National Telecommunications and Information Administration

Broadband Technology Opportunities Program Evaluation Study

Order Number D10PD18645

Case Study Report
Round 2

Las Vegas-Clark County
Urban League
Public Computer Center

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Executive Summary

> *"Making an impact on people and seeing it keeps you coming back. You don't care about anything else. What you want to do is keep affecting the community." – Nevada Public Computer Center Trainer*

The Las Vegas-Clark County Urban League (LVUL), founded in 2003, is a nonprofit Community Action Agency (CAA) that works to empower communities and provide equal opportunity for low-income persons in Southern Nevada. LVUL provides services to disadvantaged persons to address education, economic development, and community empowerment issues. By 2010, the agency had grown to a 200-person workforce with an annual budget of $14 million.[1]

On February 1, 2010, the National Telecommunications and Information Administration (NTIA) awarded LVUL a Broadband Technology Opportunities Program (BTOP) Public Computer Center (PCC) grant for $4,680,963 to implement the Access to Computer Technology and Instruction in Online Networking (ACTION) project. LVUL implemented this project in PCCs that LVUL and its grant partners operated to provide computer access and training in low-income and high unemployment communities in and around Las Vegas. The service area contains a significantly greater percentage of African Americans and Hispanics when compared to both the state and the nation, and nearly a third of the households in the grant's service area have annual incomes lower than $25,000.[2] LVUL branded these PCCs as Nevada Public Computer Centers (NVPCC).The project proposed the following, with the results shown:

- Establish fifteen new PCCs and upgrade fourteen existing PCCs in public housing developments, community centers, and senior centers.[3] The program upgraded or created thirty-three PCCs with broadband connections between 1.5 and 50 Mbps and installed broadband wireless connections at twenty-nine PCCs.[4]
- Replace or add 236 computer workstations across all new and upgraded PCCs. LVUL had installed all 236 computer workstations by the end of 2011.[5]
- Provide trainers at all PCCs to provide one-on-one and scheduled classroom instruction and develop a range of basic to advanced computer training curricula available at all PCCs. LVUL had developed more than 100 courses and performed more than 100,000 hours of training by the end of 2012.[6]

LVUL activities target the cities of Las Vegas, North Las Vegas, and Henderson, Nevada, including the unincorporated areas of Clark County. The grant's priority is to serve low-income residents of Clark County through partnerships with the Southern Nevada Regional Housing Authority (SNRHA) and the City of Las Vegas. With these partners, LVUL improved or established PCCs in public housing developments, community centers, and senior centers in the most economically disadvantaged communities in the Las Vegas metropolitan area.

This case study is one of fifteen performed by ASR Analytics, LLC (ASR) on a sample of eight PCC and seven Sustainable Broadband Adoption (SBA) grants. It is part of a larger mixed-methods evaluation of the social and economic impacts of BTOP.

The purpose of this case study is to:[7]

- Identify how the grantee maximized the impact of the BTOP investment.
- Identify techniques, tools, materials, and strategies used to implement the project.

- Identify any best practices, and gather evidence from third parties, such as consumers and anchor institutions, as to the impact of the project in the community.

This report further investigates the initial impacts reported by the grantee during the first round of visits and identifies additional impacts that occurred in the time between the site visits. The results presented in this report reflect the evaluation study team's observations at the time of the second site visit. It will serve as a basis for *Interim Report 2*, which will analyze data from fifteen case studies.

This case study is primarily qualitative. Although LVUL implemented a user survey in 2012, there was limited tracking of outcome and impact data beyond what was required for grant reporting. The evaluation study team collected the information presented here during two field visits to evaluate the social and economic impact of the ACTION project. The evaluation study team originally met with representatives of LVUL over a two-day period in August 2011, visiting its administrative offices and seven PCC locations in Las Vegas: Doolittle, Sherman Gardens, Martin Luther King Senior Center, Espinoza Terrace, Simmons Manor, East Las Vegas, and West Las Vegas. ASR conducted a follow-up site visit with the grantee, project partners, and individual users from January 22-24, 2013. The second site visit focused on the PCCs that were included in the first visit, excluding the Doolittle and East Las Vegas sites. ASR visited two additional PCCs: Biegger Estates and the Pearson Center. Biegger Estates was a PCC established as part of the development of the grant. The Pearson Center was not a PCC grant site; however, the grantee recommended that the ASR team visit the facility to learn more about the sustainability initiatives to keep several of the PCCs open after the grant award period.

The second site visit coincided with the grantee's internal closeout of the grant funding, which limited the opportunity to interview key project leaders and staff. The evaluation study team conducted the second site visit as LVUL was closing out its PCC operations scheduled to end by January 31, 2013, pending a possible grant extension. As LVUL and its partners agreed, LVUL operated the PCCs at the partner sites during the grant period and the partners would operate the PCCs after the grant period. As the operations started to close, LVUL transferred the PCC operations of most sites to partners, each of which was making decisions about its strategy to manage the PCCs and their programs. At the time of the site visit, both partners planned to reopen the PCCs under their own management. The City of Las Vegas temporarily closed five PCCs including the Doolittle and East Las Vegas sites. This permitted the City to set up the computers with new software images and implement network system changes to manage the facilities in concert with its existing IT infrastructure. LVUL received a grant extension on January 28, 2013, allowing them to expend grant funds until September 30, 2013.[8]

In total, the evaluation study team performed seven site visit interviews and focus groups. ASR transcribed these discussions and used this information, and other data and reports provided by the grantee, to supplement Quarterly Performance Progress Reports (PPR), Annual Performance Progress Reports (APR), and other publicly available information.

The evaluation study team noted the following major outcomes and impacts of the LVUL grant:

- Trainers developed curricula for 101 computer classes, 40 of which were accessible online by patrons who used the PCCs. Important components of the grant included computer courses that were adapted to the needs of the target population and one-on-one assistance provided by trainers. Staff members noted improvements in students' digital literacy skills and in their ability to perform workforce-related activities independently.
- LVUL provided evidence that access has increased because of the computers and services made available at the PCCs. There was a combined total of 568,966 user sessions across all PCCs from July 2010 through December 2012.[9] Over the course of the grant period, the Las Vegas Senior Citizens Center had the highest number of user sessions at 99,178, followed by the Stupak Community Center with 71,559, and the Doolittle Community Center with 50,778.[10] User sessions are not unique and may represent multiple logins by a single user in a single day.

- The development of basic computer and Internet skills helped patrons who were seeking employment. NVPCC personnel reported instances where individuals found jobs by using the resources at the PCCs, although a grant-wide estimate is not available. Access to computers and resources was linked to an increase in the number of résumés developed, job search activity, participation in job training workshops, and preparation for job fairs. LVUL was also instrumental in helping disadvantaged foster students and special needs students find jobs.

- The grantee improved its ability to deliver services to Hispanic patrons through marketing initiatives and courses developed in Spanish specifically for this population. LVUL saw an increase in Hispanic users who learned about the PCCs primarily by word of mouth. Many Hispanic patrons did not know how to speak English before taking the basic computer and Internet courses. Many Hispanic patrons who participated in the courses learned how to speak English, which helped them in their efforts to find employment.

- Computer access was available at NVPCCs for individuals who needed to complete a job certification online. In addition, parents who needed assistance from NVPCC trainers registered and used software implemented by the Nevada Public School System to monitor their children's grades and attendance.

LVUL administered a quarterly user survey at its PCCs in February, May, and August 2012. Patrons were prompted to complete the optional survey when they logged in to a computer. A total of 588 survey responses were collected. Several key observations from the data analysis show that had it not been for the grant, users might not have received digital literacy and workforce development training to complete personal and job-related tasks online. Without the BTOP grant, new PCCs would not have been established and PCCs that operated with limited resources would not have been upgraded. Grant funds extended computer access and services to thousands of residents in Southern Nevada who would otherwise have had limited or no access to a computer.

Section 1. Introduction

The Las Vegas-Clark County Urban League (LVUL), founded in 2003, is a nonprofit Community Action Agency (CAA) that works to empower communities and provide equal opportunity for low-income persons in Southern Nevada. LVUL provides services to disadvantaged persons to address education, economic development, and community empowerment issues.[11]

On February 1, 2010, the National Telecommunications and Information Administration (NTIA) awarded LVUL a Broadband Technology Opportunities Program (BTOP) Public Computer Center (PCC) grant for $4,680,963 to implement the Access to Computer Technology and Instruction in Online Networking (ACTION) project. LVUL implemented this project in PCCs that LVUL and its grant partners operated to provide computer access and training in low-income and high unemployment communities in and around Las Vegas. The service area contains a significantly greater percentage of African Americans and Hispanics when compared to both the state and the nation, and nearly a third of the households in the grant's service area have annual incomes lower than $25,000.[12] LVUL branded these new and upgraded PCCs as Nevada Public Computer Centers (NVPCC).

1.1 What the Interviewees Told Us

Figure 1 displays words used frequently by interviewees during discussions that took place with the evaluation study team. These interviewees included seven interviews and focus groups with LVUL program management staff and representatives from NVPCCs. The word cloud displays the 100 words used most frequently by the interviewees. The purpose of the word cloud is to provide a succinct visual summary of the conversations that occurred. Statements made by ASR personnel during the interviews and focus groups were excluded from the analysis, as were common words, such as prepositions, articles, and conjunctions, which were identified using a standard "stop list."

In addition to "computer," "people," and "classes," other significant words refer to digital literacy and workforce development activities, including "job," "center," "program," "instructor," and "community." These words emphasize LVUL's focus on workforce development and training activities in the NVPCCs.

Figure 1. Words Interviewees Used Frequently

Section 2. Impacts

The most prominent impacts of the ACTION project are in the focus areas of Digital Literacy and Workforce and Economic Development. LVUL strategically upgraded and created PCCs with trainers in targeted areas. The PCCs made computers accessible to low-income individuals, the unemployed, seniors, students, and children. The PCC locations are often multipurpose facilities that house the computer lab and provide other types of social services. For example, several PCCs are located in LVUL facilities. Four of the PCCs are located in senior centers or in housing complexes where seniors can socialize with other seniors, participate in arts and crafts, or receive a hot meal.

According to the interviewees, the primary impact of the grant was increased digital literacy for patrons who learned how to access the Internet and use a computer. NVPCC trainers reported that users who completed the basic computer and Internet courses were often interested in learning how to use more advanced programs, including Microsoft Word, PowerPoint, Excel, Access, Publisher, and Outlook. Trainers developed curricula for 101 courses. Users could access approximately forty of the courses online at moodle.nvpcc.org. Other training options included the Read and Rise program, résumé building, general equivalency degree (GED) preparation, and financial literacy seminars. Several training programs are available in both English and Spanish.

The trainers helped patrons learn how to use computer programs, access social media websites such as Facebook and Twitter, navigate the Internet, and find information online for personal and business purposes, such as purchasing a plane ticket and online banking. The accounts provided by interviewees include the following:

- "There was a need for those who wanted help with putting in applications. So we started offering classes where people could come in and get assistance in creating résumés and putting in applications online."

- "It's been great seeing people come back and say, 'I've been able to get a job,' after we helped them with sprucing up their résumé and applying for jobs online."

- "You can't start work if you don't have a health card. So for somebody to be by your side and help you register, it gives that person peace of mind knowing that…I can obtain this health card and then start work right away."

- "There're a lot of different places that are connected now through Skype. The seniors enjoyed Skyping with grandchildren who are serving in the Middle East. They thought it was amazing that they could sign up for free. They thought everything had a cost to it so that's what kept them away."

Two unexpected benefits resulted from the grant:

- Staff developed a sustainable technological infrastructure to support information management and tracking systems. Staff used the infrastructure to track user logins, open lab time, courses delivered, and trainings delivered. In addition, the system had the ability to develop reports, monitor computer activity, and produce online surveys. NVPCC staff also developed an internal quasi-YouTube server for staff training. Inventory and asset-tagging systems were developed and implemented. LVUL staff used the technological infrastructure to help improve operations and consolidate functions across departments. None of these systems existed before the grant.

- The City of Las Vegas and the Southern Nevada Regional Housing Authority (SNRHA) benefited from the grant by taking ownership of the PCCs that were established or upgraded in their facilities after grant closeout. Patrons who use the community centers or live in public

housing still have access to the PCCs after LVUL started to transition operations to these partners.

2.1 Focus Areas

This section describes the impacts of the ACTION project in terms of five focus areas. ASR tabulated the training hours LVUL reported in the 2012 Annual Progress Report (APR) using the focus area categories described in *Interim Report 1* to determine where impacts would be expected.[13]

LVUL reported 106,897 hours of training through December 2012.[14] As shown in Figure 2, almost half of the training hours provided by NVPCC staff were in the focus area of Digital Literacy. Similarly, Workforce and Economic Development accounted for a little less than half of the training provided to patrons. Education and Training was a little more than 1 percent of the training, which included certification needed to work in the culinary industry in Nevada. Quality of Life/Civic Engagement was minimal and less than 0.5 percent, with 464 training hours provided. A little over 10 percent of the training conducted was categorized in the APR as "Other."

Figure 2. Grantee Training Hours Categorized by Focus Area
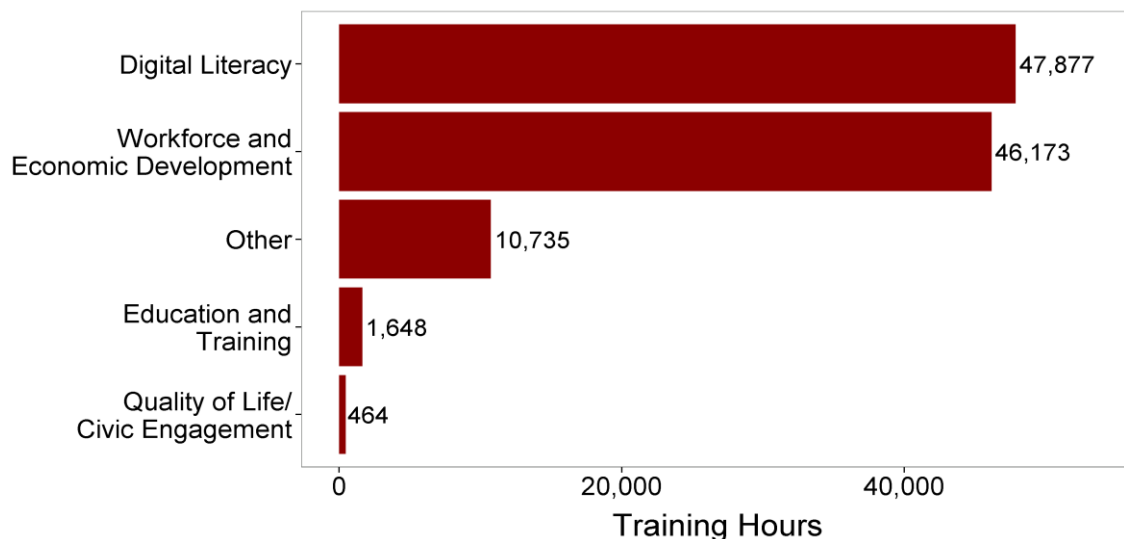
ASR also analyzed the statements grantees made during the interviews and focus groups and categorized them based on focus area, as shown in Figure 3. Approximately 50 percent of grantee responses reference Digital Literacy, which is commensurate with the fraction of training hours devoted to this focus area. Workforce and Economic Development represents a little less than 20 percent of the grantee responses. Quality of Life/Civic Engagement reflects approximately 15 percent of interviewee statements, and Education and Training represents almost 14 percent. Healthcare represents only 1.5 percent of grantee discussions.

Figure 3. Focus Area Statements Made by Interviewees

Figure 3. Focus Area Statements Made by Interviewees

Focus Area	Relative Frequency
Digital Literacy	50.7%
Workforce and Economic Development	18.9%
Quality of Life/Civic Engagement	15.2%
Education and Training	13.7%
Healthcare	1.5%
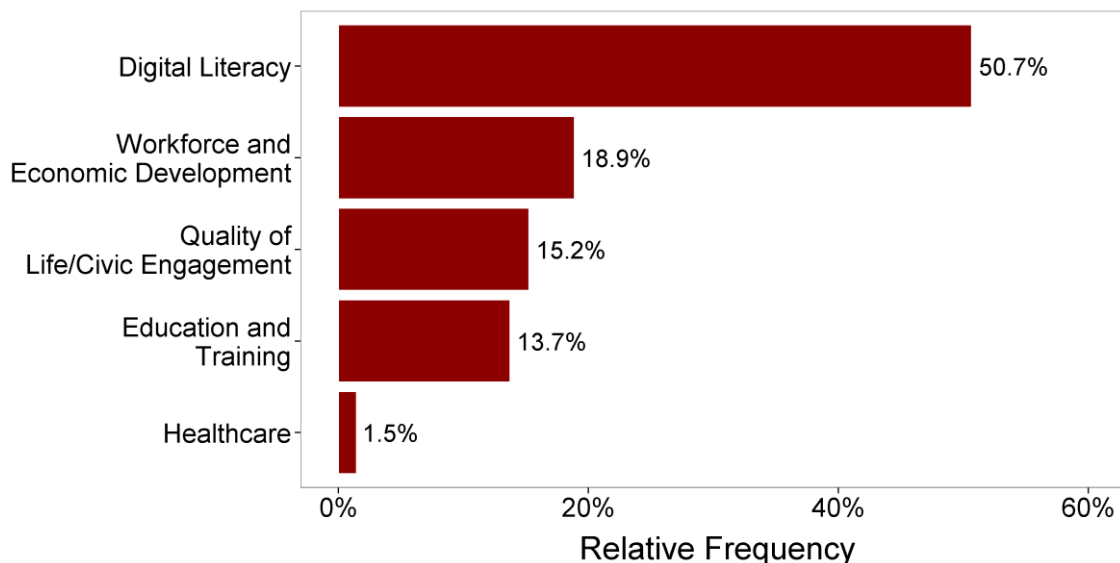
2.2 Digital Literacy

> *"People tell me that it is important to them to communicate with family, use e-mail, and find a job." – Nevada Public Computer Center Trainer*

Digital Literacy defines a set of skills and abilities that enable an individual to interact with digital aspects of culture, and to maintain a digital identity. In the National Broadband Plan, the Federal Communications Commission (FCC) defines digital literacy as "the skills needed to use information and communications technology to find, evaluate, create, and communicate information."[15]

Digital Literacy was the primary focus of LVUL. The data show that the level of digital proficiency of new patrons has increased over time, including the level of training and preparation of new users. Many of the new users had very few or no computer skills. Intermediate users were more likely to be able to use Word, navigate the Internet, or use social media sites. More advanced users had the ability to use multiple computer programs, apply for government benefits online, and use the Internet for personal and work-related purposes. Most of the users of the NVPCCs fell in the new and intermediate categories.

LVUL administered a quarterly user survey at its PCCs in February, May, and August 2012. Staff prompted patrons who visited the labs to complete the survey when they logged in to a computer. This is a voluntary user survey and may not reflect the activities to the general population of users who visited the PCCs. A total of 588 survey responses were collected. Several key observations from the data analysis show that had it not been for the grant, users might not have received Digital Literacy and Workforce and Economic Development training to complete personal and job-related tasks online. Survey results include the following:[16]

- Out of 426 respondents, 27 percent indicated they did not know how to check their e-mail.
- Out of 336 respondents, 27 percent indicated they could not create their own résumé.
- Out of 331 respondents, 27 percent indicated they could not search for a job on their own.
- Out of 366 respondents, 50 percent indicated they have taken a computer class at one of the NVPCCs.

An analysis of participant interviews and user surveys resulted in the following outcomes and impacts from Digital Literacy activities:

- **Broadband Adoption.** Computer and Internet skills are needed to use computer programs and software adequately, search for information on the Internet, apply for jobs online, and access government services. Examples provided during the site visit described how patrons used the computer and Internet after taking basic computer and Internet courses. Patrons learned how to use social media websites and social tools, like Skype, to communicate with family who live in different cities or states, or in a foreign country. Users checked e-mail, created documents using Microsoft Word, purchased items online such as plane tickets, and performed online banking.

- **Increased Confidence Using a Computer.** Because of the one-on-one training and course offerings, a number of the patrons, including seniors, gained a sense of confidence using a computer or the Internet. Trainers indicated that patrons often moved past their fear after they learned they could not break the mouse or the computer. Particularly in the beginners' courses, the trainers worked one-on-one with patrons to help them learn at a comfortable pace and understand the relevance of the Internet in their daily lives. Patrons felt more comfortable using the Internet after they completed the Internet Basics class.

- **Development of Computer Skills Led More People to Volunteer as Trainers in Spanish Courses.** Spanish-speaking participants who learned how to use Microsoft Word expressed a desire to help other patrons learn how to use a computer. Several patrons volunteered to teach the Microsoft Word course. Most Spanish speakers spoke little or no English. Trainers taught the computer courses in Spanish, and patrons learned the computer skills and terms in English. As a result, the courses helped Spanish-speaking patrons learn English. The patrons who completed the courses had greater success finding a job and became more knowledgeable about purchasing a computer for personal use.

- **Computer and Internet Basics Courses Prepared Patrons for Workforce Development and Training.** Computer basics courses prepared users who wanted to apply for jobs for enrollment in more advanced workforce development and training courses. Completion of the basic computer courses increased their interest in taking courses on résumé writing and applying for jobs online.

- **Literacy Classes for Families.** Individuals and their families participated in the Read and Rise program, offered by Scholastic to underperforming schools through the Department of Education's 21st Century Community Learning Center program. According to Scholastic, "Read and Rise is a sustainable and systematic literacy engagement program designed to bring families, schools, and communities together to support children's literacy development, while celebrating the positive impact of family culture and tradition."[17] LVUL implemented this program in late 2012 in some of its PCCs to engage parents in the education of their children by teaching them strategies to support their literacy skills.[18]

2.3 Workforce and Economic Development

> *"The thing that kept me coming back were those people that I was helping. For example, one gentleman in one of the residential communities, one of the vulnerable communities, is now working, when he was not working for the last five years." – Nevada Public Computer Center Trainer*

Workforce and Economic Development includes activities intended to increase the overall employment of the target population, or to assist employed members of that population in finding jobs that offer increased salaries, better benefits, or a more attractive career path, including self-employment. Workforce and Economic Development activities can be performed for one's own benefit, or they may be done on behalf of another person to assist with his or her employment situation. In order for project activities to be included in this category, it must be the intention of the

grantee to assist members of the workforce in improving their employment outcomes, and project resources must be devoted to this purpose.

NVPCC staff reported that a significant percentage of patrons found employment after they received assistance and completed workforce development training at the PCCs. Patrons informed trainers when they received jobs. However, LVUL did not have a grant-wide process in place to count the number of individuals who found employment. As a result, impacts are reported based on staff observations.

An analysis of the interviews with NVPCC staff highlighted the following significant employment outcomes and impacts:

- **Résumé Development.** LVUL offered a course that assisted patrons with the creation of a new résumé to apply for jobs. Trainers also worked one-on-one with patrons to help them revise older, outdated résumés. One trainer stated that he personally helped approximately 300 people in the last two years with résumés and job applications.
- **Helping Patrons Get Jobs.** NVPCC staff members provided help to a number of patrons who participated in the digital literacy and workforce development trainings:
  - **Jobs for Disadvantaged Foster Students.** In partnership with a community organization, Nevada Partners, the NVPCC trainers helped disadvantaged foster students apply for jobs. The students used the PCCs to apply for jobs online. One trainer noted that several students obtained employment.
  - **Jobs for Special Needs Students.** NVPCC trainers helped disabled students in the Adaptive Recreation Program run by the City of Las Vegas in the East Las Vegas Community Center with their employment search. Trainers at this site assisted students with using the computers to search for job-related information, to create résumés, and to apply for jobs online. Students attended a job fair in the city where several students were successful in obtaining employment. Others received employment later.
  - **Jobs for the Spanish-Speaking Population.** NVPCC trainers indicated that as more Spanish-speaking users took digital literacy courses, learned how to speak English, and learned how to create a résumé, more received employment.

2.4 Education and Training

The Education and Training focus area incudes activities that lead to a certificate or diploma that would typically be awarded by an educational institution, or that indicates the recipient has received training that is recognized as valuable for career advancement. Examples of certificates or diplomas include the following: community college degrees, four-year college degrees, advanced degrees, GEDs, certifications in advanced software technologies such as network engineering, and other licenses or certifications that reflect knowledge of a particular subject at an educational institution.

ASR noted the following Education and Training outcomes and impacts:

- **Helping Patrons Obtain Health Card Certifications.** According to NVPCC trainers, thirty-five people had obtained the health card certification required to work in the culinary industry in Nevada since January 1, 2013. Patrons used the computer labs and received assistance from trainers who helped them register for food handler training.
- **Providing Access to Students.** Students enrolled in colleges and universities used the computer lab to take online and continuing education courses. The NVPCC trainers helped students navigate through websites to access their courses online and to use the computers more effectively for a better online course experience.

- **Afterschool Program and Computer Access for School Children.** The Sherman Gardens PCC hosted the Read and Rise after-school program for children. The program has a formal curriculum, including bilingual materials for parents of children at six age levels, beginning at birth through age nine. The materials are designed to build parental capacity and provide parents with strategies they can implement at home to support literacy skill development in their children. The program provided parents with basic information on child development and growth benchmarks and distributed free reading materials, including magazines and books for children. In addition, trainers assisted children and helped them complete their homework after school.
- **ParentLink.** NVPCC provided training to help parents learn how to use ParentLink, an online tool developed by the Clark County School District that enables parents to access their children's attendance record, grades, and the balance of their lunch money accounts. The program is accessible by computer, phone, or iPhone and Android applications. According to NVPCC staff, only 20 to 30 percent of parents in the Clark County School District used the program prior to the training provided through the grant. The Doolittle Community Center held a media and marketing event to promote use of the ParentLink software and training available at the PCCs. NVPCC trainers helped parents set up a username and password to access the program. NVPCC tracked training and usage data for three months. According to the NVPCC staff, ParentLink usage went up by 5 percent in the community surrounding the Doolittle Center.
- **Microsoft Certification for Disadvantaged Foster Students.** In partnership with a community organization, Nevada Partners, NVPCC staff recruited and enrolled disadvantaged foster students in Microsoft Office certification training. NVPCC staff members noted that students successfully completed the course and passed the exam to receive their certification.

2.5 Quality of Life/Civic Engagement

The Quality of Life/Civic Engagement category includes activities that create stronger and more integrated communities, and those that promote interaction between citizens and their governments. Quality of Life/Civic Engagement was not a focus of the grant. However, the presence of the PCCs provided the opportunity for presentations, workshops, and trainings to increase citizen awareness and participation in government programs and to improve their lives.

The PCCs conducted the following activities in the area of Quality of Life/Civic Engagement:

- The Las Vegas Metro Police held crime prevention seminars. The seminars included a presentation for Alert ID, a technology that informs community residents about crimes in their neighborhood.
- The Social Security Administration conducted a retirement planning seminar.
- Members of the Resident Council Board at the Espinoza Nevada Housing Authority for Seniors used the PCC to host board meetings and other activities that strengthen the community. Board members use the PCC to send e-mails, create documents, and notify the community about upcoming events.
- Patrons used the PCCs to locate and apply for social services online.
- By the end of 2012, more than 500 participants had attended citizenship workshops offered in NVPCCs.[19]

Section 3. Recovery Act Goals

This section describes the activities and outcomes associated with Recovery Act goals. Of the five Recovery Act goals for the BTOP program as a whole, two relate most directly to PCC programs:

1. Provision of broadband education, awareness, training, access, equipment, and support to
   a. schools, libraries, medical and healthcare providers, community colleges and other institutions of higher learning, and other community support organizations
   b. organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband services by vulnerable populations (e.g., low-income, unemployed, seniors)
   c. job-creating strategic facilities located in state or federally designated economic development zones
2. Stimulation of the demand for broadband, economic growth, and job creation

Figure 4 presents the relative frequency of topics related to Recovery Act goals as discussed during interviews and focus groups. These topics were categorized by the two Recovery Act goals discussed above. The results provide another lens from which to analyze how the grantee met the requirements of the grant. Most of the conversations, approximately 88 percent, focused on providing services to increase access to and the use of broadband. A little over 12 percent of grantee discussions focused on broadband and economic growth, specifically with activities to increase employment for users.

Figure 4. Frequency of Topics Related to Recovery Act Goals
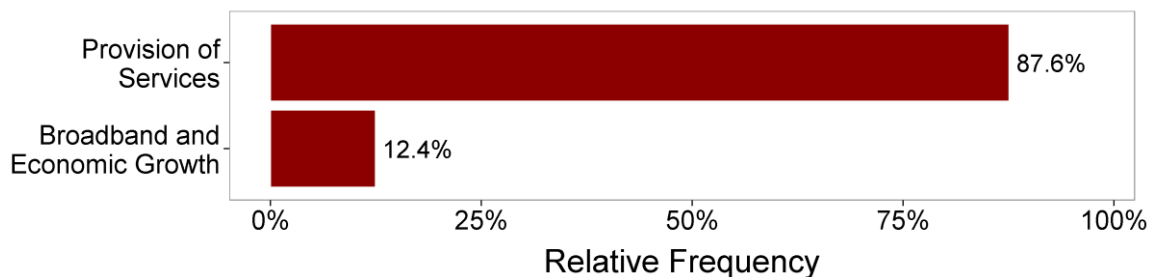
3.1 Provision of Services

The focus of the grant was on the provision of broadband equipment and connections at PCCs to give users access to computers and training in low-income and high unemployment communities. The grant made it possible for LVUL to provide broadband access at thirty-three PCCs.[20] Sixteen existing PCCs were expanded and seventeen new PCCs were established at LVUL sites, public housing developments, community centers, and senior centers. As shown in Figure 5, a total of 236 computer workstations were replaced or added by the end of 2011.[21]

Figure 5. Workstations Installed by LVUL
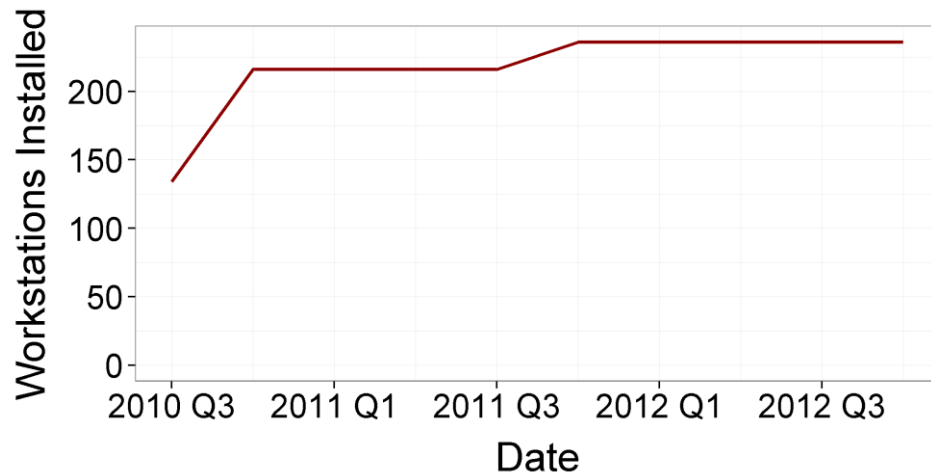
The increase in the number of computers and increased broadband speeds made it possible for LVUL to provide free services to patrons early in the grant period. LVUL provided evidence that access had increased because of the computers and services available at PCCs. Figure 6 presents data compiled from user logins tracked electronically by information management and tracking systems developed by NVPCC staff members. The figure shows the total number of logins by PCC location from July 2010 through December 2012. There was a combined total of 568,966 user logins across all PCCs during this time.[22] Logins are not unique and may represent multiple logins by a single user in a single day. It is clear that the PCCs had become a well-used point of access. Patrons also accessed the Wi-Fi at PCCs using their personal computers, phones, and iPads. Nearby residents accessed the Wi-Fi free of charge. LVUL did not track the number of Wi-Fi users.

Figure 6. User Sessions per Month at PCCs
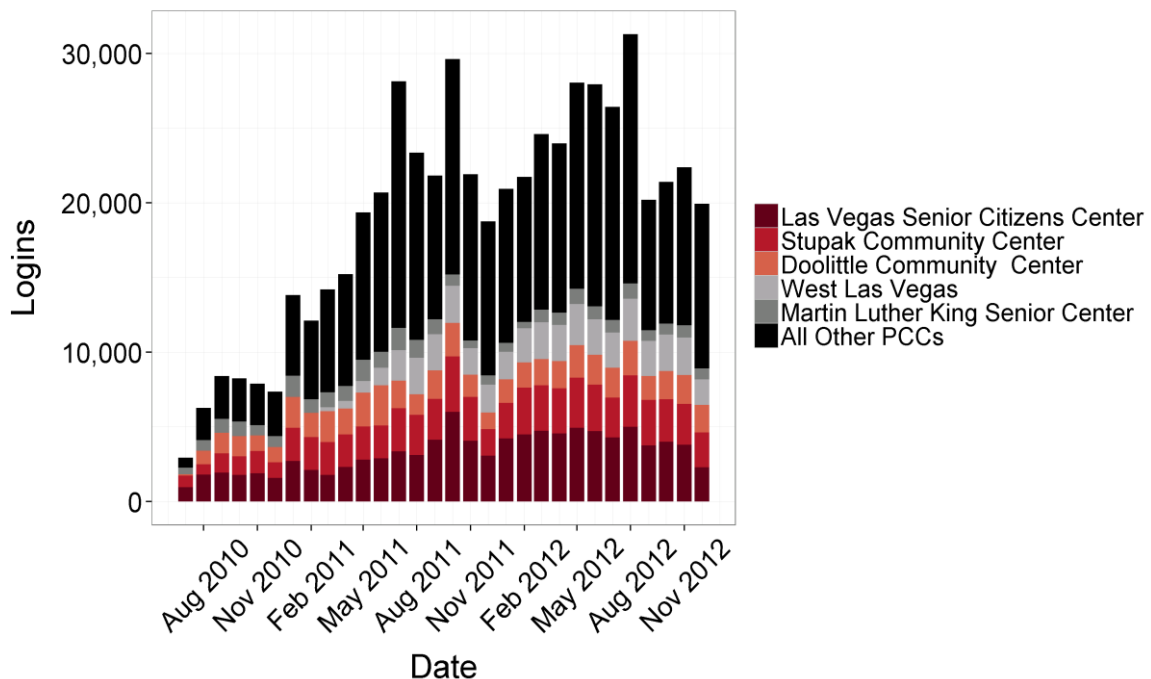
The lower number of sessions at NVPCCs during the first few months in 2010 reflects the operations of eight of the thirty-one computer labs that opened earlier than the other labs. As more computer labs opened and patrons learned more about free Internet services and classes offered, there was a steady increase in the number of user logins between November of 2010 and August 2011. However, there was a brief, sharp decline in sessions between November and December 2011, possibly caused by lower PCC usage during the holiday season. User logins increased at the beginning of the 2012 and increased steadily throughout three-fourths of the year, peaking in early fall. As was the case in 2011, it appears there was a seasonal decline in use at the end of 2012. Over the course of the grant period, the Las Vegas Senior Citizens Center had the highest number of user sessions at 99,178, followed by the Stupak Community Center with 71,559 and the Doolittle Community Center with 50,778.[23] It is important to note that these are not necessarily unique sessions.

LVUL marketed the computer labs using several methods to raise awareness about broadband access to residents in the service area. NVPCC staff members developed a website; used social media tools; and created flyers that they distributed in public housing developments, community centers, senior centers, and economically disadvantaged communities. Local newspapers published articles, in English and Spanish, approximately twelve times. The NVPCC staff promoted the PCCs on local radio stations and filmed a thirty-second Vegas Public Broadcasting System (PBS) public service announcement that aired in Clark County. People also promoted PCCs by word of mouth at the facilities that housed the computer centers. For example, PCCs are located in state-of-the-art community centers in partnership with the City of Las Vegas. These facilities often provide workshops, exercise classes, and sports programs. Users of the facilities were told about the PCC in the centers, which resulted in greater awareness of the grant-funded services and programs offered at NVPCCs.

In late 2012, LVUL started to close out its PCC operations, which were scheduled to end by January 31, 2013, pending a possible grant extension. As LVUL and its partners agreed, LVUL operated the PCCs at the partner sites during the grant period and the partners would operate the PCCs afterwards. As the operations closed, LVUL transferred the PCC operations of twenty-six sites to partners who were making decisions about how to manage the PCCs and their programs. At the time of the second site visit, both partners planned to reopen the PCCs under their own management. The City of Las Vegas and SNRHA took over management of the PCCs in their facilities. The City of Las Vegas closed the seven PCCs in its facilities to retag and inventory the computers, with plans to reopen the centers under the city's name. SNRHA proposed to keep open fourteen of the nineteen PCCs in its facilities. The PCC that operated in partnership with the Latin Chamber of Commerce Community Foundation was expected to remain open. LVUL operated and will keep open four PCCs, one more than it did when the grant period began. LVUL received a grant extension on January 28, 2013, allowing them to expend grant funds until September 30, 2013.[24]

According to interviews with NVPCC staff and patrons, the public library is the primary location in Las Vegas where people can access computers free of charge and use the Internet. However, there are two-hour time limits for using the computers, which poses a problem for people who must search for jobs, create résumés, or complete training and certification online. This grant has been critical for providing computer access without time restrictions and the software necessary to complete employment-related activities.

LVUL developed customized strategies for specific socioeconomic groups, including the unemployed, the Spanish-speaking population, seniors, and disabled students. Many strategies result from partnerships with organizations that house the PCCs or programs that target these groups. These activities are described above.

3.2 Broadband and Economic Growth

The most prominent impacts of the LVUL grant are in the focus areas of Digital Literacy and Workforce and Economic Development. LVUL had integrated the PCCs in its operations in a way that leverages its other services to assist the economically disadvantaged and the poor. According to the interviewees, the activities that were most prevalent were the computer classes, one-on-one assistance provided by trainers, and open access to the PCCs. Patrons used their computer skills to create résumés; apply for jobs online; learn how to set up an e-mail account; learn how to use Microsoft Word, PowerPoint, and Access; and use search engines to look for jobs on websites such as Monster.com. The grant also expanded the applicant pool for some jobs that required online applications. Staff helped patrons complete employment applications and prepare for interviews. However, there was no process in place to track the number of jobs obtained because of job training and open lab access.

As required by the Recovery Act, LVUL reported quarterly on the number of direct jobs created because of the project. As shown in Figure 7, this resulted in approximately twenty-four full-time and six part-time equivalent positions to staff the PCCs throughout most of the grant period.[25] This number was higher in the summer of 2011 and spring of 2012, as additional part-time trainers were hired when the LVUL increased summer evening hours at several PCCs. In addition, volunteer recruitment efforts continued with the Latin Chamber of Commerce Community Foundation and the College of Southern Nevada. The program had three volunteers who assisted in the centers.

Figure 7. Direct Jobs Created by LVUL
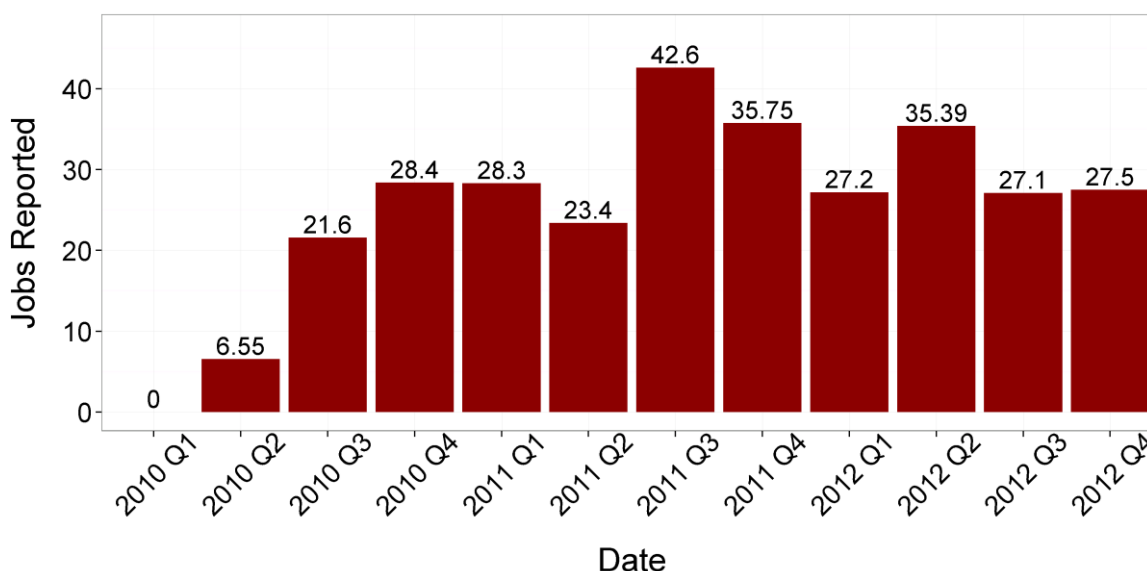
Section 4. Grant Implementation

This section describes particular aspects of implementation of the ACTION grant in order to understand the composition of activities and outcomes observed. The purpose of this section is twofold. First, defining a consistent set of categories for each of the grants in the study sample facilitates cross-case comparison and analysis. Second, presentation of the activities and outcomes for this grant by category simplifies understanding of the focus of the grantees' work. This analysis is based on qualitative observations made during the site visit.

ASR is using a theory-based evaluation approach to examine the social and economic impacts of the BTOP program. This permits deeper understanding of grant features in terms of theory, which helps to explain how the grant activities produce impacts. For the PCC and SBA grants, ASR uses theories of technology adoption to examine factors that shape the demand-side of broadband services. The key theory ASR employs is the unified theory of the acceptance and use of technology (UTAUT), a technology adoption model proposed by Venkatesh et al. (2003).[26] The model is among the top three articles published in the information systems field and the preeminent article explaining the adoption of information systems. The UTAUT model traces its history from theoretical constructs found in literature that have a bearing on a user's intention of technology adoption and use. The UTAUT model is derived from the leading theories of technology adoption, including the theory of reasoned action, technology acceptance model, motivational model, theory of planned behavior, a combined theory of planned behavior/technology acceptance model, model of personal computer use, diffusion of innovations theory, and social cognitive theory.

UTAUT explains technology acceptance by looking at a user's intention to use an information system and the user's long-term use of that technology. The UTAUT model combines concepts found in earlier models of technology use to posit a unified theory of information technology adoption and use. UTAUT includes four dimensions determining user intention and technology use: Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions. Each of these dimensions is further classified into constructs constituting the dimension. The subsections below define and discuss each of these dimensions. Venkatesh empirically tested the model and reported that it was successful in explaining more variation in user adoption of technology than other adoption models tested.

Figure 8 presents the relative frequency of topics related to grant implementation as discussed during interviews and focus groups. These topics were placed in four categories, corresponding to the four UTAUT categories listed above. Facilitating Conditions received special attention from the grantee, and Social Influence topics were discussed nearly 20 percent of the time.

Figure 8. Distribution of Grant Implementation Topics by UTAUT Dimension
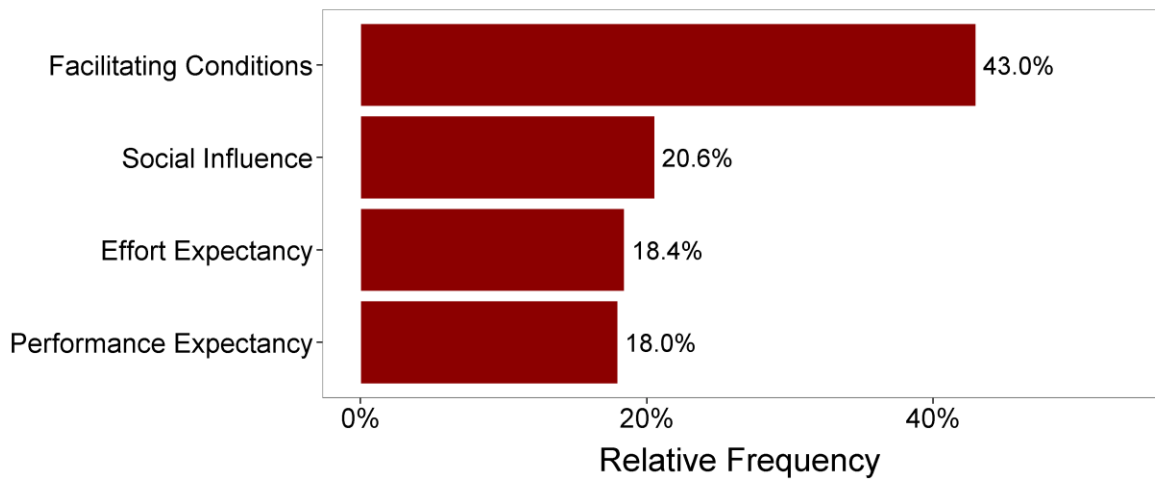
4.1 Facilitating Conditions

This category captures the degree to which the technical infrastructure available to the user supports potential broadband adoption, and the degree to which there are organizational supports to adoption. This includes access to broadband technology, the extent to which users can choose to use broadband, the compatibility of broadband with their lifestyles and activities, and the cost of using broadband. This category also includes broadband connection, computers, workspaces, and clean and safe computer labs.

4.1.1 Access

LVUL focused on computer hardware and faster connections that made it possible for patrons to use the Internet. The PCCs provided access to a computer, the Internet, and an instructor at no cost. In addition, labs provided patrons access to a scanner and printer free of charge. The grantee purchased eighty-eight headsets and fifty-one flash drives that were distributed to participants in 2012.

The grant funded fifteen new PCCs with 50 Mbps broadband connections and one with a 10 Mbps connection.[27] Of these sites, fifteen began grant-funded services in 2010 and one in 2011. Table 1 lists all new locations, the approximate dates grant-funded services began, and broadband connection speed.[28]

Table 1. Connectivity at New PCCs

PCC	Opening Date	Connection Speed (Mbps)
Biegger Estates	2010-10-25	50
Downtown Senior Service Center	2010-11-29	50
Espinoza Terrace	2010-11-06	50
Hampton Courts	2010-11-06	50
Harry Levy Gardens	2010-08-26	50
Janice Brooks Bay	2010-12-13	50
Jones Gardens	2010-11-06	50
Landsman Gardens	2010-11-06	50
Latin Chamber of Commerce	2010-12-28	10
Marble Manor Community Center	2010-08-26	50
Mendoza Plaza	2011-01-08	50
Mirabelli Community Center	2010-07-12	50
Palo Verde Gardens	2010-11-06	50
Schaffer Heights	2010-10-26	50
Simmons Manor	2010-10-26	50
Vera Johnson A.	2010-09-27	50
West Las Vegas (930 Owens Ave.)	2012-07-09	-

Table 2 lists the locations and approximate dates when existing sites received upgraded broadband service.[29] Sixteen preexisting PCCs received upgraded broadband connections.[30] Seven sites were upgraded from 2 Mbps connection speed to 50 Mbps, six from 1.5 Mbps to 50 Mbps, and one from 4 Mbps to 10 Mbps.

Table 2. Upgraded Connectivity at Existing PCCs

PCC	Opening Date	Previous Connection Speed (Mbps)	Upgraded Connection Speed (Mbps)
Archie Grant	2010-11-04	2	50
Doolittle Community Center	2010-07-26	1.5	50
Dula Gymnasium	2011-08-31	1.5	50
East Las Vegas Senior Center	2010-07-20	1.5	50
Howard Lieburn Senior Center	2010-06-30	1.5	50
Las Vegas Senior Citizens Center	2010-06-30	1.5	50
Martin Luther King Senior Center	2010-05-28	4	10
Otto Merida	2010-06-29	2	50
Rafael Rivera Community Center	2010-08-06	1.5	1.5
Robert Gordon Plaza	2010-09-06	2	50
Rulon Earl Mobile Manor	2010-09-06	2	50
Sartini Plaza	2010-08-27	2	50
Sherman Gardens	2010-08-26	2	50
Stupak Community Center	2010-06-29	1.5	50
Vera Johnson B.	2010-12-20	2	50
West Las Vegas (1024 West Owens Ave.)	2011-03-07	10	10

4.1.2 Supporting Computer Training and Job Search

LVUL addressed Facilitating Conditions most frequently within the framework of teaching patrons how to use a computer and the Internet to support job searches. This included the location of the PCCs, the types of software and training provided, and support services provided by instructors that complemented computer and job search activities. Computer and Internet support activities included the following:

- PCCs located in housing communities, senior centers, and community centers made it easier for patrons to access computers and take computer classes.
- Computer classes offered in English and Spanish.
- Computer courses developed specifically for seniors.
- Trainers provided one-on-one assistance to help patrons with step-by-step instructions to develop basic computer and Internet skills.
- Computer classes created upon user requests and needs.

Job search support activities included the following:

- Clean, secure, and conveniently located PCCs were available for potential job seekers. Four PCCs were located at LVUL facilities, which made it easier for patrons to access employment training and job readiness workshops.

- Instructors provided one-on-one assistance in PCCs throughout the day with locating job listings, applying for jobs, creating résumés, and corresponding with different employers.
- Information and assistance were available to prepare patrons for job fairs.
- Free printing and scanning services were available for all job seekers.

4.1.3 Other Activities

LVUL engaged in several other activities to address Facilitating Conditions for users of the PCCs:

- Some parents brought their children with them to the computer labs. At PCCs with limited workstations, children were unable to use the computers while their parents were logged on. However, the NVPCC staff provided games and activities for the children, which enabled their parents to use the computers.
- NVPCCs located at SNRHA sites changed or extended hours to accommodate patrons' use of the labs. They hired additional staff and increased summer hours so patrons could have greater use of the lab. At one site, a NVPCC trainer scheduled his work hours from 7:30 a.m. to 4:30 p.m. to give children the opportunity to use the lab before and after school.

4.2 Social Influence

> *"The computer pulls the people together, and that's more important than anything."*
> *– Nevada Public Computer Center Senior Center User*

This category measures the degree to which potential adopters perceive that others will view them favorably or interact with them in a positive way if they adopt broadband technology. This includes friends and family members who might already be using broadband technology. It also includes measures of whether the use of broadband is considered a norm for the social group to which the potential adopter belongs. Components of Social Influence include subjective norms, social factors, and the image associated with broadband use. Examples include the following:

- Patrons indicated that social connections between users of the lab were important. Patrons assisted other patrons in the lab if they had questions, needed help navigating the Internet, or had questions while using the online class curriculum. Users noted that social connections created between patrons made coming to the lab an enjoyable experience. Several patrons who attended the senior citizen PCCs used lab time as a social outing. They participated in other activities at the senior center, such as playing board games, participating in arts and crafts, and eating lunch. The activities helped create sustainable friendships between patrons. Several seniors stated that they do not know what to do to fill the time on the weekends when the lab is closed.
- Patrons who regularly used the PCCs influenced others to take computer courses. For example, one user was taking a break from her Ph.D. program and researched local colleges in Las Vegas that offered Microsoft certification courses. The courses were too expensive for her to enroll. A patron referred her to the Doolittle PCC, which offered the Microsoft course free of charge. She registered for the course and discovered there were high school students enrolled. The instructor asked her to talk to the students about her educational experiences to motivate and influence the students to complete the course and continue their education.
- One NVPCC instructor had been teaching for fifteen years, and formerly taught courses at the Stupak PCC. He was instrumental in helping the Hispanic population become computer literate. He taught a group of Hispanic students five days a week for eight weeks. Many are from other countries and know very little English. The instructor taught the courses in Spanish, although the computer operating system used English. The instructor used his own methods to teach the Hispanic groups in an effective manner that kept them engaged. At the end of the eight-week

course, he held a graduation ceremony for the students. Each student received a certificate of completion. Many of the patrons who completed the course referred new students to the PCCs.

4.3 Effort Expectancy

This category measures the expectations of the potential adopter regarding the difficulty of using broadband to achieve benefits in one or more of the focus areas described above. It includes preconceived ideas about the difficulty of using broadband technology and computers in general, and anxiety or concerns about the risks of broadband use. For PCCs, it indicates how the service model made using broadband to access information and services on the Internet easier. Examples include the following:

- The Effort Expectancy of users varied by location. Staff members reported that seniors often felt fearful or left behind because they did not know how to use computers or the Internet very well. Many had little or no previous experience with computers. Classes designed for seniors helped them feel comfortable using the computer. The trainer enrolled new users in an introductory course to teach them about the parts of the computer. The seniors progressed to more advanced topics after they completed the initial course.
- NVPCC staff stated that many of the users expressed fear and anxiety because they were new computer users and believed the computers were too high-tech. Patrons said that the friendliness of the staff helped them to gain the confidence needed to use the computer. Similar to the seniors, instructors enrolled new users in the Computer Basics course where they received step-by-step instructions on how to use a computer. Staff members reported patrons searching for jobs, completing forms on government websites, and purchasing plane tickets online.
- Other patrons found it difficult to complete digital literacy tasks, such as creating documents, changing the screen resolution, and registering for a class. The NVPCC trainers helped users learn how to complete these tasks. NVPCC trainers also created curriculum that addressed some of their learning needs and requests. Trainers noted that patrons became more interested in using the computers as they became more skilled.

4.4 Performance Expectancy

Performance Expectancy measures the degree to which a potential adopter believes that using the computing center to gain access to broadband is beneficial for job searching or for an activity in another focus area. Aspects of Performance Expectancy include the perceived usefulness of the new technology, outcome expectations, and the perceived relative advantage of the technology versus previously used technologies. Examples include the following:

- Performance Expectancy of the PCC users included increased computer use to participate in social media to connect to family and friends, increased access to information online for personal use, and better job outcomes.
- Patrons who had previous experience using a computer or the Internet had higher performance expectations. Patrons who used the computer labs in the recreational facilities appeared to have a better understanding of the Internet, how computers worked, and how to use the tools in their daily lives. These patrons had more advanced computer skills and focused on achieving specific goals when using the PCCs.
- Performance Expectancy was low for patrons who lacked basic computer skills. The NVPCC trainers stated that when the computer courses were initially developed, they were too advanced for the users. Many of the courses were developed for people who already had some experience using computers, and those who did not struggled in the classes. NVPCC staff members implemented remedial training to provide step-by-step instruction on computer basics to help users advance. Patrons who became more knowledgeable and skilled at using the

computer and Internet after taking the computer courses developed higher performance expectations. Basic digital literacy courses tended to be the springboard that helped users advance, preparing the way for skills needed to apply for jobs and participate in other workforce development activities.

Section 5. Techniques, Tools, and Strategies

This section describes successful techniques, tools, and strategies identified by the grantee. LVUL noted many successful techniques, tools, and strategies that it developed over the course of the grant.

5.1 Techniques, Tools, and Strategies

- Multiple instructors helped manage the fluctuation of people and different age groups at one of the smaller computer labs with eight computers. The computer lab was in one room, and directly across was an area where staff assisted school-age children. There was an instructional level for the adults, and then educational after-school programs managed simultaneously for the children. The instructors who had a stronger educational background assisted the children after school.

- NVPCC staff members suggested that it was important to develop maintenance and tracking systems, including one for asset tagging, to keep up with computer equipment, especially as equipment moved from one site to another. Tracking systems were also important to monitor PCC use and patron activities on the computers.

- NVPCC staff members noted that development of a strategic plan is important for the staff and helps everyone know where staff should be, what they should be doing, when a task needs to be completed, and a method for knowing when a task is complete.

- Development of a technological infrastructure is important for showing the organization areas where to improve management processes, to increase efficiency, and to consolidate functions across the organization. An internal core structure helped identify who is using what, when, and why in order to develop or change management processes. Programs such as Moodle used for online curriculum and training, a server used for staff training, and other back-end services helped to provide services internally and externally to the public.

- The NVPCC director encouraged staff to create innovative, efficient ways to improve PCC operations. For example, one staff member developed a method for electronically tracking the number of courses delivered, the number of participants trained, and the training hours provided. Staff members were encouraged at weekly team leader meetings to dream big and take ownership of their work. The director believed that each individual contributor on the NVPCC staff would drive results.

- LVUL strategically selected staff members to work at specific sites based on their skills, background, and experience in the community. A staff member was assigned to a site when it was clear he or she could handle certain challenges present in the urban environment where many of the PCCs were located, including issues such as aggression, potential drug use, physical abuse in the home, and other problems that might arise when patrons frequent the computer labs.

- NVPCC staff members initially began hiring trainers with information technology and training experience. However, the trainers did not always connect to the patrons. Management changed its strategy and hired people instead who had a strong ability to bond with the users.

- NVPCC staff members indicated that it was important to adapt computer classes to the needs of the communities to keep classes interesting and relevant for the patrons. Trainers established friendships with the patrons, which is important for identifying their needs. Not all patrons had the same needs. For example, some individuals had difficulty reading. Trainers must be able to determine what the challenges are, successfully adapt, and incorporate the appropriate

intervention or teaching method so that the classes are successful and participation increases or is maintained.

5.2 Challenges

- NVPCC staff members wanted to add more computers in one of the labs because of the large influx of students, but it was not possible because the electrical supply to the room was insufficient. This limited the number of computers that some PCCs could install.

- NVPCC staff members found it difficult to track how many times a person used a computer at the PCCs. A patron could log on and off several times, but there was no way to assign a unique identifier to track the data.

- The grantee relied on sign-in sheets to learn more about each PCC user. The grantee, however, chose to discontinue the practice and stop collecting the sign-sheets. The human subject regulations were challenging to implement in a way that would continue to make the PCC users comfortable in using and returning to the PCCs. This limited the type of information available about the users and the amount of data available to assess individual-level social and economic impacts from the PCCs.

- LVUL did not use its tracking and monitoring system to the fullest capacity. However, it did use the technology to manage the connection to the Internet for each of the sites and to make sure that sites complied with Statewide Internet Portal Authority (SIPA) requirements.

- At the time of the site visit, the grant was near closeout. The City of Las Vegas temporarily closed the PCCs located in its facilities in January 2013 to inventory the computers. The sites were going to reopen under the operation of the city, but a date for this transition had not been provided to LVUL. All trainers had been released at these sites. NVPCC staff members stated that LVUL and the public library felt the impact of the closed labs. Patrons went to other PCCs that were still open to use the computers and resources. Staff members documented that patrons arrived at the West Las Vegas center before it opened at 8:00 a.m. to ensure access to a computer, which often resulted in moderate to long lines outside the building. NVPCC staff members stated that the public library staff informed them that user traffic increased in their facilities during this time.

- The workload for instructors was occasionally overwhelming if the computer lab was full, especially at sites that had ten or more workstations. Most computer labs usually had only one staff member on duty at a time.

- NVPCC staff members acknowledged that on a consistent basis it was difficult to retain all participants in an entire class from the beginning of a course that ran multiple weeks until the end.

Section 6. Conclusions

The ACTION project approached issues of broadband access and adoption from the standpoint of digital literacy and workforce development. This included a focus on the provision of broadband services to patrons who needed to learn basic computer and Internet skills and to those who were seeking employment. The grant made available the equipment necessary for improved broadband access at thirty-thee computer centers. The service model used by the grant focused on empowering individuals to become computer literate, which also provided a foundation for job search activities, including résumé development, applying for jobs online, searching for jobs, and participating in job preparation workshops. The PCCs also provided complementary services, including printing and scanning.

Six components of the project provided the most significant benefits to users: access to an online course curriculum; access to computer courses; access to NVPCC staff; access to online job applications, résumé, and cover letter preparation; access to job markets, particularly in Las Vegas; and access to social media. Many patrons reported that they obtained jobs after completing the training courses provided at the PCCs, although no grant-wide statistics are available. Others reported increased computer skills that enabled them to search for information online, use government websites, and use social media websites to stay in contact with family and friends.

Two unexpected benefits resulted from the grant:

- NVPCC staff developed a sustainable technological infrastructure to support information management and tracking systems. Staff used this infrastructure to track user logins, open lab time, and trainings delivered. In addition, the system had the ability to develop reports, monitor computer activity, and produce online surveys. NVPCC staff members also developed an internal quasi-YouTube server for staff training. Inventory and asset-tagging systems were developed and implemented. LVUL used the technological infrastructure to help improve operations and consolidate functions across departments. None of these systems existed before the grant.
- Project partners, the City of Las Vegas and SNRHA, benefited from the grant by taking ownership of the PCCs that were established or upgraded in their facilities after the grant ended. Patrons who used the community centers or lived in public housing still have access to the PCCs with broadband, although the grant period is in transition.

Had it not been for the grant, users might not have received digital literacy and workforce development training to complete personal and job-related tasks online. Without the BTOP grant, new PCCs would not have been established and PCCs that operated with limited resources would not have been upgraded. Grant funds extended computer access and services to thousands of residents in Southern Nevada who would otherwise have had limited or no access to a computer.

Section 7. Next Steps for the BTOP Evaluation Study

In early 2014, ASR will deliver *Interim Report 2* to NTIA. This report will include a summary of the second round of site visits to the fifteen PCC and SBA grants, allowing for an analysis of the impacts of the grants over time. *Interim Report 2* will also summarize the findings from site visits to twelve Comprehensive Community Infrastructure (CCI) grants. These visits will take place in the fall of 2013 and result in a set of twelve case study reports delivered to NTIA over several months.

For the PCC and SBA projects, *Interim Report 2* will provide an update to and refinement of the analysis presented in *Interim Report 1*. For the CCI projects, *Interim Report 2* will summarize the activities underway by twelve CCI grantees and the impacts these projects intend to have on broadband availability and adoption for community anchor institutions, communities, and individuals.

LVUL is somewhat uncertain about the sustainability of the PCCs that it no longer manages under the grant. LVUL maintains oversight and management of the four PCCs in its facilities and will keep them open to provide free computer access to patrons. In January 2013, the City of Las Vegas took ownership of the PCCs located in its facilities and closed the sites to retag the computers so they could be tracked and maintained in their own system. Although SNRHA had not closed the labs in its facilities, it did provide some information to LVUL that fourteen of its nineteen sites will remain open, but may be unstaffed. NVPCC staff members were concerned that the labs now managed by these two partners would not be staffed, which would present issues for patrons who might not know how to use a computer or need assistance with other services. One of the biggest impacts of the grant was the assistance provided by well-prepared trainers who could guide patrons through online computer classes and provide one-on-one assistance. In addition, LVUL was apprehensive that patrons would think the labs were permanently closed. Neither partner posted signs at the facilities concerning the status of the PCC labs, changing hours, or the types of services that would be provided in the future. Management staff from the Rafael Rivera Community Center informed LVUL that it was going to remain open with existing staff to assist patrons. ASR will follow up with LVUL in the second quarter of 2014 to learn more about the sustainability of the project.

In September 2014, ASR will deliver a *Final Report* that quantitatively and qualitatively measures the economic and social impact of BTOP grants (including CCI, PCC, and SBA). The centerpiece of the *Final Report* will be an assessment of how and to what extent BTOP grant awards have achieved economic and social benefits in areas served by the grantees. To the extent that such information is available, results from studies performed by the grantees will round out the conclusions presented.

Glossary

Acronym	Definition
ACTION	Access to Computer Technology and Instruction Online
APR	Annual Performance Progress Report
ASR	ASR Analytics, LLC
BTOP	Broadband Technology Opportunities Program
CAA	Community Action Agency
CCI	Comprehensive Community Infrastructure
FCC	Federal Communications Commission
GED	General equivalency degree
LVUL	Las Vegas-Clark County Urban League
Mbps	Megabits per second
NTIA	National Telecommunications and Information Administration
NVPCC	Nevada Public Computer Center
PBS	Public Broadcasting System
PCC	Public Computer Center
PPR	Quarterly Performance Progress Report
Recovery Act	American Recovery and Reinvestment Act of 2009
SBA	Sustainable Broadband Adoption
SIPA	Statewide Internet Portal Authority
SNRHA	Southern Nevada Regional Housing Authority
UTAUT	Universal Theory of Acceptance and Use of Technology

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[19] National Telecommunications and Information Administration, "Post-Award Monitoring (PAM) Database 2013-03-11."

[20] The evaluation study team identified seventeen new locations and sixteen preexisting locations from data provided by LVUL, APRs, and LVUL's website.

[21] National Telecommunications and Information Administration, "Post-Award Monitoring (PAM) Database 2013-03-11."

[22] Las Vegas Urban League, "LVUL BTOP 2012 Analytics."

[23] Las Vegas Urban League, "LVUL BTOP 2012 Analytics."

[24] National Telecommunications and Information Administration, "Post-Award Monitoring (PAM) Database 2013-03-11."

[25] The Recovery Accountability and Transparency Board, "Recovery API," *Recovery.gov* (Washington, DC, March 20, 2013), http://www.recovery.gov/FAQ/Developer/Pages/RecoveryAPI.aspx.

[26] Viswanath Venkatesh et al., "User Acceptance of Information Technology: Toward a Unified View," *MIS Quarterly* 27, no. 3 (September 2003): 425–478.

[27] LVUL included a seventeenth new location, West Las Vegas (930 Owens Ave.), in data provided to the evaluation study team. This location was did not have speed or capacity data in the LVUL's most recent APR.

[28] Las Vegas Urban League, "LVUL BTOP 2012 Analytics."

National Telecommunications and Information Administration, "Post-Award Monitoring (PAM) Database 2013-03-11."

[29] Las Vegas Urban League, "LVUL BTOP 2012 Analytics."

National Telecommunications and Information Administration, "Post-Award Monitoring (PAM) Database 2013-03-11."

[30] The evaluation study team identified sixteen preexisting locations from data provided by LVUL, APRs, and LVUL's website. According to LVUL's most recent APR, Rafael Rivera and West Las Vegas (1024 West Owens Ave) are noted as upgraded but the connection speeds did not change.