It is about progress

Portland State University’s Economic Development Strategy

A 10 year plan for strengthening PSU’s contribution to regional economic growth.
Dear Reader,

Joint planning is the key to successful economic development. The City of Portland is now implementing a job creation strategy that, among other goals, strengthens the City / University partnerships that will drive recovery and long-term regional economic stability. With this document, we outline the steps that Portland State will take toward that mutually-held goal. We will align our academic and research programs with regional economic development goals to assure that Portland State contributes strategically to the regional knowledge base, to innovation in technology and business practice, and to human capital creation. We will develop mechanisms that support that partnership into the future, so that as the regional economy grows and changes, Portland State plays an even more critical role in the growth in economic clusters.

As I continue to pursue the five Guiding Themes that are critical to Portland State’s success, I keep the implications for strong regional economic development in mind for each:

- **Civic Leadership Through Partnerships**: This Strategy commits us to engagement with partners to ensure ongoing collaborations aimed at economic growth.

- **Student Success**: Higher student satisfaction, retention, and graduation rates will strengthen our region’s human capital assets.

- **Achieve Global Excellence**: A global reputation will allow PSU to recruit and retain the additional faculty, staff, and students who can catalyze innovation through their creative energy and knowledge.

- **Enhance Educational Opportunity**: Increased access to higher education can increase participation in the regional economy.

- **Expand Resources and Improve Effectiveness**: PSU needs the public and private resources to be an effective economic development partner.

Together with our public and private sector partners throughout the region, we can work toward a sustainable economy that is driven by creativity and innovation. In this report, you will see some of the many ways Portland State is working toward that future.

Best,
Wim Wiewel
## Purpose
States why Portland State needs an Economic Development Strategy; identifies key partners and describes the role of the Strategy in the context of Portland State’s academic goals.

## Background
Describes Portland State’s current role in supporting the regional economy and enumerates ways in which this Strategy will allow Portland State to build on its history of collaboration through community engagement.

## Strategic Links
Describes vital connections between the Portland State Economic Development Strategy, the University District Framework Plan, and the City’s Economic Development Strategy.

## Conceptual Framework
Illustrates Portland State's formal partnership with the City, PDC, and its relationships with private and public entities in the region.

## Investment Strategy
Identifies the key issues that Portland State must address to successfully support and catalyze regional economic development initiatives, and outlines the specific steps that will be taken to address those issues.

## Conclusions

## Appendices

(A) Portland State’s Support for Portland’s Key Economic Clusters
An inventory of Portland State faculty expertise, facilities, degree programs, professional development and non-credit programs, institutes and centers, and partnerships that support the clusters identified by the City.

(B) Urban Renewal Area Context
An overview of a potential new Urban Renewal Area (URA) in Portland’s central city, and Portland State’s role in that URA

(C) Economic Development Toolkit
A catalogue of resources that may be used by Portland State to implement elements of this Economic Development Investment Strategy and the physical University District Framework Plan.
Portland State University has created this Economic Development Strategy to better align its activities with the economic development goals and actions of the Portland metropolitan region, particularly those of the City of Portland and its Portland Development Commission (PDC). This strategy integrates Portland State’s academic programming, research, community engagement, technical assistance, and campus physical planning with City and regional economic development objectives.

This Strategy will help Portland State advance the City’s and region’s economic development agenda by:

Educating workers for growing regional economic clusters, creating next-generation ideas and technologies, and commercializing these new ideas and technologies.

Becoming a center for public- and private-sector research partnerships that support economic development throughout the region.

Building Portland’s global reputation by developing and testing sustainability practices, products and procedures that are replicable in the City, the region, and beyond.

Portland State President Wim Wiewel has outlined goals for his administration expressed through five Guiding Themes. This Economic Development Strategy supports implementation of those 5 goals:

1) Provide Civic Leadership Through Partnerships
2) Improve Student Success
3) Achieve Global Excellence
4) Enhance Educational Opportunity
5) Expand Resources and Improve Effectiveness
The current economic crisis has increased the need for economic development, job creation, and business retention, and has underscored the important role that higher education plays in these activities for the metro region. For example, Portland State educates a significant portion of the region’s workforce, supports new business development through its research and technical assistance programs, and annually contributes over $1.1 billion to the regional economy.

Portland State’s special emphasis on the values and practices of community engagement reinforces the potential for successful economic development partnerships and makes Portland State a catalytic institution with a sphere of influence that expands well beyond its contributions to a vibrant and active downtown. As a leader in our community, Portland State is:

A place-based institution. Unlike a corporation that could relocate or be affected by a merger, Portland State’s main campus will be located in downtown Portland indefinitely.

A workforce developer. Portland State functions as a local and export industry by educating students and training business professionals who transport their ideas and develop business relationships in Oregon and countries throughout the world.

An innovator and an incubator. Portland State’s research funding has grown steadily from about $5 million in 1989/90 to more than $52 million in 2008/09, an average increase of nearly 14% per year. Portland State’s Business Accelerator has fostered the growth of 38 businesses, 35% of which work directly with Portland State faculty. Research synergies in areas such as instrumentation, computer science, transportation, and sustainability support private-sector innovation and improve the quality of life of all Oregonians while helping attract the “creative class” to Portland.

A regional network builder and advisor. Portland State expands and diversifies the region’s economy. Its faculty, staff, and students engage in reciprocal relationships with the businesses and institutions that enhance the economic capacity of the region by providing thousands of hours of technical assistance to scores of regional businesses and public agencies every year.

Regional concern about economic development provides an opportunity for Portland State to build on its history of collaboration with public and private partners to make the metro region’s economy stronger and more resilient.

Between 2007 and 2009, Portland State’s School of Extended Studies has provided workforce and professional development to:

- 6312 individuals
- 1727 companies
- 199 government agencies
- 110 health related organizations*  

*Statistics from the Research Administration at Portland State; available online at [http://www.pdx.edu/](http://www.pdx.edu/)
An urban developer and community builder. Portland State is committed to the further evolution of a dynamic, energizing, and inviting University District and Central City. To this end it has partnered with the City and private interests to develop a 50-block, mixed-use campus that strengthens the fabric of surrounding neighborhoods. It also invests in infrastructure improvements — such as the streetcar and light rail systems — that improve the quality of the urban experience.

A regional employer and purchaser. Portland State brings talented faculty and researchers to the region from around the globe, directly employs staff from the region, and expends dollars on the procurement of goods and services. The economic multiplier effect of these expenditures adds $815 million annually to the regional economy.

While these contributions are significant, Portland State recognizes it has a responsibility to be an even stronger partner as the region addresses the economic challenges and opportunities it faces. At the direction of new President Wim Wiewel, Portland State has renewed its pledge to take a leadership position in the economic development of the region and on May 1, 2009 President Wiewel signed a Memorandum of Understanding (MOU) with Mayor Adams memorializing this intent and the recommendations of this Strategy.

This Strategy commits Portland State and the City to align their expertise and resources with those of the private sector and other regional public entities to:

Create new jobs in strategic economic clusters identified by the City of Portland: clean tech and sustainable industries; activewear and design; software; advanced manufacturing; and, of particular importance to Portland State, the biosciences cluster

Build on Portland’s international reputation and commitment to sustainable development by partnering on projects such as the new Oregon Sustainability Center and the creation of an EcoDISTRICT on the Portland State campus

Position Portland State more strongly as a workforce development provider to support the City’s sustainable way of life while facilitating a diversified economy

Enhance Portland State’s capacity as the think tank for regional problem solving in matters such as economic development and regional trend analysis

** Source: It’s About Leadership: The Economic Impact of Oregon’s Urban University, 2008, Portland State University

Since 2000, Portland State has acquired more than 1 million square feet of new space and has plans for $300 million of new capital investment by 2012.

Portland State’s economic impact on the Portland regional economy (2007-08)**:

$403 M as employer
$410 M as purchaser
$89 M as researcher
$122 M as urban developer
$48 M as workforce developer
$25 M as community partner
$7 M as business accelerator
$1 M as expert advisor

TOTAL Impact: $1.11 B
Extend Portland State’s contribution to the urban form and function of the University District by planning for and implementing physical development in a pattern that values partnership, mixed-use, and sustainability.

Expand community access by creating a more inviting and functional “front door” for the community so regional businesses can access Portland State’s research, services, and resources.

This Strategy aims high: it puts Portland State firmly in the center of regional economic development transformation by obligating Portland State to build on its history of collaboration with public and private partners to make the region’s economy stronger and more resilient.

Portland State’s total research expenditures for 08-09 exceeded $52 million. $18.8 million of that funded research in the College of Liberal Arts and Sciences and $7.3 million went to the College of Engineering and Computer Science.
This Investment Strategy is closely linked to two key plans: the City of Portland’s “Economic Development Strategy” and the Portland State University District Framework Plan. Coordinated implementation of these plans will ensure the efficient use of City and Portland State resources, and lead to the best possible outcome for City residents and Portland State students, faculty, and staff.

1) The City of Portland's Economic Development Strategy: A Five Year Plan for Promoting Economic Growth and Job Creation was completed in 2009 and is now being implemented.

Portland State’s Strategy aligns University resources and activities with the economic development goals and actions outlined in this City Strategy. One of the Portland Strategy’s stated goals is to: “Grow traded sector jobs through the implementation of a cluster strategy targeting four industries.” Portland State’s programs and research activities will support the City’s four clusters plus the emerging biosciences cluster which are defined by the PDC as:

- **Clean Tech and Sustainable Industries (CTSI)** includes companies working in the fields of alternative energy and transportation, environmental consultation and remediation, green buildings, and energy efficiency.

- **Activewear and Design** includes companies that design, manufacture, and market athletic gear and apparel as well as bicycles.

- **Software** includes companies that design, develop, market, and support systems and application software used in personal computers, servers, embedded systems, and mobile devices.

- **Advanced Manufacturing** includes companies that produce or shape metal into parts or machinery; companies that manufacture equipment for transportation purposes; and companies that manufacture computer, electronic, and semi-conductor components.

- **Biosciences** includes companies that develop therapeutic drugs, genetically modified plants, and medical devices and diagnostic tools. Even though the City will not focus specific development actions on business in this cluster, it remains significant for Portland State because of its partnerships with OHSU and a growing research portfolio in this area.

Sidebars associated with each action in the Investment Strategy section provide details about how this strategy supports economic growth in these clusters.
2) **Portland State's University District Framework Plan** defines a physical framework for the campus that supports Portland State's mission and builds upon a shared vision for the future of the University and a significant area of the Central City. The Economic Development Strategy and the University District Framework Plan are interrelated documents that together lay the basis for a Portland State which is a fully engaged economic development partner that exists within a vibrant mixed-use neighborhood. A brief overview of the University District Framework Plan:

**Growth:** University enrollment is expected to increase substantially over the coming decades. To accommodate an anticipated enrollment of 36,000 students over the next 25 years, the University District Framework Plan proposes to focus on mission-supporting Portland State uses in the University District core. This will leverage Portland State’s position as a research institution through partnerships and expand student housing in the greater University District. In the longer-term, if growth exceeds 36,000, the University District Framework Plan addresses satellite campuses in areas beyond the University District.

**Nodes & Connections:** The University District Framework Plan establishes three nodes that serve as focal points for future development within the University District. Enhanced pedestrian connections and new transit links connect these nodes to the campus and improve access between the University District and adjacent neighborhoods. Each node will have its own set of design principles and uses, as described in the full University District Framework Plan. The University District Framework Plan assumes that, across the District, 40% of new development will be non-Portland State, commercial uses to assure a vibrant mix which should generate opportunities for partnerships.

**EcoDISTRICT:** The University District Framework Plan is closely aligned with efforts to establish an EcoDISTRICT that incorporates Portland State. The EcoDISTRICT is a comprehensive approach to sustainable development that looks at systems and efficiencies on the district level. The physical armature established by the University District Framework Plan is compatible with the EcoDISTRICT approach to achieve sustainable development on a broader and deeper dimension. (see Action 3.2 for details).

See Actions 3.1 and 3.2 in the Investment Strategy for details of how this Strategy helps to implement the University District Framework Plan.

(At the time of this printing, the University District Framework Plan is still preliminary and subject to change)
In the 21st century, all effective economic development strategies will require public and private sectors to partner and collaborate. Portland State’s formal partnerships with the City of Portland and the Portland Development Commission (PDC), and its relationships with private businesses and property owners, have positioned it to provide the third piece of a three-sector-system for regional economic development.

The figure below shows the key economic development roles of three sectors (higher education, public, and private). At the intersection of the three circles are “intersecting actions”: areas of collaboration in which Portland State, the City/regional agencies, and an array of private entities can partner to pursue a deliberate, sustainable, and strategic agenda for economic development actions over the next decade.

Portland State’s strengths in this relationship are: (1) its record of engaged research, academic success, and development achievement, and (2) its value as an unbiased institution that provides innovative tools, measures, and analysis, to advance and evaluate progress toward economic development goals.

The more closely aligned Portland State’s assets are with the needs of economic clusters and economic development agencies, the better it can provide the workforce and the innovation essential to the success of our regional economy.
To capture a sense of how this strategic three-way collaboration might support job and business growth, one could look ahead and imagine the following vision for the future...

**IMAGINE THIS FUTURE ...**

The Oregon Sustainability Center’s (OSC) tenth annual international symposium on “Sustainable Economic Development” has just concluded. Over 3,000 participants from 84 nations attended; another 15,000 participated through video conferencing centers or hand-held conferencing devices.

Initially launched as a partnership between Portland State, the Oregon University system, the City of Portland, and the private sector, the OSC evolved to include ongoing financial infusion from three states (Oregon, Washington, and California) and the Canadian province of British Columbia. As the pre-eminent research and applied demonstration facility of its kind on the west coast, public and private visionaries and entrepreneurs have invested in and are reaping benefit from Portland State’s world-renowned talent.

The Portland metro area, now home to nearly three million people, has gained from the profusion of sustainable businesses that have emerged from various research endeavors initiated at the Center and throughout Portland State. Among these are materials manufacturers who use a composite of locally recycled material to create building components that generate a significant portion of their own energy for heating and cooling, thus dramatically reducing the need for outside power sources. These “eco-materials” firms employ over 5,000 people in the region and have exported their technologies to other parts of the world where new manufacturing plants are now under construction.

Symposium attendees took special note of the initiative taken to create the manufacturing facilities. While OSC and Portland State provided the research base that conceived the new building materials, the Portland Development Commission worked closely with a number of small firms to finance development of product lines at Portland State’s Technology Incubator (a sister to its original Business Accelerator) that is supported financially by a consortium of progressive private firms. PDC was also able to leverage its public and private resources to help fund early production of these new materials. Additionally, Portland State, in collaboration with the private manufacturing firms, developed an innovative paperless operations program. To continue the collaborative success of this relationship, Portland State receives one percent of the gross revenues generated by eco-materials firms in the region and re-invests these proceeds into new areas of research and technology development.
This Investment Strategy identifies key issues that Portland State must address to successfully support and catalyze regional economic development initiatives, and outlines specific steps that will be taken to address those issues. For each action, the Strategy describes: (1) expected results of implementation for Portland State as well as for its partners, (2) short- and long-term steps that should be taken to implement the action, and (3) metrics that might be tracked to evaluate the success of the action’s implementation over time.

### Organization of this Investment Strategy:

For each issue, the Strategy includes:
- **A description** of the issue
- **The context** that explains the issue
- **Actions** that address the issue and outline:
  - **A description** of the action
  - **Expected Results** of the action
  - **Implementation** steps that can be taken in:
    - the short run (1–3 years), and
    - the long run (4+ years)
  - An **evaluation** of each action’s progress

Throughout the Strategy, blue sidebars like this one provide summaries and additional detail about the Actions. Yellow sidebars present opportunities for partnerships and other supporting information.

### Overview of Investment Strategy Issues and Actions

**Issue 1:** Connecting with Partners
- **Action 1.1** Create new Vice President for Research and Partnerships
- **Action 1.2** Evaluate existing and create new policies and tools for economic development

**Issue 2:** Alignment with regional economic development goals
- **Action 2.1** Align academic plans and research efforts with growing and emerging economic clusters
- **Action 2.2** Inventory Portland State’s academic resources, degree production, and regional higher education resources
- **Action 2.3** Expand partnerships with OHSU and other institutions of higher education

**Issue 3:** Campus Planning and Development Partnerships
- **Action 3.1** Plan for an updated University District, EcoDISTRICT, and a new urban renewal area
- **Action 3.2** Create a more sustainable built environment
**Issue 1: Connecting with Partners**

Portland State’s existing relationships and partnerships should be strengthened and institutionalized to ensure that research and other Portland State programs continue to support regional economic development efforts.

**Context**

Although Portland State is an acknowledged provider of economic development services to the City and other public entities in the region, interviews done for this strategic plan revealed that stakeholders believe the range of economic development services Portland State provides should be: (1) more thoroughly-coordinated to address regional workforce, applied research, and other economic development needs, (2) better understood by its partners, and (3) easier to access. Specifically, partners expressed a need for baseline data sets that can be used to describe regional economic trends and assess Portland’s competitive position for economic growth in identified clusters.

**Action 1.1: Create Vice President for Research and Partnerships**

Expand and elevate the existing position of Vice Provost for Research to create a Vice President for Research and Partnerships to: (1) further advance PSU’s research capacity and reputation, (2) serve as an access point to facilitate and improve Portland State relationships with private and public sector partners, and (3) collaboratively advance regional economic development goals.

Working closely with the Provost and Vice President for Academic Affairs, this office should use outreach, incentives, and measures to encourage and support faculty as they engage in research activities, particularly those that support the growth of regionally-targeted and emerging clusters. The Vice President should encourage collaborative research relationships between PSU and other regional private and public entities to propel Portland State toward its goal of growing research dollars to $100 M by 2017.
Expected Results

For Portland State, implementing this action will:

In conjunction with the Provost and Vice President for Academic Affairs, focus appropriate academic programs on Portland State collaborations that grow the regional economy.

The new VP will be a point person who:

Effectively works with PSU faculty, public agencies, and private partners to expand research capacity and resources

Communicates internally with researchers and administrators at Portland State about new programs and activities, and externally with public and private partners to understand their needs and connect them to appropriate Portland State programs, research efforts, and activities

Oversees implementation of this Economic Development Strategy

Forges new and strengthens existing relationships to assure Portland State’s role as a principal partner in regional economic developments

Works with Portland State leadership to assure alignment of Portland State’s research and other programs with regional economic development strategies

Portland State Total and Expected Research Expenditures (In millions)

Portland State intends to increase research expenditures to $100 million by 2017. It is well on the way to reaching that goal; over the last two years is has grown by more than $16 million.

Research expenditure trends:

The College of Liberal Arts and Sciences has by far the most research expenditures of any department. Most non-liberal arts departments have between $1 and 8 million in annual expenditures.

Between April 05 and August 2009 most departments increased research expenditures or held relatively steady.
For public- and private-sector partners, implementation of this action will provide:

Efficient access to Portland State’s economic development services and resources

Expanded opportunities to form research partnerships with Portland State and implement the actions outlined in this Strategy

**Implementation**

Short term (1-3 years)

Create the position of Vice Provost for Research and Partnerships and undertake a national search to fill the position

Develop goals and incentives to increase research productivity, especially as it relates to growing clusters

Craft and implement a strategy to strengthen existing — and enter into new — economic development partnerships with public and private entities in the region

Long term (4+ years)

Update Portland State’s Economic Development Strategy and the economic impact report regularly in collaboration with partners to assure ongoing alignment with public- and private-sector initiatives

Measure the benefits of Portland State’s partnerships with the public and private sectors (see below for specifics)

**Evaluation**

Measure indicators of the diversification and growth of research efforts, such as: (1) the number and types of grants received, (2) grant dollars awarded, (3) quality and number of research faculty recruited and retained, (4) awards/recognition bestowed upon Portland State research endeavors, and (5) citations of Portland State research in peer-reviewed national and international publications.

Measure and evaluate contributions to regional economic development efforts, such as: (1) the number of net new jobs gained regionally that are linked to Portland State partnerships, (2) the number of businesses that utilize Portland State services, (3) the number, type, and effectiveness of Portland State generated research used by regional entities in the private and public sectors, and (4) businesses incubated and created.
Action 1.2:

Evaluate existing and create new policies and tools for economic development

Work with partners to create new policies and tools to enhance ongoing regional economic development initiatives, and evaluate efficacy of existing efforts.

Portland State’s partners have suggested that Portland State should be at the center of conversations about regional economic development initiatives. With the implementation of this action, Portland State will assume this position by providing research into best practices in economic development, regional economic trends, and economic development policies and practices. Portland State will collaborate with partners to create and test new, innovative economic development policies and programs.

Over time, this effort may evolve into a “Center for Urban and Regional Economic Development” that brings together existing research efforts on policy, urban development, and sustainability to solidify Portland State’s urban economic development expertise at the national level.

Expected Results

For Portland State, implementing this action will provide:

- Opportunities for Portland State faculty and students to conduct research and capstone projects on urban and regional economic development and participate in translating it into potential policies and programs with impact at regional and national levels

- The ability to attract more highly sought faculty and students, as well as grants and contracts to support research and policy efforts

For public- and private-sector partners, implementing this action will provide:

- Access to leading creative researchers who understand the theoretical and practical dimensions of urban and regional economic development, and can assist agencies in the development and evaluation of policies and programs.

Implementation

Short term (1-3 years)

- Create a contract between PDC and Portland State concerning the City’s data and advisory needs that can be fulfilled through Portland State research

- Explore the possibility of creating a Center for Urban and Regional Economic Development. Clarify goals, roles, and partner responsibilities for this Center
Long term (4+ years)

Provide meaningful on-going monitoring and evaluations of regional economic trends and development endeavors to create a supportive environment where private and public entities can discuss economic development issues and shape new policies and programs.

Secure funding, space, staffing and operating agreements for the Center, as well as an initial work program by bringing other regional college and university expertise and resources to bear as well as securing contracts and grants from entities around the nation (e.g., governments, foundations, other collaborative universities) to support the work of the Center.

**Evaluation**

Evaluate the effectiveness of the economic development research services provided using criteria that may include: (1) number of service contracts with regional partners; (2) partner feedback on quality and utility of trends and economic development program monitoring; and (3) relevant publications.
### Issue 2:
**Alignment with regional economic development goals**

#### Context

While Portland State’s contributions to regional economic development efforts are substantial, they need to be aligned with regional economic development goals to maximize Portland State’s role as a catalyst institution. By better understanding and aligning Portland State’s contributions, and better connecting to a network of higher education institutions, it can best support regional economic growth.

#### Action 2.1:
**Align academic plans and research efforts with growing and emerging economic clusters**

Academic planning at Portland State will result in programming that aligns with the City of Portland Economic Development Strategy and other regional economic development goals, demonstrating Portland State’s commitment to the creation of a well-educated, productive workforce.

Portland State has a history of aligning its programs to support regional economic development goals. A recent example is sustainability, where the university is adjusting its course offerings, research efforts, and physical planning to demonstrate how “greening” a university can support the goal of creating a sustainable regional economy. Portland State is also committed to social equity in pursuit of green objectives, as reflected in the provision that requires that sustainability education will be a part of every student’s academic experience at the university. An indication of the early success of this strategy includes award of the $25 million Miller Foundation Grant for sustainability.

Action 2.1 will be led by the offices of the Provost and Vice President for Academic Affairs and the Vice President for Research and Partnerships.

#### Expected Results

For Portland State, implementing this action will provide:

- Support from regional private and public entities that benefit from Portland State’s specialized tracks, such as: financial underwriting of programs, contracts for Portland State services, assistance to Portland State as it pursues grants and other funding for programs
- An increased number of Portland State graduates with leadership positions in growth clusters
A solidified international leadership position as an engaged urban university capable of implementing sustainable regional economic growth through partnerships

For public- and private-sector partners, implementation of this action will provide:

- Specialized academic tracks that meet the needs of targeted and emerging economic clusters
- Greater availability of highly-educated graduates qualified for positions in companies and agencies, within the region and throughout the nation

**Implementation**

**Short term (1-3 years)**

- Work with regional public and private sector leaders to identify academic tracks and offerings that would effectively address the educational needs of a growing economy
- Identify and commit resources to phase in the most strategically important academic tracks

**Long term (4+ years)**

- Identify and fund a broader array of tracks that address educational needs for a wider band of businesses and careers.

**Evaluation**

Portland State and public/private sector leaders will craft evaluation criteria that may include: (1) the number and type of regional companies and public entities that hire Portland State graduates from these customized educational tracks, and (2) reports from hiring entities addressing the level of preparedness graduates have for job assignments.

Develop and distribute surveys and / or conduct interviews to help assess how well Portland State programs are aligned with the economic development needs of the region.

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**Partnership Opportunity: Portland State’s Support for Portland’s Key Economic Clusters**

Portland State inventoried the assets that it offers as a resource in the clusters that the City identified as economic targets. The full inventory is included as Appendix A to this document. A summary of Portland State resources by cluster:

**Clean Tech and Sustainable Industries**

- **Faculty Total:** 50
- **Facilities:** Energy & Environment Lab; Greenroof Design & Test Lab; the PV Testing Lab; Hydraulics Labs; Environmental Laboratory C and D; Water Quality Modeling Laboratory; Hydrology laboratory; and more.
- **Degrees awarded ’07-’08:**
  - BA: 421; MA: 169; Ph.D.: 12
  - Certificates: 73
- **Professional Development and Non-Credit Programs:** Clean Energy Specialist; Smart Grid Technical Professional; Clean Technology Public Policy and Regulations
- **Centers, programs and partnerships:** Center for Global Leadership in Sustainability; Center for Sustainable Processes and Practices; First Stop Portland; Center for Real Estate; Portland State Business Accelerator; Community Environmental Services (CES); Community Watershed Stewardship Partnership; and more.

*Continued on page 18*
Action 2.2: 
Inventory Portland State’s academic resources, degree production, and regional higher education resources

This action has three separate but closely-related parts:

1. Further develop and institutionalize an inventory of Portland State academic and research resources that contribute to the vitality of regional industries and business clusters.

2. Further develop and institutionalize a workforce tool that maps academic degrees to the projected occupational needs of the region.

3. Work with partners at other educational institutions and the City to create and make available an up-to-date inventory of all higher education resources in the region.

These three components could be linked together into a single on-line inventory.

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Portland State’s Support for Portland’s Key Economic Clusters (See Appendix A)  
Continued from page 17

Activewear and Outdoor Gear

Faculty Total: 24

Facilities: A number of laboratories have capabilities for measuring high speed mechanical events typically occurring in athletic equipment and outdoor gear. In addition, the newly-renovated Shattuck Hall houses design facilities including studios, a roof-top gallery, digital lab, and an extensive materials lab.

Degrees awarded ’07-’08: BA: 508; MA: 50; Ph.D.: 1

Professional Development and Non-Credit Programs: In addition to management training programs, the Professional Development Center offers two certificates and a number of non-credit courses for multimedia professionals.

Centers, programs and partnerships: Nike, Adidas, Columbia Sportswear, Lucy, Keen Footwear, Hanna Andersson, and other companies with local presence in the cluster have partnerships with the Portland State School of Business Administration.

Advanced Manufacturing

Faculty Total: 38

Facilities: Integrated Circuit Design and Test Laboratory; Analog Circuit Design and Test lab; Intel lab; VLSI lab; Tektronix lab; Nano Electronic Packaging Lab; Center for Electron Microscopy and Nanofabrication; and more.

Degrees awarded ’07-’08: BA: 244; MA: 185; Ph.D.: 9; Certificates: 8

Professional Development and Non-Credit Programs: Siltronic: Leadership training for senior fabrication managers; Sharp Labs of America: Technical presentations training for research group; PCC Structural; Boeing Portland; and the Gunderson: Management training program

Centers, programs and partnerships: The Oregon Metals Initiative, Inc. (OMI); The Oregon Nanoscience and Microtechnology Institute; Sharp Laboratories of America, Inc; Portland International Conference on Management of Engineering and Technology; and other laboratories in the Electrical and Computer Engineering and the Mechanical and Materials Engineering department in the Maseeh College of Engineering and in the Physics and Chemistry Departments in the College of Arts and Sciences.

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While Portland State’s contributions to regional economic development efforts are substantial, they need to be documented in a comprehensive and accessible way. Portland State’s partners have described a need for a catalogue of Portland State’s current contributions and resources so that: (1) partners are aware of programs and expertise that may support economic development ventures; and (2) as economic development goals and needs change in the region, Portland State can better understand how its programs should evolve to support job and industry growth.

Portland State has begun this effort by creating an inventory of academic and research resources, and by correlating the degrees it expects to provide to the anticipated occupational needs of business clusters that are growing in the region. Portland State has recently committed to broaden those efforts by working with partners at other institutions of higher education to create an up-to-date inventory of all higher education resources including enrollment and degree production. More can be done, however, to assure that each of these inventories remains useful for Portland State and its partners, and that collectively they provide the information and access needed to improve communications and support economic development activities.

### Portland State’s Support for Portland’s Key Economic Clusters

#### Software

**Faculty Total:** 33  
**Facilities:** Data and Information Management Laboratory; the High Performance Computing Laboratory; Intel Systems and Networking Laboratory; Intelligent and Adaptive Systems Lab; the Measurement and Discovery Networking lab; the High Performance Computing Laboratory; the Power-Aware Computing and Communications Lab; and the Open Technology Lab  
**Degrees awarded ’07-’08:** BA: 196; MA: 124; Ph.D.: 9; Certificates: 10  
**Professional Development and Non-Credit Programs:** The Professional Development Center offers an Information Technology program and the Professional Development Center also has a Multimedia Professional Program offering certificates in internet design and interactive media production.  
**Centers, programs and partnerships:** The Computer Science department collaborates with companies and public agencies in the region including Intel, IBM, Galois, the City of Portland Water Bureau, and the Oregon Department of Transportation. Also, the department has ties to the local open-source software community.

#### Bioscience

**Faculty Total:** 38  
**Facilities:** Portland State-Keck Genomics Facility; the Biomedical Signal Processing Laboratory; the Reparative Bioengineering Lab; the BioAnalytical Mass Spectrometry facility; the Northwest Electromagnetics and Acoustics Research Laboratory (NEAR-Lab); the Microscale Lab; the Science Animal Care Facility; and more.  
**Degrees awarded ’07-’08:** BA: 300; MA: 135; Ph.D.: 6; Certificates: 19  
**Professional Development and Non-Credit Programs:** The Professional Development Center offers a certificate and non-credit courses in Healthcare Management.  
**Centers, programs and partnerships:** Portland State Business Accelerator; Portland International Conference on Management of Engineering and Technology; OHSU; Center for Outcomes Research & Education (CORE); National College of Naturopathic Medicine (NCNM); Portland Veterans Affairs Medical Center; and more.
Expected Results

For Portland State, implementing this action will provide:

A clearer understanding of how Portland State resources and degree production align with growing regional clusters and a broader network of workforce development providers

A starting place for assuring on-going alignment among; (1) the goals of Portland State initiatives and programs; (2) economic development actions taken by public-sector partners; (3) research and development needs of private-sector partners; and (4) academic programs and emerging workforce development needs

An important input for ongoing discussions about improving the partnerships among public and private institutions of higher education in the region

For public- and private-sector partners, implementing this action will provide information about (A) Portland State and (B) higher education in the region:

(A) Information about Portland State

- Detailed, up-to-date information available in one location about Portland State’s resources as they relate to the needs of specific industry clusters
- Improved access to Portland State staff and faculty members responsible for specific research and other programs
- A starting place for conversations about the on-going alignment of Portland State’s programs and initiatives with growing industry sectors and clusters, and Portland State’s role in a network of workforce developers that supports the regional economy

(B) Information about higher education in the region

- A starting place for a complete needs assessment that can identify gaps in regional research capabilities and workforce development initiatives. This tool can help move the region one step closer to having a coalition of universities that together serve the economic development function of a fully-articulated teaching and research institution
- An access point for information about all institutions of higher education in the region
- Enrollment, number of graduates, degree production, and other qualitative data for each institution of higher education in the region

Partnership Opportunity

A central goal of the City of Portland’s Economic Development Strategy is to: “Support the efforts of higher education institutions to serve as the innovation engine of our sustainable economy.”

This Strategy outlines how Portland State can work with the City to achieve these goals. The City’s actions related to higher education are:

- Create an inventory of statewide higher education resources to support the sustainable economy (see action 2.3)
- Expand the efforts of Oregon Inc and OUS schools to fund and commercialize research and development at state universities (see actions 1.1, 3.1, and 3.2)
- Assist Portland State in its efforts to become a center of excellence in sustainability research, innovation and talent development (see actions 1.1, 1.2, 3.1 and 3.2)
Implementation

Short term (1-3 years)

Portland State has already begun production of these inventories: Appendix A contains the results of the inventory of academic programs and degree production. Working with the City, Portland State has developed an on-line framework for the inventory of higher education research, which can be viewed here: http://www.arc.pdx.edu/dev/kcities/. Portland State should build upon this progress as follows:

- Evaluate the benefits of co-locating or linking the three inventory tools. On-line publication would facilitate distribution and access.

- The Provost and Vice President for Academic Affairs and the Vice President for Research and Partnerships should conduct focus groups with industry partners to better understand their needs for degree production and alignment with their identified clusters; results can be incorporated into future updates of the on-line tools.

- Present results to key partners and solicit ideas about improving future iterations of the inventory to ensure that it remains useful.

- For the inventory of regional higher education resources: work with the City to determine an appropriate point person to gather data from regional institutions and update and maintain the tool. This person may reside at the City or at Portland State.

Long term (4+ years)

The Provost and Vice President for Academic Affairs and the Vice President for Research and Partnerships should fund positions to update and maintain the inventories of Portland State resources. The inventory should continue to be a tool that supports region-wide discussions about increasing Portland State’s economic development role. It will also serve as an input to conversations about changes to academic programs and investments in research strategies.

- Monitor success of the inventories against the evaluation criteria below. The best way to know if the tool is achieving its goals will be to ask the partners who use it.

Evaluation

- Monitor the number of unique and repeat on-line hits to the inventories to learn, among other things, which pages are most frequently accessed.

- Create a brief survey to gather data from public and private-sector partners about which parts of the inventory are most useful and how...
it can be improved. Distribute that survey annually with the inventory. The survey could be created and maintained on-line with the tool itself. Interviews may also be appropriate with certain key users of the inventory.

**Action 2.3:**
**Expand partnerships with OHSU and other institutions of higher education**

Expand the teaching and research relationships with Oregon Health and Science University (OHSU), community colleges, other Oregon State University schools, and small private colleges and universities.

The Portland region is fortunate to house two universities that are rapidly evolving in stature and can be strongly allied (Portland State and OHSU), as well as a collaborative community college system, other supportive Oregon University System schools, and excellent small private colleges and universities. By expanding the scope and depth of partnerships among the region’s higher educational institutions, these institutions can better serve the innovation, research, and workforce development needs of regional businesses and residents. Together, they can fill the role of a fully-articulated teaching and research university.

Portland State and OHSU have an opportunity to further align expertise in teaching and research areas that can support the City’s targeted and emerging clusters (including bio-sciences and others). Vice presidents that oversee academic and research programs at each institution can use inventories now being developed about research strengths (see Action 2.2) to determine which opportunities are most promising for Portland State and OHSU, and for regional economic development goals. Similar explorations can be made with other institutions. These may result in improved workforce development programs, or further enhancements to sustainability, entrepreneurship, product design, and other programs.

**Expected Results**

For Portland State, implementation of this action will provide:

Enriched research and teaching offerings to students at all levels. For students, partnerships will create access to a broader and deeper classroom experience. For researchers, expanded partnerships will result in opportunities for cutting-edge research in new fields as well as potential access to additional lab and classroom space.

Greater potential to secure research grants with the attendant economic impact of bringing external dollars to Oregon, while attracting more high-quality faculty and students.
A solidified position as a national leader in higher education partnerships

For public- and private-sector partners, implementation of this action will provide:

The equivalent of having a fully-articulated teaching and research university in the region that brings in research dollars and talent from across the nation, and commercializes products that drive innovation in the economy

Greater opportunities to tap into local higher education resources (research, students, training) rather than having to import these from outside of Oregon, thereby reducing costs and building regional capacity

Greater ability to grow and keep local intellectual capital in the region

**Implementation**

Short term (1-3 years)

The Provost and Vice President for Academic Affairs and the Vice President for Research and Partnerships will work with other Oregon University System schools in the region and representatives from private colleges and universities to assess additional economic development partnership opportunities. Strategies for implementing partnerships would be developed for those areas that benefit the collaborating institutions.

Secure agreements with the Vice President of Research and Provost at OHSU that identify the most urgent, strategic and viable areas for additional collaborative research programs. Accepted collaborations would be assigned to faculty members from each institution to clarify working arrangements between them.

Interview public and private sector leaders to gain a deeper understanding of the higher education services these leaders need to be more successful in achieving their economic development goals. This background will inform the Provost and Vice President for Academic Affairs and the Vice President for Research and Partnerships when structuring partnerships with colleges and universities throughout the region.

Set targets with public and private partners to fill the workforce development and research gaps needed to support growing clusters.
Long term (4+ years)

Expand the business accelerator model in conjunction with other higher education partners to advance business development in clusters as well as emerging fields.

Develop partnerships and contractual relationships with other regions across the nation interested in enhancing higher education roles in economic development.

Evaluation

Portland State and its higher education partners will develop monitoring criteria that may include: (1) new collaborative research programs initiated and grant dollars awarded, (2) new research faculty brought into the region as a result of collaborative efforts, (3) number and efficacy of research products accessed by regional and national businesses as well as public entities, (4) direct and indirect jobs created as a result of collaborative research programs, (5) number of students that secure jobs as a consequence of enrollment in collaborative workforce development programs, and (6) regional and national citations and recognition for collaborative research and workforce development efforts.
**Issue 3: Campus Planning and Development Partnerships**

Portland State should continue building on its history of campus planning and development partnerships with the City.

**Context**

Portland State has a long history of collaboration with the City in the planning and development of the campus area and the urban core. Portland State has the opportunity to contribute to many ongoing City-led initiatives that relate to physical planning: the Central City plan update, the potential creation of a new urban renewal area (URA) for the westside of downtown, changes to the University District Plan and its boundary, and the desired establishment of the nation’s first “EcoDISTRICT”, among others.

To be effective, Portland State, the City, and other public and private partners must be fully committed to the processes required to create viable plans, and each must embrace the agreements that obligate the partners to action. Because Portland State is so integrally embedded in an urban setting, these planning efforts will be critical to its future physical growth.

Portland State’s strategy for acquiring and developing properties has been largely opportunity-driven and limited by available funding at Portland State and its partner institutions. Most of the current Portland State campus is either outside of an URA or is in one that is about to expire and therefore has severely reduced development partnership potential.

**Action 3.1: Plan for an updated University District and new urban renewal area**

Portland State, as a successful urban developer, is currently working with partner agencies to update the University District Plan and create a new westside urban renewal area that reflects the objectives of Portland’s Central City Plan.

Implementing these actions will ensure that Portland State has sufficient capacity and funding for its facilities to support the existing student body and projected growth well into the future.
**Expected Results**

For Portland State, implementing this action will provide:

A new westside URA that recognizes and supports Portland State’s ability to further develop a vibrant mixed-use university environment and its role in advancing regional economic growth through strategic tax increment allocations in support of Portland State capital projects.

An opportunity for expanded partnerships with the private sector as Portland State builds additional facilities to host a vibrant mix of uses, many of which are tax generating (see Appendix B for details about the potential new urban renewal area).

An updated University District Plan that reflects current Portland State needs in its code language and boundaries, and enables Portland State to more effectively secure support and funding from the Oregon University System as it grows.

Greater opportunity for Portland State to collaborate with public and private partners to finance critical university developments, secure control of future development sites, and co-locate in facilities to help reduce Portland State’s development and operating costs.

For public- and private-sector partners, implementation of this action will provide:

A mix of uses within the University District that reflects goals in the City’s vision for a more multi-use, vibrant, and connected area in Portland’s south downtown.

Clear understanding of Portland State’s plans for growth so that they may more effectively serve as advocates and partners.

Expanded potential for public and private entities to partner with Portland State in mixed-use development projects that incorporate Portland State functions and up to 40% private commercial and retail activity.

Increased generation of tax increment resulting from more Portland State projects that are mixed-use.

**Implementation**

Short term (1-3 years)

Partner with the City to ensure the establishment of a new urban renewal area and accompanying plan that identifies and prioritizes specific Portland State goals for urban renewal and projects needed.
Ensure that projects identified in the urban renewal area plan are consistent with the principles outlined in Portland State’s University District Framework Plan and Economic Development Strategy.

Partner with the City to adopt new boundaries for the University District, as well as zoning and other code language that enables Portland State to develop a more vibrant sustainable mixed-use neighborhood in the south end of Downtown.

Develop a strategy for Portland State to work with partners to acquire key parcels and buildings.

Long term (4+ years)

Participate in the on-going implementation of the urban renewal area plan as a member of the City’s advisory committee.

Create a lead Portland State entity with sufficient authority and resources to assemble strategic parcels and effectively partner with private and public entities to develop those parcels.

**Evaluation**

Measure and evaluate Portland State’s contributions to the City’s economic and physical development goals. As the City’s plans are still under development, these goals have not yet been agreed upon, but may include: (1) Amount and quality of sustainable mixed-use projects in the University District; (2) Growth in use of alternative transportation modes and improved access in and around the University District and across I-405; (3) Additional property taxes generated from mixed-use development in which Portland State is a partner; (4) Direct and indirect jobs created as a result of Portland State’s developments in the urban renewal area and University District; (5) Growth in the University District that supports a variety of users, including residents, students, faculty, employees, and visitors; (6) Diversification of housing in the University District to meet University and City goals.

Measure and evaluate the urban renewal area’s contributions to Portland State-related projects in: (1) TIF dollars obligated and expended, (2) other public and private dollars leveraged through partnerships towards capital development; and (3) space needs met through capital expansion.
Action 3.2: Leverage regional commitments to create a model sustainable built environment and green jobs

Portland State will lead in the creation of a more sustainable physical environment and regional economy by modeling exemplary approaches to sustainability in operations as well as development in the University District.

Portland State is positioned, through its partnerships and resources—such as those provided by the Miller Foundation Grant—to continually cultivate new, implementable, sustainable solutions to the challenges of growth and economic development.

Expected Results

For Portland State, implementation of this action will provide:

- A clear international leadership role in sustainability research, policy development, and implementation along with opportunities for innovation in education and teaching
- A campus that (1) considers environment, economy and equity in decision-making and (2) optimizes energy efficiency in physical development and operations
- A campus that is part of the nation’s first EcoDISTRICT making Portland State a living laboratory for sustainability research and experimentation
- A new Oregon Sustainability Center that houses Portland State, Oregon University System, private and non-profit-sector, and City functions in a living building.
- Greater ability to attract talented faculty and students, as well as grants and contracts in various dimensions of sustainability
- Potential to expand Portland State’s business incubation function to focus on sustainability start-ups and create green jobs
- A model green streets approach, as exemplified in the implementation of the Montgomery Green Streets program and design

For public- and private-sector partners, implementation of this action will provide:

- Access to the most creative and knowledgeable human resources in the world on sustainability topics ranging from product development to engineering and design
Opportunities to implement innovative sustainability practices and test sustainable products

Potential to attract more green jobs and businesses, and to provide new technology to existing businesses in the Clean Tech cluster

Further elevation of Portland and Oregon leadership in sustainability

Opportunities to contribute to and learn from sustainability innovations that are implemented by Portland State

**Implementation**

**Short term (1-3 years)**

Through the business incubator, assure that start-ups are connected to the latest green research and technologies; create an outreach program to private businesses to better understand their needs for sustainable technologies and connect them to Portland State resources

Continue to partner with the Oregon University System, the City, and the private sector to design and fund development of the Oregon Sustainability Center. Portland State will craft operating agreements and evaluative criteria with its partners for the Center and determine which programs will be housed in the Oregon Sustainability Center.

Continue to collaborate with the City and other public and private partners to refine, sanction and establish the first EcoDISTRICT. With partners, draft goals, operating, and management agreements for the EcoDISTRICT and identify a range of potential financing resources to implement it.

Develop incentives that encourage faculty, staff and students to create and implement experimental tools and approaches to sustainable operations, practices, and development within the EcoDISTRICT.

Craft and adopt operational sustainability guidelines and standards for the entire campus that address issues such as: energy consumption in buildings, use of recyclable materials, and transportation systems.

**Long term (4+ years)**

Use the resources of the Oregon Sustainability Center to attract leading edge faculty, researchers and students to Portland State and green jobs and businesses to the region.
Assist the City in establishing and evaluating additional EcoDISTRICTs.

Continue to seek opportunities that leverage the Miller Foundation Grant.

Share the model for sustainable campus development, management, and operation with other higher education institutions in the region, state, and nation.

In collaboration with regional partners, participate in the creation of sustainable innovations. Portland State will have an opportunity to participate in the financial up-side of commercialized innovations.

**Evaluation**

Portland State, together with its partners, will develop monitoring criteria for the Oregon Sustainability Center. These may include:

1. Carbon use and emissions from the building;
2. Sustainability research grants attracted;
3. Resources leveraged by the Miller Foundation grant;
4. Patents secured for sustainable products;
5. Sustainability processes and procedures developed at Oregon Sustainability Center that have been incorporated into operations of private firms and public agencies or;
6. New sustainable business created as a result of Oregon Sustainability Center efforts.
This Strategy places Portland State at the center of regional conversations about economic development by capitalizing on its existing strengths as an engaged university committed to teaching, research and community service. It moves the university closer to its vision: to be an internationally recognized urban research university known for excellence in student learning, innovative research, and community engagement that contributes to the economic vitality, environmental sustainability, and quality of life in the Portland region and beyond.

With implementation of this Strategy, Portland State will play a more central and catalytic role in moving the region toward its economic development goal of building the most sustainable economy in the world. Through exceptional teaching and research capacity, enhanced relationships, and improved communications, Portland State will increase the region’s knowledge base in growing industry clusters, deploy resources to assist with economic development initiatives that create jobs and build businesses, and enhance the region’s propensity to innovate and excel. Portland State will serve as an example of sustainable development and operations, creating innovations that can be replicated throughout the nation and the world.
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