuals themselves also have the ability to narrow their view of the world by controlling what information they receive.

The Internet has the power to make government both transparent and accessible

The Nature of Electronic Communication

The Internet greatly extends the means by which we can communicate with one another. *As the telegraph, telephone and television before it, the Internet allows communication and transmission of information across space and the storage of information over time.* Thus, the Internet removes the requirement that both parties to a communication participate either simultaneously or in the same location. These qualities eliminate transportation, space and coordination costs that are associated with other types of communication. Faced with adding this new means of

communication to our repertoire, we must determine how it will be utilized.

There are concerns that increasing reliance on the Internet will bring the death of face-to-face social contact. This notion seems highly unlikely. Humans have always had an uncanny ability to use technologies to meet their basic needs. If social contact is a basic human need, then humans will not be so quick to eliminate it from daily life. Already, basic human drives and interests are reflected in the dominant uses of the Internet. Most use to date is for entertainment, affiliation (virtual support groups and conversation) and information.⁴ Nevertheless, projects that intend to use the Internet to foster participation should be aware of some of the ways that the use of electronic communications alters the nature of that human contact.

- **Flattened communication structures.** The electronic dissemination of information flattens communication structures, amplifying some voices and opinions over others.
- **Passive audiences.** On the Internet, people simply receive needed information that is disseminated electronically rather than interacting over the proverbial ‘water cooler’ in pursuit of it. The Internet tends to create a passive audience that consumes information.
- **Lack of trust.** We have yet to develop methods by which Internet interactions sufficiently reflect and embody trust, a key factor in making human relationships function.⁵
- **Judging reliability.** The free flow of information that is the very strength of the Internet gives consumers little basis for judging which information is accurate and reliable.

In order for the Internet to be effectively used to promote civic participation, all of these issues must be addressed.

Internet applications must be place-based in order to reinforce geographic communities.

⁴ Sproull, Lee and Faraj, Samer. “Atheism, Sex and Databases: The Net as a Social Technology.” *Culture of the Internet*. Ed. Sara Kiesler. Mahwah, New Jersey: Lawrence Erlbaum Assoc., 1997. Available at: <http://www.erlbaum.com/>.

⁵ Blanchard, Anita and Horan, Tom ‘Virtual Communities and Social Capital’ in *Social Dimensions of Information Technology: Issues for the New Millennium*, David Garson, editor, Hershey, PA: IDEA Group Publishing, 2000. Available at: <http://www.idea-group.com/>.

Making the Internet Work for Civic Life

Using the Internet as a tool to foster participation in civic life has a number of prerequisites: there must be universal access to the technology and there must be inclusive and appealing applications that use the technology to promote participation. *Research implies that these applications must be place-based in order to reinforce geographic communities.* Internet communities without an orientation to a particular location tend to detract from geographically based communities.⁶ A final requirement is that our civic institutions themselves be structured in a way that accepts participation in a meaningful way.

Access has a number of components. Physical requirements for access include an actual physical connection to the Internet (cabled or wireless). Broadband access – high-speed access through fiber-optic cables – is quickly becoming the standard by which access is judged. Other physical requirements include access to a computer itself and to the software that is used to gather or disseminate information on the Internet. Finally, end-users must have some familiarity and understanding of both the hardware and software in order to use it and they must socially and emotionally accept the new technology. To these ends, educational programs that provide the public with this knowledge are also requisite.

At present, the availability of Internet access for many people is still limited to publicly provided locations such as libraries, schools and community centers. Sooner rather than later, however, direct high-speed connections to every home will be considered as essential a utility as electric, gas, water and sewer or cable TV connections.⁷ *Equity will require that 'wired homes' be available and affordable to families of all income levels.* This will undoubtedly make its way to policy agendas relating to affordable housing in the near future.

In addition to access alone, Internet applications that promote participation in communities and governance structures are also needed. *However, the question of how to promote such*

Sooner rather than later, direct high-speed connections to every home will be considered as essential as basic utilities.

⁶ Blanchard and Horan, op. cit.

⁷ Mitchell, op. cit, p. 124.

participation precedes and transcends the development of the Internet. Many have suggested that our existing institutions are not up to the task and that we must to rethink these structures from the ground up.⁸ In fact, the development of the Internet communications revolution could force this very issue. *When such an effective and convenient means of communication is available, will the public be clamoring for institutions in which they can truly participate?* If we as a society take on this task, the Internet can be viewed as one tool that will be used to connect people to new or modified institutions.

The Internet has the power to make government both transparent and accessible. Oregon already has many examples of work in this direction. The *Oregon Blue Book Online* is superior to its print version because it is continually updated and it electronically connects the reader to a vast array of other Internet resources.⁹ *Oregon Online* currently provides a public portal to information from all state agencies.¹⁰ Many cities and counties in Oregon have an Internet presence. *The most significant task at hand is providing more coordinated portals to the information that is available and assisting the public in navigating it.* Proposals for legislation that will enable Oregon state government to conduct services and transactions online are addressed in the report of the Oregon Internet Commission.¹¹

⁸ E.g. Kemmis, Daniel, *Community and the Politics and Place*, Norman: University of Oklahoma Press, 1990.

⁹ See <http://bluebook.state.or.us/>.

¹⁰ See <http://www.state.or.us/>.

¹¹ See <http://www.econ.state.or.us/icom/>.

Panel Three: The Role of Public Investment

Panelists

- Judy Pepler, State Vice President, Qwest
- Alan Eliason, Professor of Management, Willamette University
- Nancy Jesuale, Manager of Communications Services, City of Portland
- David Rowe, Director of Business Development, Healtheon/WebMD
- Brian Scott, Executive Director, Livable Oregon
- Bill Scott, Director, Oregon Dept. of Economic & Community Development
- Greg Wolf, Policy Advisor, Oregon Governor's Office.
- Moderator – Vince Chiappetta, Associate Professor of Law, Willamette University

The Internet may serve as a conduit to bring education and medical care to any location. Or it may render space and place irrelevant.

The Internet provides us with a new infrastructure to support the transmission of information across time and space. It may serve as a conduit to bring jobs, culture, education and medical care to any location. It may also render space and place irrelevant and lead to a random sprawling of humanity. One way or the other, the Internet will alter our use of the existing supply of roads, downtowns, housing, retail and office space.

In this session, we asked panelists to focus on the directions that public investment should be channeled to ensure that Oregon fully meets the opportunities and challenges presented by the Internet. We particularly wanted to consider these issues in light of Oregon's strong historical commitment to place in the form of environmental protection, and policies favoring compact growth, urban redevelopment, and protection of farm and forest lands. Specifically, we asked them to consider some of the following questions:

- What kinds of public investments are needed to ensure that the Internet will facilitate improved education, health care and employment opportunities in rural Oregon?
- Given Oregon's past difficulty in raising public funds for transit and roads, should we now shift the focus to investing in network infrastructure?

- What policies and approaches should be in place to maintain Oregon's commitment to compact growth, renewed downtowns and protection of agricultural and forest land if the spatial 'freedom' of the Internet leads to a dispersal of work and residences?

The discussion among these panelists included the following major points:

- Maintaining and enhancing the value placed on community and quality of life in Oregon is consistent with the need for a successful transition into the high-tech economy. The state should continue to steadfastly pursue the already well-articulated goals referenced in Oregon Shines, the Oregon Livability Initiative and in the Governor's Executive Order on Sustainability. This new technology should be harnessed to help Oregon achieve these goals, but not allowed to drive the process.
- Intensive investments are still needed in order to provide broad-band access to much of the state. This will be in part facilitated by the implementation of Senate Bill 622.
- Investments in education are needed to facilitate the public's ability to use the Internet.
- More coordination between local governmental units and private entities would improve the efficiency of investments being made in fiber-optic cabling.
- Telecommunications does not appear to be a substitute for transportation. Instead, the activity fostered by telecommunications ultimately leads to increased (albeit different kinds of) travel.

If Oregon is not to be shunned by high-tech firms, we must maintain the high quality of life and strong communities that we are known for.

Harnessing the Internet

The Internet is creating a footloose herd of high-tech firms, telecommuters, and well-educated workers who will settle down wherever it is most attractive to do so. If Oregon is not to be shunned by this herd, then policy must be aimed at maintaining the high quality of life and strong communities that Oregon is known for. In addition, the future of those communities must be

sustainable. *Thus, developing information technologies should be harnessed to help Oregon continue to meet previously stated goals, but there is a strong sentiment that the technology itself should not be allowed to drive or redirect the process.* All aspects of Internet technology should be considered tools with which we can achieve these goals.

The Internet has the capability of altering the spatial relationships between workers and their employers, and firms and their customers. Telecommuting and online shopping has the potential to change traffic patterns and demands for housing and office space. In turn, these shifts could cause changes in local property tax bases, and changes in demand for parking and public transportation. These elements are likely to unfold gradually, however, and policy makers should be alert to such alterations in order to adapt transportation and planning investments over time.

Telecommuting has done little to live up to the promise that it might relieve traffic congestion.

Many have expected that communication via the Internet might substitute for some amount of physical travel. However, research findings imply that has not been the case. To date, telecommuting has done little to live up to the promise that it might relieve traffic congestion. Instead, the communication that is facilitated by the Internet fosters business relationships and collaborations that were not previously possible, which in turn lead to ever increasing amounts of business activity with transportation demands of their own.

Conclusions

This report highlights just a few of the policy areas in which the Internet is likely to have an important influence in coming years. The widespread use of the Internet is not yet a decade old. In the years ahead, it will continue to alter the ways we work, shop, communicate and participate in civic life. As discussed here, the effects are likely to be both subtle and pervasive. The task at hand is to harness the new technologies in ways that support careers, livability, community and civic participation in Oregon.

The potential for using this technology to help Oregon move further towards stated goals is enormous, but a number of challenges exist for policymakers who wish to be at the vanguard of this effort. Challenges include a fear of new technologies and lack of computer literacy in the general population, competition between urban and rural and high and low-income communities for resources, a mismatch between the geographic scope of our political institutions and the globalization of markets, and business communities that are buffeted by constant flux and innovation on the global scale.

RESOURCES

PUBLICATIONS

Workforce and Economy

Atkinson, Robert D., Court, Randolph H., & Ward, Joseph M. *The State New Economy Index: Benchmarking Economic Transformation in the States*. Progressive Policy Institute Technology & New Economy Project. July, 1999. Available at <http://www.ppionline.org/>.

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WEB SITES

Federal Government

U.S. Federal Government (portal to all agencies): <http://www.firstgov.gov/>

Clinton Administration Digital Divide Web Site: <http://www.digitaldivide.gov/>

U.S. Department of Commerce, Understanding the Digital Economy Project: <http://www.digitaleconomy.gov/>

U.S. Department of Commerce, Electronic Commerce Policy Project: <http://www.ecommerce.gov/>

Oregon – State Government

The Oregon Internet Commission: <http://www.econ.state.or.us/icom/>

The Oregon Bluebook Online: <http://bluebook.state.or.us/>

Oregon Online (portal to all Oregon state government agencies): <http://www.state.or.us/>

Foundations, Research Institutes and Associations

The Association For Community Networking: <http://www.afcn.net/>

Alliance for Public Technology: <http://www.apt.org/index.html>

The Benton Foundation: <http://www.benton.org/>

The Berkman Center for Internet & Society – Harvard University Law School:
<http://cyber.law.harvard.edu/>

The Center for Civic Networking: <http://www.civic.net:2401/ccn.html>

International Society for Technology in Education: <http://www.iste.org/>

The Internet Policy Institute: <http://www.internetpolicy.org/>

The Markle Foundation: <http://www.markle.org>

The Milken Family Foundation – Education Technology Initiative:
<http://www.mff.org/edtech/>

The Progress and Freedom Foundation: <http://www.pff.org/>