Connecting to our Future:
Portland's Broadband Strategic Plan
Executive Summary

Why do a Strategic Plan for Broadband?

Broadband networks power access to global information and economic activity in the same way that highways provided the transportation corridors for the old economy. The speed by which information can now be shared is creating tremors in many institutions. Just as electricity fundamentally and forever changed our society and economy in unanticipated and disruptive ways, the interconnected web of "the Network" is transforming our ability to participate, educate, inform and compete. Inadequate broadband capacity will cause Portland to lose ground in its economic future. Thus, it is important to understand what broadband is and how it impacts Portland. We must proactively set a strategic course for our economic and social development. This Plan will inform other plans in development and lays the foundation for understanding, embracing and adapting to the digital economy.

The Broadband Strategic Plan is a vision for Portland's future that recognizes the social and economic importance of Broadband in our livability, prosperity, sustainability, and equity goals.

Scope of the Broadband Strategic Plan

The objectives of the planning effort are:

➢ **To positively affect** how broadband infrastructure and services are likely to develop in Portland over the next ten years.

➢ **To plan** for optimal broadband deployment.

➢ **To identify** key short (3-year), mid (7-year) and long-term (10-year) broadband policies and initiatives the City can put in place that coordinate and guide the actions of City Bureaus, Offices and Committees toward a unified technology policy direction.

➢ **To lead** the way with broadband strategic planning in order to positively impact the policies, actions and directions of other Oregon communities and of the state as a whole.

Fiber and Wireless Broadband: The Technological Future

The future of telecommunications technology is not wireless or fiber optics—it is a combination of both. These two essential technologies inherently complement each other and work together:

Fiber offers high bandwidth
Fiber offers theoretically infinite capacity, which is essential for institutional and high bandwidth users. Fiber is the international standard for broadband. Wireless offers lower speeds that cannot support some of the ultra-high speed applications made possible by fiber.

Wireless offers mobility
The key advantage of wireless is that it offers mobility and connectivity during movement. Fiber cannot connect to an ambulance, a bus, or a resident's laptop in a public park. The emerging standard for wireless is 4G, or fourth-generation wireless; it is on the medium-term horizon for commercial deployment in Portland, and will also be an essential part of Portland's public safety wireless future. Wireless is essential for mobility but requires fiber to function adequately.

Impacts of Broadband Policy on Key Sectors

➢ **Economic Development**

- The effectiveness of the City's workforce is dependent on broadband adoption
- Economic and community development requires access to affordable broadband services
- Business decisions to locate in the City are increasingly impacted by the quality and capacity of broadband availability

➢ **Inclusion and Equity**

- Without better Internet and telecommunications policies, poverty and disparity will grow
- Inequities in access to technology creates a social and economic "digital divide"
- Broadband provides unprecedented opportunities to expand inclusion, express activism and create unity for communities

➢ **Public Safety**

- Advanced networked technologies can reduce response time in emergencies
- The public can truly become the "eyes and ears" of public safety
- Network security, privacy and standards issues are essential policy concerns

➢ **Transportation, Planning and Sustainability**

- Intelligent transportation systems and telework will save fossil fuels and lower carbon emissions

- Intelligent buildings, intelligent communities and planned neighborhood access centers will foster equity and community while lowering costs
- Broadband can change the structure of communities and the need for basic infrastructure

➢ **Education and Health**

- Getting a quality education in the twenty-first century increasingly depends on Internet access
- Modern K-12 education methods and goals depend on students and families having access to the Internet
- Internet use has become essential to health and aging
- Our Education and Health systems must modernize and adapt to the networked environment

World Class Broadband: Experiences from Other Communities

Communities worldwide have demonstrated creative, innovative practices to develop world class broadband infrastructure. This range of successful initiatives can inform the City as to strategies to contemplate. Some are incremental and modest in scope, and can be immediately undertaken. Others are more ambitious and broad—important reference points as the City plans its broadband future. The following is a brief survey of some of those strategies.

Aggressively court the private sector to invest in broadband locally. Fort Wayne undertook an extremely ambitious campaign to lure Verizon to build fiber to the premises (FIOS) to Fort Wayne.

Implement a "dig once" policy that cost-effectively enables gradual deployment of infrastructure. In this model, a community implements a policy mandating installation of conduit (or fiber) any time a trench or road is open in the public rights-of-way, thus enabling build-up of a critical mass of infrastructure at relatively low incremental cost.

Build fiber to potential wireless tower sites. The combination of fiber and high-value sites amounts to a desirable package for wireless providers, and thus both the fiber and the site could realize revenues in the form of lease payments from wireless service providers.

Deploy a modest, scalable FTTH pilot as a platform for innovation and research. In this model, the community builds a small pilot area that can scale in size over time. This approach was pioneered by Case Western Reserve University in Cleveland, in partnership with local communities and non-profits.

Incrementally develop publicly-owned fiber using a variety of approaches. In this model, the community gradually, using a variety of mechanisms, builds a network that serves institutional needs and is publicly owned and controlled.

Develop a public/private FTTH partnership. In this model, the community finds non-traditional partners to build and own fiber.

Strategic Planning Process

The City of Portland began its strategic planning for broadband in late 2010, after the City Council passed a resolution recognizing *"high-speed, accessible and affordable broadband is now a mission-critical infrastructure* for job creation, education, health care, the enhancement of safe and connected communities, civic engagement, government transparency and responsiveness, reduced carbon emissions, and emergency preparedness."

The Portland City Council directed the Office of Cable Communications and Franchise Management to work closely with the Portland Development Commission, the Bureau of Technology Services, the Fire Bureau, the Police Bureau, the Public Safety Systems Revitalization Program, the Office of Planning and Sustainability, and Mayor and Council Offices to ensure that a comprehensive, informed and inclusive broadband planning effort was undertaken that emphasizes equitable provision of services, business vitality and job creation. The Office of Cable Communications and Franchise Management engaged a consultant, IBI Group and its affiliate Nancy Jesuale of NetCity Inc., to assist with the Plan. A leadership team composed of staff from each City Council Office and the Bureau Directors of key City Bureaus was formed. Phase I of the work plan called for the formation of five sector roundtables (economic development, education and health, digital equity and inclusion, planning/transportation/sustainability and public safety) to participate in an eight-week facilitated planning process. This process was kicked-off with a session in City Hall in January 2011 that included presentations by Commissioner Dan Saltzman, Commissioner Amanda Fritz, City Officials, community representatives and telecommunications providers offering broadband services in Portland. The five sector roundtables included City Bureau Managers, employees, Council Office liaisons, members from other cities and counties, non-profits, small and large businesses, social activists, educators and health professionals.

Key Themes Identified in the Roundtables

- ✓ *Portland and its partners must take bold actions to ensure the development of world-class network infrastructure in the City.*

- ✓ *Affordability and ubiquitous availability are keys to adoption.*

- ✓ *Adoption across all age groups, cultures, races and economic classes is crucial to relieve social and economic inequities.*

- ✓ *Economic and societal health depends on education, training and mentoring to create lifelong learners who can embrace rapid change and work and prosper in the new economy.*

- ✓ *Portland must become a technology-centered economy, attracting innovators, research and development centers and employers seeking a tech-savvy environment.*

5 Goals of the Broadband Strategic Plan

Five goals were identified that are consistent with the Resolution of the City Council in late 2010. The report outlines goals, key action strategies and recommendations for short, medium and long-term activities to accomplish the goals.

1. **Make strategic investments in broadband infrastructure to attract innovative broadband-intensive business and institutions that create knowledge jobs in Portland.**

2. **Eliminate gaps in broadband <u>capacity, equity, access and affordability</u> so Portland achieves near universal adoption of broadband services for all residents, small businesses and community-based organizations.**

3. **Consult with workforce development partners when investing in broadband infrastructure to support the development of highly technology-skilled residents, students, small businesses and workforce.**

4. **Ensure that development and planning activities promote the use and wide-spread adoption of broadband technologies in government, energy conservation, transportation, health, education and public safety.**

5. **Create future-oriented broadband policy, modernize government organizations and institutionalize digital inclusion values throughout the region.**

The Broadband Strategic Plan lays out the key strategies and actions the City can take, with the help of key public sector partners and other local governments, educational institutions, industry and community organizations. Effective policy changes and transformation of the City government and its institutions requires strong and committed leadership. The Broadband Strategic Plan describes sweeping changes in government structures, relationships and technology. These cannot be implemented easily, and the steadfast commitment of the City's elected officials and top managers is necessary throughout the change process.