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# **Building and Advancing Digital Skills to Support Seattle's Economic Future**

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## Summary: Why digital skills matter

As the influence of digital technologies in the global economy expands, metropolitan areas throughout the United States face the task of preparing residents for an increasingly technology-powered world. Most jobs now require basic computer literacy to operate email and other software, while jobs specific to information technology (IT) require advanced skills such as coding. At home, residents need access to the Internet and consumer technologies to do homework, shop at online retailers, communicate with one another, or check real-time traffic and transit conditions.

Digital technologies hold out the promise of more widely shared prosperity, but achieving that vision will require every person to have basic digital skills—the ability to use digital hardware and software to manage information, communicate, navigate the web, solve problems, and create content.<sup>1</sup>

While some metro areas have made important advances on digital skills acquisition, the effects are not ubiquitous. The Census Bureau found that only 73 percent of U.S. households subscribed to in-home broadband service in 2013, leaving 31 million households without a high-speed in-home connection.<sup>2</sup> Pew Research Center finds that over one-third of U.S. adults doesn't own a smartphone, while 7 percent of smartphone owners lack high-speed Internet access at home and have few ways to get online beyond their smartphone.<sup>3</sup> Another survey finds that 29 percent of Americans have low levels of digital skills, and many of these persons tend to be older, less educated, and lower-income.

In an advanced economy, all residents deserve an opportunity to obtain digital skills. It is up to leaders in each U.S. metropolitan area to determine how best to meet this need. As with any social challenge of this scale, meeting it will require pragmatic problem-solving and deep collaboration across the public, private, and civic sectors.<sup>4</sup>

This brief summarizes the results of a workshop held in Seattle to explore these issues. While the findings from the workshop discussions are unique to the Seattle region—making its leaders and residents the primary audience for this brief—the workshop approach can be replicated in any metropolitan area interested in addressing digital skills shortfalls and developing solutions tailored to residents' needs.

1. Go ON UK, a United Kingdom charity focused on cross-sector digital skills, defines basic digital skills across these five categories. Many other definitions of digital skills and related terms like digital literacy exist. For more information on the Go ON UK definition, see [www.go-on.co.uk/basic-digital-skills/](http://www.go-on.co.uk/basic-digital-skills/) (accessed June 2015).

2. This includes households with only a dial-up connection (1.2 million), households with Internet access but without a subscription (4.9 million), and households without Internet access (24.9 million) (Brookings analysis of U.S. Census Bureau, 2013 One-Year American Community Survey, Table B28002 data).

3. Aaron Smith, "U.S. Smartphone Use in 2015" (Washington: Pew Research Center, 2015).

4. John Horrigan, "Digital Readiness: An Emerging Challenge Beyond the Digital Divide," presentation at the Information Technology and Innovation Foundation, June 17, 2014, available at [http://www2.itif.org/2014-horrigan-readiness.pdf?\\_ga=1.119517193.1896174784.1435243775](http://www2.itif.org/2014-horrigan-readiness.pdf?_ga=1.119517193.1896174784.1435243775) (accessed June 2015).

## Introduction: Digital skills and the Seattle metropolitan economy

Seattle is well positioned to prosper in the information era. Advanced industries—including global leaders in aerospace and IT—power the regional economy and have created an impressive network of patent-producing firms that employ over 295,000 people.<sup>1</sup> The region's households actively participate in the digital economy as well, as evidenced by a broadband adoption rate of 82 percent.<sup>2</sup> Collaborations bringing together firms, public utilities, and government institutions make Seattle a national leader in the use of data monitoring to reduce energy usage.

However, for the region to maintain its position in the years ahead, it will need to cultivate a more inclusive economy that gives every resident the opportunity to acquire the skills needed to succeed in the digital era.

Like most U.S. metro areas, metropolitan Seattle continues to struggle with digital inclusivity. Strong broadband adoption across the region masks lagging adoption rates in many low-income neighborhoods and communities of color.<sup>3</sup> A skills mismatch between job openings requiring digital skills and the education and skills training of area residents contributes to income inequality.<sup>4</sup> This inequality, though less marked than in other cities with similar high-tech economies, continues to increase, with the highest-earning households experiencing rising incomes while lower-income households' earnings stay relatively flat.<sup>5</sup> Meanwhile, more than 45 percent of jobs in the region are more than 10

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1. Mark Muro et al., "America's Advanced Industries: What They Are, Where They Are, and Why They Matter" (Washington: Brookings Institution, 2015).

2. Seattle has the 16th highest broadband adoption rate across 381 metropolitan areas (U.S. Census Bureau, 2013 One-Year American Community Survey estimates data).

3. Based on the Federal Communication Commission's tract-level broadband subscribership data, neighborhoods with lower adoption rates also are the neighborhoods with higher poverty rates and non-white population rates, based on U.S. Census data (Brookings internal calculations of FCC and U.S. Census Bureau data).

4. Capital One and Burning Glass, "Crunched by the Numbers: The Digital Skills Gap in the Workforce" (Boston: Burning Glass Technologies, 2015), available at [http://104.239.176.33/wp-content/uploads/2015/06/Digital\\_Skills\\_Gap.pdf](http://104.239.176.33/wp-content/uploads/2015/06/Digital_Skills_Gap.pdf) (accessed June 2015).

5. Households at the 95th percentile grew their annual incomes by over \$23,000 from 2007 to 2013, while incomes for households at the 20th percentile went down by nearly \$500 (Alan Berube and Natalie Holmes, "Some Cities Are Still More Unequal Than Others—An Update" (Washington: Brookings Institution, 2015).

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miles from downtown Seattle and Bellevue, and over two-thirds of poor households now live in the suburbs.<sup>6</sup> This kind of job sprawl and suburban poverty limit many residents' physical access to economic opportunity.

But the Seattle area has the assets to address these challenges. The region has a legacy of direct private-sector support for professional skills development and a huge network of IT firms that can expand such efforts. Government agencies and civic institutions already manage programs to promote digital skills acquisition. In addition, there is a regional ethic of supporting equitable economic growth, seen most recently in Seattle's landmark living wage policy and Sound Transit's discounted fee system for lower-income riders.<sup>7</sup>

In an effort to address Seattle's digital skills gap, the Brookings Institution Metropolitan Policy Program convened a group of leaders from the public, private, and civic sectors to discuss how to continue building a regionally inclusive digital skills infrastructure. The workshop consisted of brief presentations from Brookings experts and local leaders, group discussions of current efforts and challenges, and break-out groups to identify specific barriers and discuss strategies and next steps to improve future outcomes.

The following is a distillation of the key themes and lessons from the workshop.

## 1. Commit to ongoing collaboration

There is a clear consensus among Seattle-area leaders that basic digital skills are essential for everyone. The tough part is ensuring that all residents in the region have the opportunity to acquire these skills.

This challenge implicates a wide range of stakeholders, from municipal and county government, public libraries, and universities to area businesses, education and training providers, philanthropies, and nonprofits.

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6. Elizabeth Kneebone, "Job Sprawl Stalls: The Great Recession and Metropolitan Employment Location" (Washington: Brookings Institution, 2013); Elizabeth Kneebone and Natalie Holmes, "New Census Data Show Few Metro Areas Made Progress Against Poverty in 2013" (Washington: Brookings Institution, 2014).

7. Lynn Thompson, "Seattle City Council Approves Historic \$15 Minimum Wage," *Seattle Times*, June 2, 2014; Sam Sanders, "Seattle Cuts Public Transportation Fares for Low-Income Commuters," *National Public Radio*, March 2, 2015.

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Many of these actors already manage their own initiatives, to great effect. Programs like the Seattle Goodwill's Digital Literacy Initiative are working to increase the number of people with 21st-century digital skills, particularly among traditionally underserved populations. The private sector is advancing a similar agenda with major initiatives, such as Microsoft IT Academy and Google's Made With Code, that promote computational thinking through computer science. Meanwhile, nonprofit training programs like the Ada Developers Academy as well as for-profit training providers such as Code Fellows and General Assembly are getting more people on pathways into tech-intensive careers that pay well.

However, despite this demonstrated willingness to act, coordination of activities across the region remains a challenge. Most initiatives operate independently from one another, often resulting in duplicative efforts and missed opportunities for greater impact. Furthermore, current efforts often concentrate activities in either the central cities or specific portions of the three-county region, thereby excluding those who live in other parts of the metro area. For example, the city of Seattle's excellent digital equity programs extend only to the city limits and are not available in South King County. Without more collaboration, the region will not be able to take full advantage of its creativity, resources, and capacity for pragmatic problem-solving.

## 2. Identify a convener and organize for action

Once stakeholders commit to collaborative problem-solving, they must then determine how best to organize for action. Identifying a neutral convener organization can help expedite this process. Designating a convener ensures that there is a single organization tasked with driving the group's agenda forward and fostering greater collaboration among stakeholders.

The role of convener involves a handful of specific tasks that help keep the group on track and in regular contact. Organizing regular group meetings, delegating critical tasks like research into best practices, and managing communication within the group are all critical functions for the convening organization. To take just one example, the Community Center for Education Results (CCER) fills the convener role for the many stakeholders involved in the Road Map Project, which is working to improve student outcomes in South Seattle and South King County.<sup>8</sup>

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8. More information on the Road Map project is available at <http://www.roadmapproject.org/>.

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The Seattle area is fortunate to have a number of organizations that could act as convener. Potential candidates include the Workforce Development Council of Seattle-King County (WDC), the Seattle Public Library, the University of Washington, or one of the many large philanthropies in the region.

Regardless of which organization ultimately takes on this role, selecting a convener marks a crucial first step toward an actionable, collaboratively developed digital skills agenda for the Seattle region.

### 3. Develop a shared vision for digital skills acquisition

Crafting a shared vision for digital skills acquisition will strengthen the group's work by ensuring that all involved are on the same page. That vision can support the creation of a coordinated regional plan, which will help stakeholders take advantage of economies of scale and ensure the greatest return on resources invested. This plan should take particular care to address challenges faced by traditionally underrepresented groups, including white women and women and men of color as well as those in lower-income communities.<sup>9</sup> Ending the persistent lack of diversity in tech-oriented careers will require a concerted effort on the part of all stakeholders involved.<sup>10</sup>

To start, the convener's first task should be organizing a time for stakeholders to sit down, develop a shared vision, and determine the next steps necessary to achieve that vision. Conducting an audit of existing programs in the region that support digital skills acquisition can be a good place to begin. This inventory will highlight any overlapping initiatives while also providing information on gaps in the digital skills infrastructure that will need to be addressed.

In addition, the group should work with the private sector to identify the digital skills needed in various industries and begin to map out pathways into tech-oriented careers. This information will ensure that the solutions developed are informed by current and projected industry demand.

**9.** For more on the importance of distinguishing the lived realities of women of color from those of white women, see, among others: Kimberlé Williams Crenshaw, "Mapping the Margins: Intersectionality, Identity Politics, and Violence Against Women of Color," *Stanford Law Review* 43, no. 6 (July 1991): 1241-99.

**10.** Charles M. Blow, "A Future Segregated by Science?" *New York Times*, February 2, 2015, available at [www.nytimes.com/2015/02/02/opinion/charles-blow-a-future-segregated-by-science.html](http://www.nytimes.com/2015/02/02/opinion/charles-blow-a-future-segregated-by-science.html) (accessed June 2015).

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The industry-sector panels convened by WDC offer one possible approach. Under this model, WDC serves as convener, bringing together key stakeholders from industry, education, workforce development, labor, nonprofits, and other relevant areas to identify shared challenges and engage in collaborative problem-solving. The outcomes and activities of the sector panel are determined by the group, with WDC facilitating the process throughout. WDC has a demonstrated record of success in organizing sector panels for the maritime and health care industries, and it could apply the same techniques to industries requiring digital skills.

Preliminary research will provide the data and analyses necessary for truly evidence-based solutions that respond directly to specific challenges in the region. Once this baseline research is completed, the group can begin problem-solving in earnest. To start, the group should identify a punch list of action items that can be easily accomplished in order to start building a record of successful collaborations.

As the group designs these solutions, it should also take care to establish performance management systems that track progress. Monitoring the performance of each solution implemented will also support efforts to refine and course-correct programming over time.

## **4. Adopt new roles to accomplish regional goals**

With a new, shared vision of the community's digital skills infrastructure in hand, stakeholders will need to align their individual initiatives to that goal and, in some cases, redefine their roles in order to support the broader vision.

These new roles should leverage each organization's core strengths rather than require them to develop new ones. For example, metropolitan Seattle's public libraries are already community-meeting spots that specialize in information exchange, offer free access to the Internet, and host a variety of classes for the public. This current work positions the libraries to serve as an information clearinghouse for digital skills programs offered in the region, ranging from job-skills training to classes on smartphone use. Likewise, academic experts at the University of Washington and other postsecondary institutions could help create a new curriculum for teaching applied digital skills to diverse populations.

At the same time, organizations should be open to adapting their core projects in order to fill gaps in the region's digital skills infrastructure. For example, technology firms

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like Microsoft and Google could draw on their extensive civic philanthropic efforts and employee skills-training programs to provide basic, applied digital skills and computer science training that enhances the regional workforce. Such efforts could build on Microsoft's IT Academy model and Google's support for programs at the Boys and Girls Clubs, which could be repurposed to address adult needs rather than those of children and teens.

As individual organizations adopt new roles, they will need to ensure that services are available to residents across the entire metropolitan area. Anchored by its Department of Information Technology and its Digital Equity Initiative, the city of Seattle has an impressive record of boosting digital skills within the city proper. But the vast majority of area residents live outside Seattle. Furthermore, over 60 percent of the region's poor households now live in the suburbs. As a result, regional actors like Puget Sound Regional Council, Sound Cities, and county governments face enormous pressure to serve residents across the three-county metro area.

To start, organizations should work together to conduct metrowide surveys of digital equity issues, perhaps following the model employed by Seattle's Digital Equity Initiative. This quantitative and qualitative data will set the baseline for the entire region and will help organizations set achievable benchmark goals for the years ahead.

## **5. Create a regional digital skills brand and marketing strategy to galvanize action**

In order to communicate the shared vision to area residents, stakeholders should develop and publicize a new regional brand that positions the Seattle region as a leader in digital skills adoption and more equitable economic outcomes.

The associated marketing campaign can counter misconceptions about digital skills and the tech industry, maximize awareness of individual stakeholders' projects, and minimize costs for each organization. Working together, stakeholders can reach the broadest possible pool of local residents with a cohesive message that encourages digital skills and computer science skills acquisition. Furthermore, by directing residents to centralized information centers like local public libraries, the campaign will connect individuals with experts who can help them find the best programs for their needs.

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In crafting this branding effort, the Seattle area should look to similar campaigns for inspiration. One example is Portland, Ore.'s We Build Green Cities campaign, a trade-based effort to leverage Portland's international reputation for environmental sustainability and design in order to increase the region's exports. Baltimore's Opportunity Collaborative offers a more equity-focused model that brings together local and state public agencies, nonprofit organizations, and universities to solve common workforce, housing, and transportation challenges. A digital skills marketing campaign patterned after existing efforts will allow the region to capitalize on proven models when positioning itself as a leader in digital skills adoption that supports more widely shared prosperity.

## Conclusion

The Seattle region stands at a crossroads. It has the industrial assets for continued growth that fosters ongoing innovation and provides jobs that pay well. It also has a commitment to shared prosperity, best represented by the public, private, and civic actors that support better wages, affordable transportation options, and education and training focused on science, technology, engineering, and math (STEM) occupations. The region should build on these efforts by advancing a shared vision for digital skills and undertaking the sustained collaboration necessary to make that vision a reality. ■

## Appendix: Additional resources

The Boston Consulting Group, “Opportunity for All: Investing in Washington State’s STEM Education Pipeline” (2014).

The Boston Consulting Group and the Washington Roundtable, “Great Jobs Within Our Reach: Solving the Problem of Washington State’s Growing Job Skills Gap” (2013).

Capital One and Burning Glass, “Crunched by the Numbers: The Digital Skills Gap in the Workforce” (2015).

City of Austin, “Digital Inclusion Strategy 2014” (2014).

City of Seattle Department of Information Technology, Community Technology Program, “Information Technology Access and Adoption in Seattle: Progress Towards Digital Opportunity and Equity” (2014).

Communities Connect Network, “Defining Digital Inclusion for Broadband Deployment & Adoption” (2014).

Maureen Majury, “Building an IT Career-Ready Washington: 2015 and Beyond” (Seattle: Center of Excellence for Information & Computing Technology, 2014).

Seth McKinney, “Economic Development Planning in Seattle: A Review and Analysis of Current Plans and Strategies” (Seattle: University of Washington Evans School of Public Policy, 2013).

Seattle Goodwill, “Digital Literacy Initiative: Overview” (2014).

Seattle Goodwill, “Digital Literacy: Theoretical Framework” (2014).

Angela Siefer, “Trail-Blazing Digital Inclusion Communities” (OCLC and Institute of Museum and Library Services, 2013).

Tricia Vander Leest and Joe Sullivan, “ICT Training and the ABCs of Employability: YearUp’s Jobs Program for Urban Youth” (Seattle: University of Washington Center for Information & Society, 2008).

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