City of Long Beach
Working Together to Serve

Memorandum

Date: February 28, 2019

To: Patrick H. West, City Manager

From: Lea D. Eriksen, Director of Technology and Innovation

For: Mayor and Members of the City Council

Subject: **Update on Digital Inclusion Initiatives**

On September 26, 2017, the Mayor requested that the Technology and Innovation Commission (Commission) analyze the impact of the "digital divide" in the City of Long Beach (City). The Commission has developed a report in response to this request. In addition, on January 23, 2018, the City Council requested the City Manager to develop and implement various digital inclusion projects. This memorandum highlights the Commission's Analysis and Recommendations for Advancing Digital Inclusion in Long Beach (Study) and provides an update on the City's other digital inclusion efforts.

TECHNOLOGY AND INNOVATION COMMISSION DIGITAL INCLUSION STUDY

The Commission's Study builds on work conducted by the Long Beach Unified School District, relevant non-profit and academic research, and the findings of other cities tackling the digital divide (Attachment A). The Study focuses on understanding how residents access and use the internet and is intended to help inform digital inclusion efforts to make Long Beach a truly inclusive community where all residents have access to affordable internet and capable devices.

Commission Survey Design

Between May 5, 2018 and August 15, 2018, the Commission worked with City staff to disseminate two versions of a survey.

- The "Home internet Access? Yes" survey asked questions geared toward Long Beach residents who currently subscribe to a home internet service provider. This version of the survey sought to determine which devices residents use to access the internet; how much people pay for connectivity; and, how reliable they perceive their connections to be.
- The "Home Internet Access? No", survey asked questions geared toward Long Beach residents who currently lack a residential broadband connection. It asked residents to identify benefits of home internet access; rank reasons for not subscribing to a home broadband provider; list where they go to access the internet away from home; and, identify who they would trust to help them sign up for residential broadband service.

Both versions of the questionnaire collected demographic information regarding residents' gender, income, age, number of children living in the household, and race.

The Commission collected 228 "no" and 856 "yes" completed questionnaires. Residents who lack a home broadband connection completed more than 20 percent of all surveys collected. Of the surveys collected, approximately 50 percent were distributed in hard copy format at a total of 12 libraries, 26 community centers, and at 14 community events. These events included a Community Forum, five focus groups and a presence at multiple community events. In line with the City's equity-based framework for engaging with residents, the Commission partnered with community-based organizations to outreach community members. The California Emerging Technology Fund (CETF) awarded the City a $10,000 grant for digital inclusion efforts. A portion of this grant was used to conduct some of the focus groups.

Key Findings

Long Beach residents who completed surveys designed for study participants without access to internet at home reported the following:

- Residents reported needing internet primarily for educational purposes, followed by for work, entertainment, and access to City services.
- Nearly 75 percent of residents who completed the survey cited the high cost of internet or internet-capable devices as the main reason for lacking home internet access.
- More than 80 percent of residents without home internet access and whose incomes are less than $25,000 a year reported being able to pay a maximum of $20 per month for an internet subscription. Of those respondents, roughly 60 percent indicated they valued having internet service.
- Half of the residents who did not have access to internet at home said they relied on their community libraries to gain access. The ability to check-out Wi-Fi hotspots from the library was the service most requested by respondents.

Long Beach residents who completed surveys designed to study participants with access to internet at home reported:

- More than 50 percent of residents who completed the survey said they pay more than $50 per month for internet at home, and more than 80 percent said they pay at least $30 per month.
- Cost for internet service is mostly consistent across ethnic groups; however, 70 percent of African American respondents fell into the highest cost bracket.
- Nearly 80 percent of residents said their home internet was reliable enough for social media, entertainment and for accessing City services, but was inadequate for educational or work purposes.

Guiding Principles Used by the Commission

The Commission used the following guiding principles in their analysis:

- Encourage the City to implement equity-focused policies that eliminate barriers to residential broadband adoption as Long Beach extends its fiber network.

- Encourage local policymakers to use existing and emerging funding sources to increase access to Internet (and Internet-enabled devices) and technologies that are most needed in low-income communities and communities of color, and to leverage public and private financing options.
- Consult and partner with community-based organizations, schools, universities, the public library system, and other key stakeholders as the City designs and implements an equity-framed Digital Inclusion Roadmap.
- Engage with, and gain input through, in-person forums, conversations, focus groups, and interviews from communities most affected by the digital divide, including low-income households, communities of color, residents with limited English proficiency, the unemployed and underemployed, older adults, and people with disabilities.
- Advance ideas and solutions that promote digital inclusion in Long Beach where all residents regardless of income, race, age, ability, or language can gain access to affordable and meaningful Internet connection.
- Consider all technologies equally—such as small cell, 5G and fiber—and to develop bold and innovative solutions to bring digital inclusion to households throughout Long Beach.

Digital Inclusion Recommendations Overview

Within the Study, the Commission has 22 detailed recommendations that fall into the following categories:

- **Digital Literacy:** Long Beach residents are most likely to take advantage of opportunities to develop digital literacy skills when trainings are offered in convenient spaces they already visit, such as libraries, recreation centers, their children's schools, churches, and senior centers.
- **Access to Device and Broadband Connections:** To achieve meaningful internet access for all Long Beach residents by 2024—including 50,000 households that currently lack a fixed broadband subscription—the Commission recommends an expansion of existing City efforts, as well as several new initiatives.
- **Ongoing Research and Evaluation:** Recognizing the need for developing policies and programs based on sound data, the Commission recommends the City commit to ongoing study in several key areas.
- **Infrastructure Deployment:** In recognition of the reality that residential connectivity cannot exist without robust infrastructure, the Commission recommends a series of potential partnerships and actions.
- **Apply Rigorous Standards:** Recent federal efforts have sought to undermine the definition of meaningful access. As the City pursues future digital inclusion efforts, it should advocate for standards that meet legitimate technical requirements for access.
- **Regional, State and Federal Advocacy:** The City should lead cities nationwide in advocating for increased local control in telecommunications decisions and strict privacy standards at the state and federal levels.

The recommendations of the Commission will inform the development of the City's Digital Inclusion Roadmap, which would being co-created with digital inclusion stakeholders, the Commission, and the community. After the Digital Inclusion Roadmap is drafted, and if it is approved by City Council, staff will work with the Commission and community stakeholders to develop a work plan, including specific activities, estimated costs, and identification of resources to implement the Digital Inclusion Roadmap.

UPDATE ON OTHER DIGITAL INCLUSION INITIATIVES

On May 15, 2018, City staff reported on the progress of the City's Digital Inclusion Initiatives (Attachment B). The following is an update on the City's Digital Inclusion work.

Digital Inclusion Roadmap Development

To prioritize activities associated with digital inclusion efforts, staff will work with partners identified through outreach efforts to co-create a Digital Inclusion Roadmap (Roadmap). This Roadmap will be a blueprint to provide equitable access and use of digital resources, services and tools for all residents. The foundation of the Roadmap will include strategic action items for advancing digital inclusion through collective impact and equity in the following focus areas (e.g., capacity, connectivity, technology). To effectively carryout the development of the Roadmap, an experienced strategic communications and community engagement consulting firm could be engaged to consult with community members and local stakeholders on the development of the Roadmap. The consulting firm will facilitate community focus groups and roundtables with stakeholders. Engaging intergenerational residents for feedback in the development of this plan will be imperative. Additionally, the consulting firm will be tasked with compiling the feedback and preparing a comprehensive Roadmap. The estimated cost to hire a consultant is $40,000, in addition to the remaining CETF grant funds for outreach and education. At this point, funding for the development of a Roadmap has not been identified within the budget.

Economic and Digital Inclusion Staffing

At the beginning of Fiscal Year 2019 (FY 19), TID collaborated with the Economic Development Department (ED) to hire a Project Lead for Economic and Digital Inclusion using existing resources. The Project Lead is responsible for managing the planning, development, implementation, and evaluation of economic and digital inclusion initiatives. With dedicated resources, the Project Lead will be able to better collaborate with internal and external partners through a collective impact process to develop an equity-framed Roadmap, and digital inclusion implementation plan.

Digital Inclusion Outreach and Stakeholder Roundtables

In addition to the 14 different community outreach events conducted by the Commission and City staff, the City convened service providers, community partners, and other stakeholders in a series of roundtable meetings. On August 9, 2018, the City hosted a Digital Inclusion Stakeholder Roundtable at a local architectural firm, Studio One Eleven, sponsored by the First Council District. During the meeting, local stakeholders provided essential input for advancing

digital inclusion efforts in Long Beach. Through a facilitator, groups discussed and developed some solutions to some of the key challenges and barriers dealing with capacity, connectivity, and technology. The input received from the stakeholders will be used for the development and implementation of the Roadmap. A second roundtable meeting was held at the Michelle Obama Library on January 30, 2019 to continue this work. The plan is to continue to convene other similar meetings throughout the City in 2019 to develop partnerships to continue the City's progress on digital inclusion initiatives.

International Digital Inclusion Week

The City celebrated International Digital Inclusion Week (IDIW) on October 15 through October 21, 2018 in alignment with the National Digital Inclusion Alliance (NDIA) and the Australian Digital Inclusion Alliance (ADIA). During IDIW, City staff developed and implemented a social media engagement campaign to educate the Long Beach social community about the digital services, resources and tools that are available in the City. In collaboration with the City's Office of Public Affairs and Communications, staff posted information on the City's Facebook and Twitter pages that highlighted the various City digital services and resources. One of the top posts for IDIW was the Community Centers with Free Public Wi-Fi Social Graphic (Attachment C). The post reached 2,127 people. The City also hosted a Facebook Live on October 16, 2018 at the Mark Twain Library. During the Facebook Live, the Project Lead partnered with the Librarian to showcase the resources and services the Mark Twain Library provides for the community. The Facebook Live reached 3,873 people and had close to 1,300 video views. Additionally, staff spearheaded a Public Wi-Fi Contest on Facebook (Attachment D) where participants had to identify as many locations in Long Beach that offer free public Wi-Fi. Participants were directed to use the hashtags #LBDigitalInclusion and #IDIW2018, providing a creative way to share with the Long Beach social community some of the locations throughout Long Beach that have free public Wi-Fi available for everyone. Nearly 50 locations throughout the City were mentioned during the contest (Attachment E). To ensure equitable and inclusive participation, the contest announcement was also provided in English, Khmer, Spanish, and Tagalog.

Additionally, staff developed and implemented a grassroots and equity-based community outreach strategy to engage with communities of color in West and Central Long Beach. City staff visited over 60 community hubs and passed out flyers that highlighted the digital services, resources and tools that are available (Attachment F). These locations included barber/beauty shops, laundromats, local grocery stores, bakeries, party supply stores, restaurants, libraries, community centers, parks, among other locations. To ensure equitable and inclusive community outreach, City staff who are bilingual in Spanish participated in the community outreach and the flyers were also provided in Spanish. Collectively, staff reached over 100 community members.

Digital Inclusion Projects in Progress

In addition to recent activities described above, there are several ongoing efforts that will support and promote digital inclusion. Projects in progress include:

- **Citywide Fiber Network Plan**: TID staff are in the process of identifying potential partners for the Citywide Fiber Network Plan that will expand the City's fiber municipal network infrastructure. Increased fiber will improve wired and wireless connectivity throughout Long Beach to advance the City's business and functional operational needs, Public Safety requirements, digital inclusion objectives, and Economic Development goals. The City owns approximately 50 miles of fiber optic cable throughout Long Beach and another 13 miles is currently being built. To ensure that high quality services are available to all areas of the City, it is important to expand capacity and connect all City facilities to the fiber infrastructure network.

  Currently, the City is soliciting a Request for Information (RFI) where potential parties can share their innovative solutions that can help support this project. The responses to this RFI will provide the City with insight, experience, and understanding of industry standards relative to potential features and capabilities available in the market and to assist in framing the context of a potential future RFP. The City expects to make recommendations in the next 12 months.

- **Low-cost Internet Services Community Resource Guide:** The Study included research on local Internet Service Providers (ISP) to identify programs and resources that support moderate- to low-income households. City staff will be using this research to compile the resources and develop a community resource guide. A community outreach and education campaign will be developed and implemented to promote the specified programs and resources. During implementation of the campaign, the Project Lead will work closely with internal and external partners to engage low-income communities, communities of color, and older adults.

- **Technology Sector Partnerships:** The Project Lead will work closely with ED staff to identify large and small businesses within the technology sector that can provide internships and/or jobs to students and adults who are unemployed through Pacific Gateway.

- **Digital Inclusion Landscape Asset Scan:** The Project Lead is in the process of developing and implementing an Asset Scan. The purpose of an Asset Scan is to identify current initiatives, programs, projects, resources, services, and tools to build upon for the development and implementation of the Roadmap. The online form will be distributed to members of the Digital Inclusion Stakeholder Committee. Some of the members of the Stakeholder Committee include the Departments of Parks, Recreation and Marine, Library Services, the Long Beach Unified School District, Long Beach Community College (LBCC), and California State University Long Beach (CSULB). The Asset Scan will ensure that the Roadmap promotes current digital inclusion efforts and will help identify existing digital literacy programs and computer access programs for subpopulations (e.g., youth, adults who are unemployed/underemployed, older adults, people with limited English proficiency). Once the Roadmap has been developed and approved, the Project Lead will manage the collective impact process and help promote and engage the community in the digital literacy programs and computer access programs.

- **Recycling Technology Infrastructure:** TID has consulted with the City Attorney's Office and the Public Works Department to explore the feasibility of donating City-owned technology devices to a non-profit who would distribute refurbished devices to families in underserved neighborhoods. City staff are exploring one-time technology and furniture donation options resulting from the new Civic Center move. A formal update will be provided once an official plan has been identified for the one-time technology and furniture donations.

- **Free Public Wi-Fi and Branding of City Wi-Fi:** Identifying all the locations in Long Beach that provide free public Wi-Fi and rebranding the various existing networking to "LB Wi-Fi" will require significant staff time and financial resources. Currently, staff do not recommend these projects until adequate funding to support staff time and implementation has been allocated.

- **Local Patents:** On August 29, 2018, staff participated in a conference call with Economic Development Commissioners, and faculty members from CSULB and UCLA to discuss commercialization and technology transfer, copyright, and patent issues for small businesses. UCLA operates a successful program in this field sustained through a generous grant and revenue from school's equity ownership from an invention by one of their students. Locally, the CSULB Institute for Innovation and Entrepreneurship (IIE) has been exploring a 'tech transfer' and Intellectual Property Development program for the California State University system. The IIE is now taking a more active role in these areas at CSULB. Staff will be working with the IIE team and other CSULB faculty members to begin the process of protecting intellectual property (copyright). The City and IIE hired a new fellow who will be assigned to this project at no cost to the City.

- **Business Development/Small Business Section:** The Kiva Long Beach Initiative is a crowdfunded loan program that offers zero percent interest, zero fee loans to local entrepreneurs ranging from $500 to $10,000. Since launching earlier this year, 1,289 lenders from throughout the world have funded 13 loans totaling $107,000. Funds from these loans were used to purchase inventory, hire employees, and improve technology infrastructure, among other things. To develop technology education programs for business owners in low-income communities, ED staff have partnered with SCORE to launch a Long Beach chapter. SORE Long Beach will bring educational workshops and face to face mentoring to local entrepreneurs on various topics designed to enhance competitiveness, including online marketing for small businesses. The program which is set to launch in early 2019, will offer workshops and mentoring throughout Long Beach, but initial efforts are focused in Central and North Long Beach.

CONCLUSION

Significant progress has been made in City's digital inclusion efforts, and the use of existing resources for a full-time Project Lead for Economic and Digital Inclusion has been critical in the progress made to date. However, without the $40,000 in resources to engage a consultant, the ability to develop and produce a Roadmap will take significantly longer and will not involve a

robust outreach process nor the development of a community-friendly Roadmap. Instead, the work will need to be prioritized in conjunction with the City's other critical technology and economic development projects and initiatives.

Staff will continue to provide City Council with updates and provide information on opportunities for City Council participation as they arise. If you have questions regarding this matter, please contact me at lea.eriksen@longbeach.gov or (562) 570-6234.

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ATTACHMENT E: PUBLIC WI-FI CONTEST LOCATIONS
ATTACHMENT F: DIGITAL INCLUSION FLYER

CC: CHARLES PARKIN, CITY ATTORNEY
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MONIQUE DE LA GARZA, CITY CLERK (REF. FILES #18-0060, #18-0061, #18-0062, #18-0063)
DEPARTMENT HEADS

ATTACHMENT A

CITY OF LONG BEACH

Analysis and Recommendations for Advancing Digital Inclusion in Long Beach

Submitted by:
The City of Long Beach Technology and Innovation Commission
January 23, 2019

ATTACHMENT A

ACKNOWLEDGMENTS

MAYOR AND CITY COUNCIL

Robert Garcia, Ed.D., Honorable Mayor
Dee Andrews, Vice Mayor and Councilman, 6th District
Lena Gonzalez, Councilwoman, 1st District
Jeannine Pearce, Councilmember, 2nd District
Suzie Price, Councilwoman, 3rd District
Daryl Supernaw, Councilman, 4th District
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CITY ATTORNEY'S OFFICE

Amy Webber, Deputy City Attorney

COMMUNITY-BASED ORGANIZATIONS

AOC7 Neighborhood Association
Century Villages at Cabrillo
Centro C.H.A.
The Guidance Center
Long Beach Forward
Long Beach Community Action Partnership
United Cambodian Community of Long Beach

SPECIAL THANKS

Long Beach Parks, Recreation and Marine Department & Director Gerardo Mouet
Long Beach Public Library & Director Glenda Williams
Lauren Vargas, Director of Innovation Delivery & Special Projects, Mayor's Office
Rajan Hoyle, Community Innovation Manager, Office of Councilwoman Lena Gonzalez

CITY OF LONG BEACH

ATTACHMENT A

Date: January 23, 2019
To: Mayor and Members of the Long Beach City Council
From: Technology and Innovation Commission (TIC)
Re: Analysis and Recommendations for Advancing Digital Inclusion in Long Beach

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In September 2017, Mayor Robert Garcia issued a letter to the Technology and Innovation Commission (Commission), asking the Commissioners to analyze the impact of the "digital divide" in Long Beach. The digital divide describes the lack of 'meaningful Internet access' at home that is impacting urban and rural communities across the U.S. Well publicized reports have drawn attention to the digital divide here in Long Beach, and the disproportionate impacts on the most vulnerable members of our community.

The Commission is pleased to offer the following report in response to this request, and inclusive of a year's worth of study, outreach and research on the topic. Our report builds on the work of Long Beach Unified School District as well as relevant non-profit and academic research and the findings of other cities as they tackle the digital divide.

Based on the inputs of more than 1,100 residents who responded to the survey, as well as more than dozen community meetings and focus groups, the Commissions also offer a series of recommendations for advancing digital inclusion throughout the City.

The survey efforts align with the City's greater Digital Inclusion Initiative which is managed by Technology and Innovation Department (TID) staff in partnership with the Office of Civic Innovation (i-team). The Digital Inclusion Initiative was sponsored by the Office of Councilwoman Gonzalez and was approved by the full City Council on January 23, 2018.

Thank you for your support of the Commission's work and for the invitation to contribute to this important effort. Long Beach has much to gain from increasing equitable digital access and we stand ready to assist in any way possible.

Sincerely,

Robb Korinke, Chair

Gwen Shaffer, PhD, Vice Chair

Lisa Mae Brunson, Commissioner

D. W. Ferrell, Commissioner

Justin Hectus, Commissioner

Evan Marquardt, Commissioner

Parisa Vinzant, Commissioner

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Analysis and Recommendations for Advancing Digital Inclusion in Long Beach

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Introduction & Summary

What is "Digital Inclusion" and Why is it Important to Long Beach?

Digital inclusion is increasingly seen as a gateway to personal and professional success, and numerous studies have identified a widening gap in "digital equity" across the nation and here in Southern California. Digital equity is achieved when all individuals and communities have the information technology capacity needed for full participation in society, including for employment, lifelong learning, civil and cultural participation, and access to essential services (National Digital Inclusion Alliance [NDIA]). The lack of digital equity has an impact for both the City as a government agency and service provider, as well as for the day-to-day lives of residents.

To achieve digital inclusion in Long Beach, residents must have access to low-cost, robust Internet service. As this report demonstrates, access to service is one of many key components of a digitally inclusive community. Residents must additionally have Internet-enabled devices (e.g. laptops, tablets, desktops, cellphones) capable of meeting their needs—whether those needs involve creating a video for a school project or completing an online job application. Accomplishing either of these tasks requires both digital literacy skills and quality technical support.

When digital equity is defined in this more comprehensive way, it becomes clear that many Long Beach residents lack the access, tools and skills necessary to fully participate and collaborate in economic, political and social spheres. U.S. Census data reveals that more than 25 percent of Long Beach households lack broadband from an ISP. While about 9 percent of this population rely on their smartphones to connect to the Internet, nearly 16 percent of households lack Internet access altogether.

These inequities matter, especially because lack of Internet access contributes to other kinds of inequities. For instance, if a low-income resident has no means of submitting an online job application, they are more likely to remain in poverty.

25%
Long Beach Residents Without Broadband Internet Connection

16%
Long Beach Residents Without *Any* Internet Connection

But a new study suggests that residential broadband access does support the ability of low-income Americans to better manage time and money (Horrigan, 2018). The findings are based on surveys completed by subscribers of Comcast Internet Essentials, a program that offers discounted Internet service to qualified families. Eighty-three percent of residents said that having a high-speed Internet connection at home helped someone in their household complete school work. About the same number of residents reported that home Internet helped them "be more responsive" to things going on in their child's school.

Long Beach's digital divide, if not narrowed, could have far-reaching policy consequences, as well. This is because the U.S. Census Bureau is disseminating the 2020 questionnaire primarily online. For each resident overlooked during the 2020 Census, California will lose out on about $2,000 in federal funding. A broad range of state programs rely on federal dollars, including assistance for veterans, Head Start, National School Lunch Program (subsidized school lunches), Medicaid, and road construction. Currently, California receives about $87 billion in federal aid

guided by Census data—more than any other state in the country.

At the same time, the City of Long Beach is striving to become a high-tech hub. Local officials are laying the groundwork for a transformation that, they hope, will enable the City to be a key player in the "Silicon Beach" start-up scene. The second largest city in Los Angeles County—with a population of nearly 500,000—Long Beach recently launched an online portal called BizPort to help entrepreneurs navigate licensing and zoning requirements. Local officials are spending $17 million to upgrade and extend Long Beach's fiber network. In 2018, the Center for Digital Government recognized Long Beach for its innovative use of technology to improve citizen services, enhance transparency and encourage citizen engagement.

The following report was prompted by a request from Mayor Robert Garcia to the Technology and Innovation Commission dated September 2017. Mayor Garcia asked this Commission to develop a report on Internet service in the city, its cost and accessibility, as well as how Long Beach residents may be relying on smart phones for basic Internet access. The survey was commissioned to assist the City in developing plans to best serve its residents and work towards a digitally inclusive community.

According to a study released in 2016 by the NDIA, approximately 50,000 households in Long Beach do not have a fixed broadband subscription. Recent reporting by the Long Beach Media Collaborative in a series of articles and research called Strengthening the Signal described the real-life impact of the digital divide on Long Beach residents, especially on low-income households, people of color, residents with limited English language proficiency, the unemployed and the underemployed, older adults, and residents with disabilities.

Mayor Garcia asked the Commission to build off the analysis conducted by Long Beach Unified School District on the digital divide. This includes an analysis on local Internet service providers (ISPs) in Long Beach and identifying where broadband is available throughout the city and the price points. This report by the Commission will inform the City Council to understand how Long Beach residents access and use the Internet. The analysis will help inform digital inclusion efforts and will shape Long Beach towards a truly digital inclusive community where all residents have access to affordable, meaningful Internet, and Internet-capable devices.

The Commission is pleased to deliver the following summary report, based on quantitative and qualitative community input gathered by Commissioners in the Summer and Fall of 2018. The survey efforts align with the City's greater Digital Inclusion Initiative which is managed by Technology and Innovation Department (TID) staff in partnership with the Office of Civic Innovation (i-team). The Digital Inclusion Initiative was sponsored by the Office of Councilwoman Gonzalez and was approved by the full City Council on January 23, 2018. The Digital Inclusion Initiative also builds on the efforts of local non-profits and community-based organizations. A partial list of organizations identified so far is contained in Appendix A.

Of the 1,084 surveys completed, 228 answered "no" to the first question, "Does your home have Internet access", with 856 responding "yes". Long Beach residents who lack a home broadband connection completed more than 20 percent of all surveys collected. Of the surveys collected approximately 50 percent were distributed in hard copy format at a total of 12 libraries, 26 community centers, and at 14 community events as listed in Appendix B.

ATTACHMENT A

Survey Results

ATTACHMENT A

Survey Design

Between May 5, 2018 and August 15, 2018, the Commission disseminated two versions of a survey based on the answer to the first question regarding home Internet access.

The "Home Internet Access? Yes" survey asked questions aimed at Long Beach residents who currently subscribe to a home Internet service provider. This version of the survey aimed to determine which devices residents use to access the Internet, how much people pay for connectivity, and how reliable they perceive their connections to be (Appendix C).

The "Home Internet Access? No" survey consisted of a corresponding question set geared toward residents who currently lack a residential broadband connection. It asked residents to identify benefits of home Internet access; to rank reasons for not subscribing to a home broadband provider; to list where they go to access the Internet away from home; and to identify who they would trust to help them sign up for residential broadband service (Appendix D).

Both versions of the survey collected demographic information regarding resident's gender, income, age, number of children living in the household, and race.

Key Findings

RESIDENTS WHO RESPONDED WITHOUT HOME INTERNET ACCESS

The following are from the survey results of Long Beach residents without home Internet access.

- Residents said they need Internet primarily for educational purposes, followed by for work, then entertainment and access to city services respectively.
- Nearly 75 percent of residents who answered the survey said the high cost of Internet or for obtaining Internet-capable devices was the main reason for no access to Internet at home.
- More than 80 percent of residents without home Internet access and who made less than $25,000 a year said they were unable to afford more than $20 per month for Internet subscription. Of those respondents, roughly 60 percent indicated they valued having Internet service.
- Half of the residents who did not have access to Internet at home said they relied on their community libraries to gain access. The ability to check-out Wi-Fi hotspots from the library was the service most requested by respondents.

RESIDENTS WHO RESPONDED WITH HOME INTERNET ACCESS

From the survey results of Long Beach residents with access to Internet at home.

- More than 80 percent of residents said they pay at least $30 per month for Internet at home, and over 50 percent said they pay greater than $50 per month.
- Cost for Internet service is mostly consistent across ethnic groups; however, 70 percent of African American respondents fell into the highest cost bracket.
- 80 percent of residents said their home Internet was reliable enough for social media and entertainment, and for accessing city services, but it was not adequate for educational or work purposes.

ATTACHMENT A

Guiding Principles for the Commission's Analysis

- Encourage City Council to implement equity-focused policies that eliminate barriers to residential broadband adoption as Long Beach extends its fiber network.
- Encourage local policymakers to use existing and emerging funding sources to increase access to Internet (and Internet-enabled devices) and technologies that are most needed in low-income communities and communities of color, and to leverage public and private financing options.
- Consult and partner with community-based organizations, schools, universities, the public library system and other key stakeholders as the City designs and implements an equity-framed Digital Inclusion Roadmap.
- Engage with and gain input through in-person forums, conversations, focus groups and interviews from communities most affected by the digital divide, including low-income households, communities of color, residents with limited English proficiency, the unemployed and underemployed, older adults, and people with disabilities.
- Advance ideas and solutions that promote digital inclusion in Long Beach where all residents regardless of income, race, age, ability, or language can gain access to affordable and meaningful Internet connection.
- Consider all technologies equally—such as small cell, 5G and fiber—and to develop bold and innovative solutions to bring digital inclusion to households throughout Long Beach.

Methodology

The following section highlights findings from the Digital Inclusion Community Survey completed by Long Beach residents. The survey was administered both online and through in-person community engagement events (e.g. forums) hosted between May and November 2018. The survey was made available in English, Khmer, Spanish and Tagalog. City staff distributed the survey at all City libraries and community centers.

In addition, Commissioners distributed the survey at community events such as the AOC7-sponsored Literacy Fair in McArthur Park; the Uptown Farmers market in Council District 8; a Long Beach Forward community meeting; the JustLBC event; and at multiple community-based organizations (e.g. Centro C.H.A., The Guidance Center, various senior centers, Century Villages at Cabrillo, Long Beach Community Action Partnership). Commissioners also worked with City Council staff in the offices of Councilwoman Lena Gonzalez (District 1), Councilmember Jeannine Pearce (District 2), Vice Mayor and Councilman Dee Andrews (District 6), Councilman Al Austin (District 8), and Councilmember Rex Richardson (District 9) to disseminate surveys to groups in Long Beach's most disconnected neighborhoods. Please see Appendix B for a full list of locations where the surveys were distributed and collected.

The survey is not statistically significant, as the sample size is too small to have complete certainty. However, the quantitative and qualitative data is the best data available. While the survey was made widely available online and at community hubs, the Commission outreached to communities that are affected by the digital divide, including low-income and other underrepresented groups. The goal was to engage with community members and better understand their personal and day-to-day experiences with accessing the Internet. The sample included in the Commission's analysis focuses on residents who face challenges accessing the Internet.

The results should not be viewed as a full and comprehensive evaluation of the digital divide, but rather a deeper dive into key communities of interest within Long Beach.

ATTACHMENT A

Study Results and Key Findings: Long Beach Residents *Without* Home Internet Access

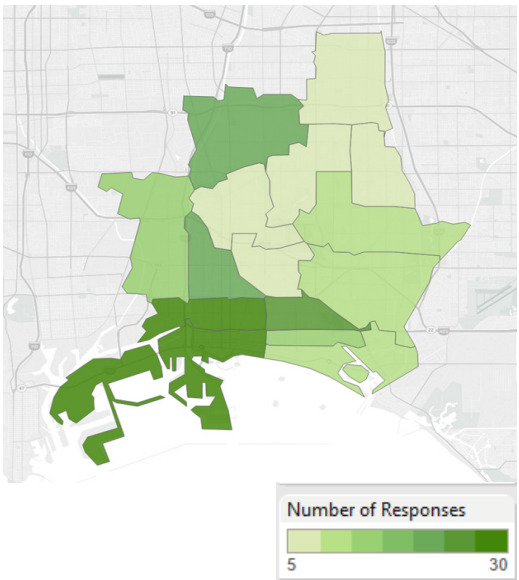
What barriers do Long Beach residents without current Internet access at home face? How do they value the Internet, who do they trust to help get them online, and what can they afford?

Where Does Our Data Come From?

Findings and analysis based on data collected through the 228 "No Internet at home" surveys.

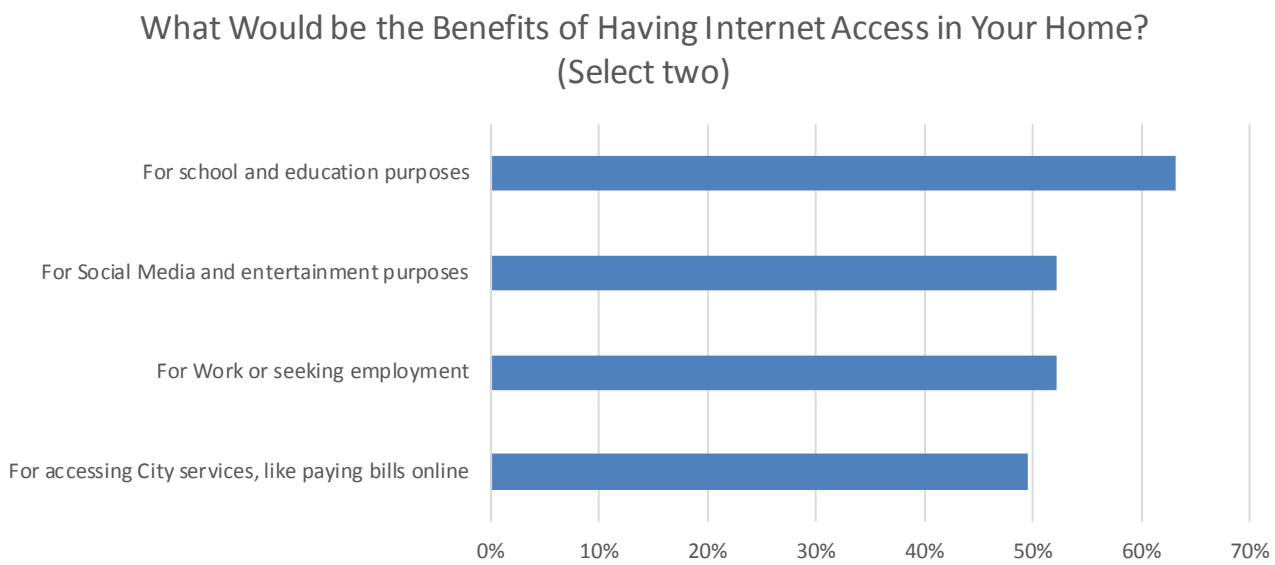
Because of the lack of access among this targeted audience, these surveys were collected almost entirely on paper at community events and in focus groups conducted by the Technology and Innovation Commission.

Surveys were distributed and collected in English, Spanish, Tagalog and Khmer.



What are the Perceived Benefits of Internet Access?

While the survey sought to identify barriers to Internet access, the Commission also recognized the importance of identifying perceived benefits of home Internet among those who currently lack it. Education was the most identified benefit, with work, entertainment and access to city services all ranking roughly equal. Among a few open ended "other" benefits, access to news was the most frequently reviewed. Residents also mentioned health-related research, connecting with family, and voter registration.

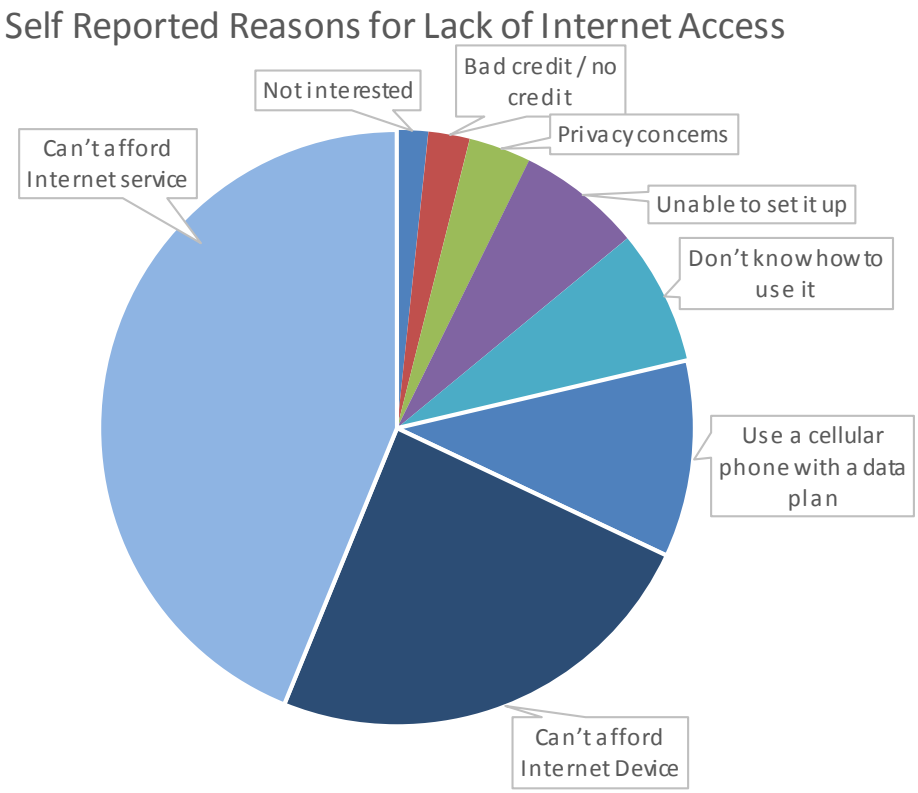


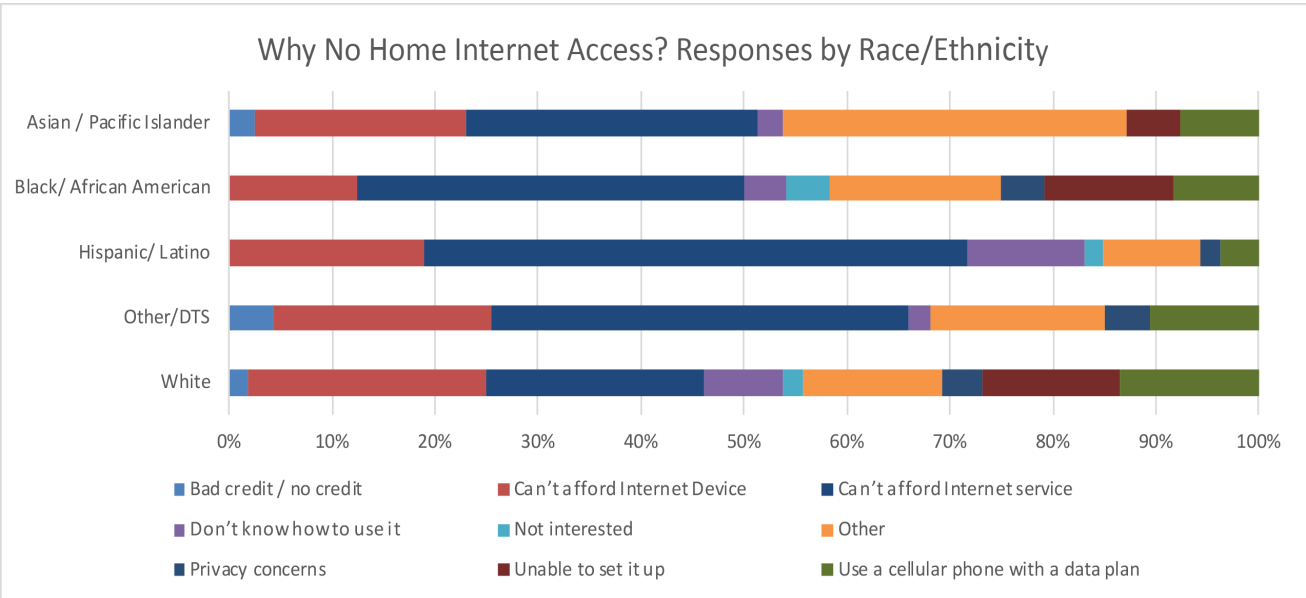
ATTACHMENT A

Why Do Residents Say They Don't Have Access?

Overall more than 2 out of 3 respondents cited affordability of either Internet service or an Internet-connected device, such as a laptop computer. An additional 10 percent noted they access the Internet via a cell phone with a data plan. A smaller percentage cited technical limitations, with 7 percent responding they didn't know how to use the Internet and an additional 7 percent unable to set up an Internet connection.

Latino respondents reported financial issues (53 percent can't afford service, 19 percent can't afford device) and technical limitations (11 percent) at a higher rate than did survey respondents overall, as seen below.





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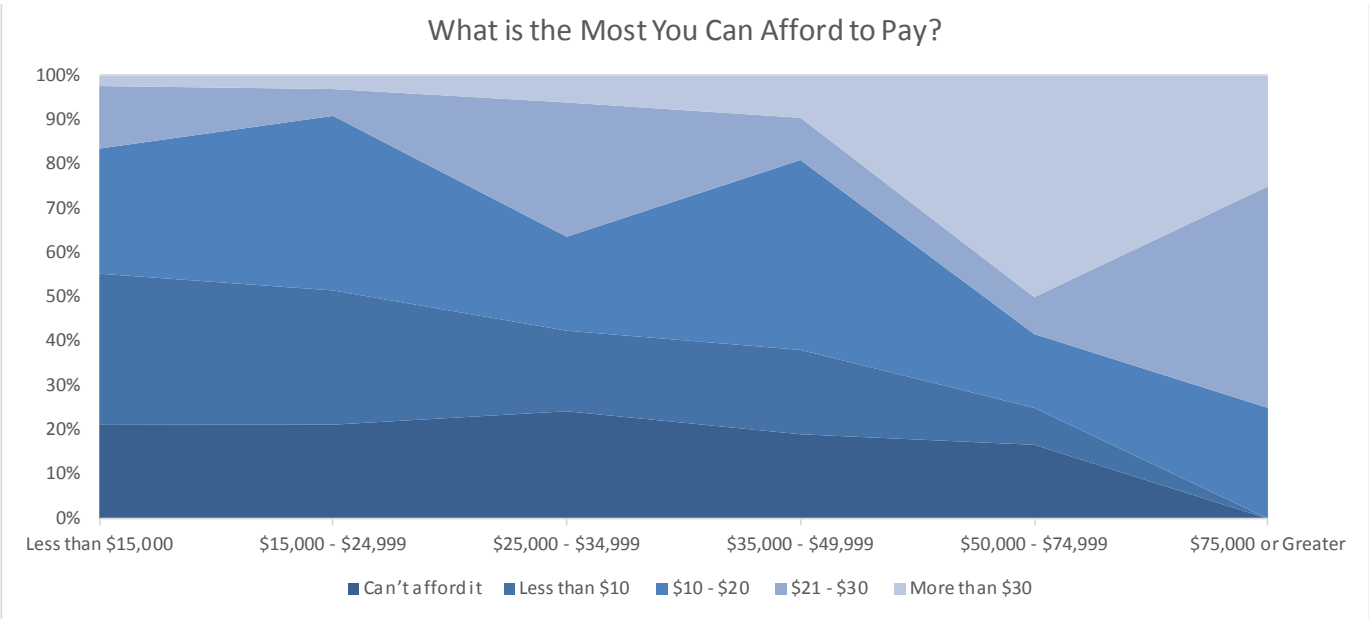
What Can Residents Afford to Pay?

Affordability is clearly a factor for most residents. Citywide, most residents reported $20 or less per month as the maximum they could pay, with survey results only diverging at household incomes of $75,000 a year or greater.

More than 80 percent of residents without current home Internet access and earning less than $25,000 a year indicated they could not afford more than $20 per month.

Notably, however, just over 60 percent of residents with low household income level did place a value on the service, with about 20 percent claiming they could not afford Internet service at all.



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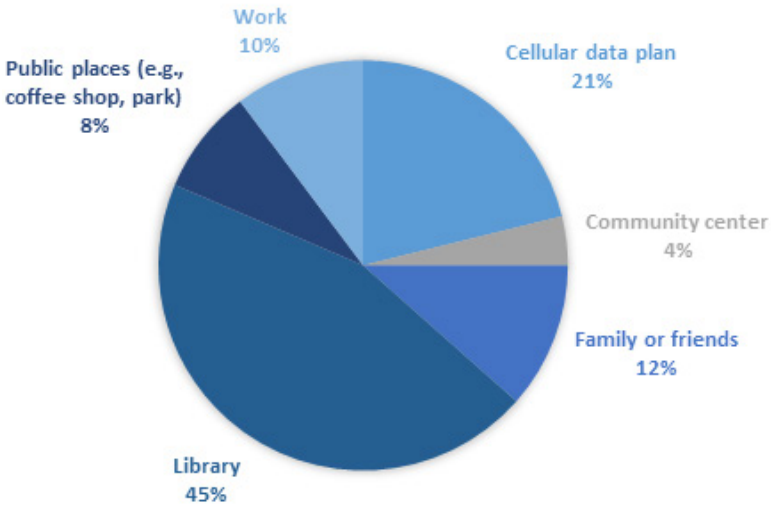


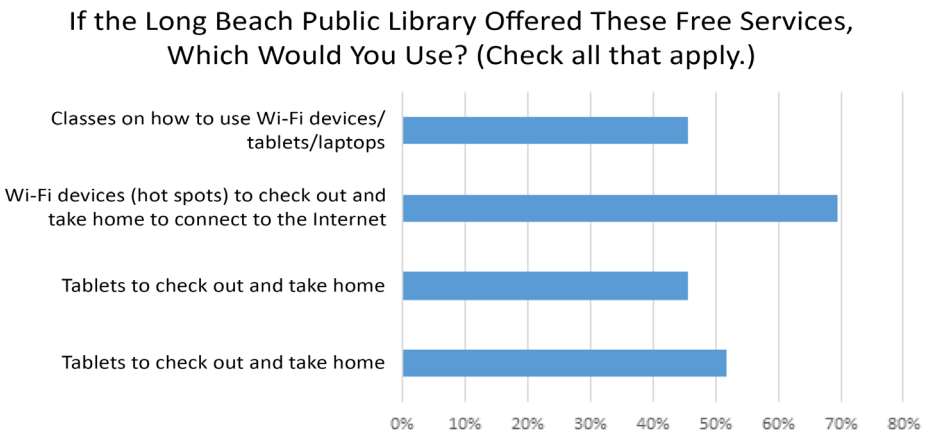
Where do Residents Without Internet Access at Home Get Access?

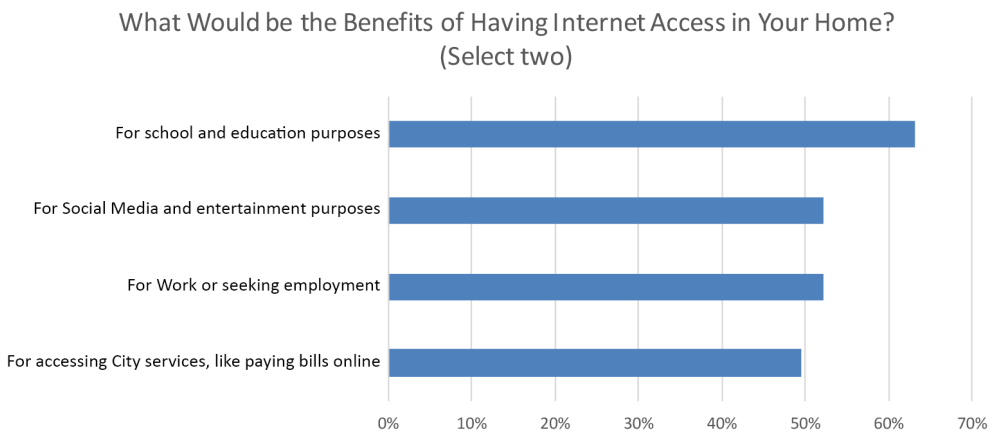
Among the clearest findings in the "No Home Access" survey is the importance of public libraries in connecting residents to the Internet, the level of trust conveyed upon libraries as an institution, and the demand for library services with respect to digital access.

When asked where residents who do not currently have a broadband connection access the Internet, nearly half cite the public library.

How Do Libraries Help Meet Residents' Needs?

High enthusiasm also exists for a range of potential services offered by public libraries, though the checking out mobile Wi-Fi devices was clearly the highest among these. Residents also expressed interest in checking out tablets or laptops, as well as taking classes on computer/Internet skills.





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Study Results and Key Findings: Long Beach Residents *With* Home Internet Access

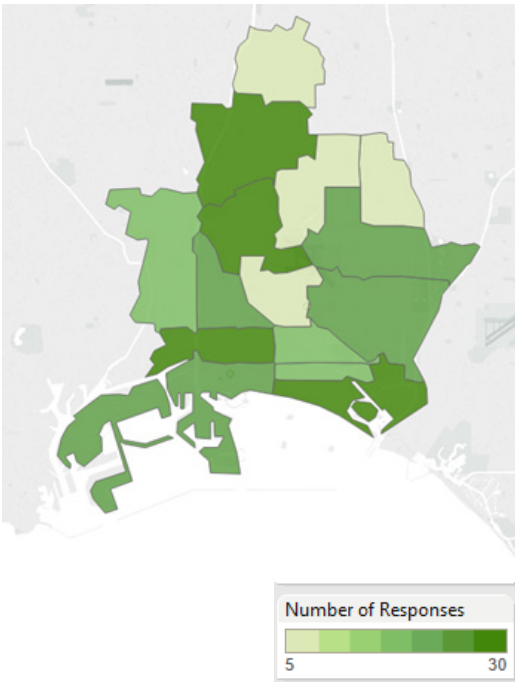
How do Long Beach residents feel about their current Internet access, and what do they pay? Why do some residents access the Internet only on their mobile phones?

Where Does our Data Come From?

The Commission received 870 responses to the "Yes Internet at Home" surveys, comprising nearly 80 percent of all completed surveys.

Surveys were collected online as well as on paper at community events and focus groups held by the Commission.

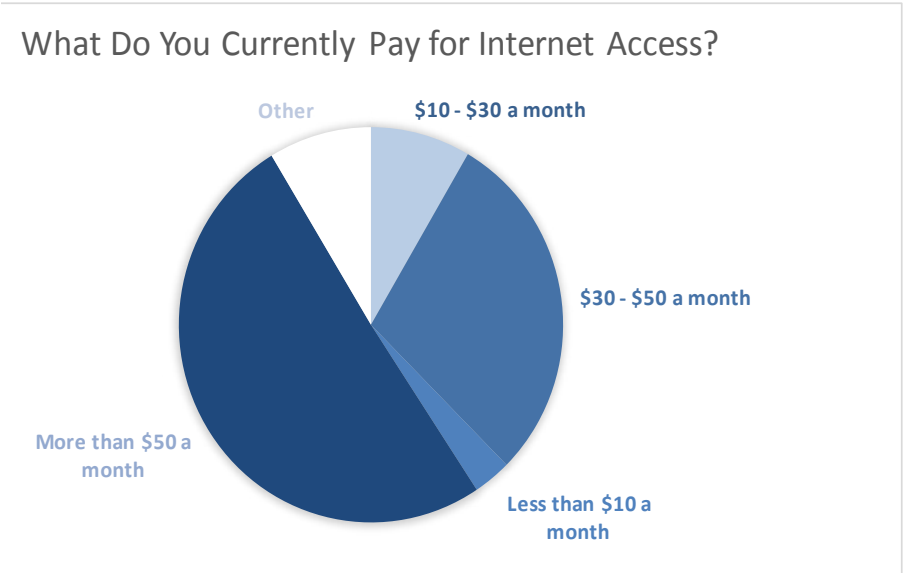
Surveys were distributed and collected in English, Spanish, Tagalog and Khmer.



How Much do Long Beach Residents Pay Now?

Over half of survey residents report paying more than $50 a month for Internet service, and more than 80 percent pay at least $30 a month. Open ended responses suggest many of these costs include Internet bundled with cable television, so a definitive figure on Internet-only costs is difficult.

Costs are consistent across ethnic groups, except for Black/African American residents who report higher costs. Nearly 70 percent of Black/African American residents fell within the highest cost bracket.



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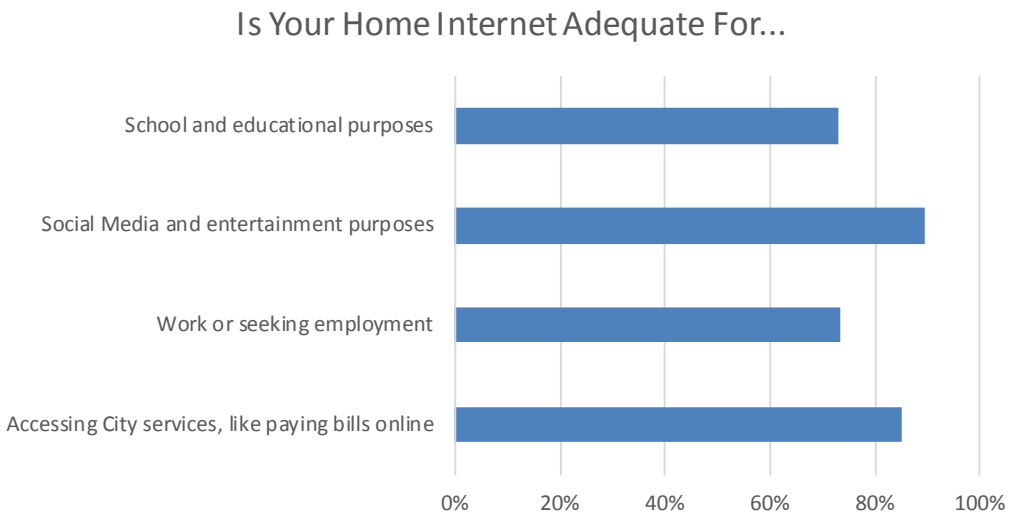
Is Your Internet Access Adequate and Reliable?

Among residents who currently have home Internet, there is a high level of satisfaction with that service. About 80 percent of residents said their home Internet is reliable "always" or "very often," with somewhat negligible numbers saying "rarely" or "never."

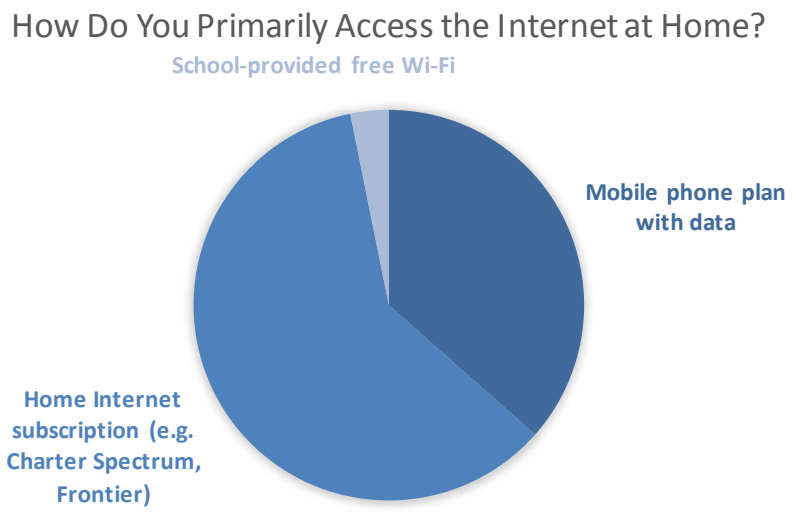
There was a notable change in how adequate residents' Internet service is for education or professional purposes versus entertainment or accessing City services. This may warrant further study as educational and work were the highest rated among perceived benefits of Internet access in the "No Home Internet" half of the study.



How Do Long Beach Residents Access the Internet?

Over 60 percent of respondents said they use a broadband connection as their primary access point for home Internet.

Among residents who stated their mobile phone was their primary point of access (just 6 percent of our respondents), 42 percent stated it was all they could afford, while others cited convenience and/or reliability as the reason for using their phones.



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Community Input

Community Input

The Commission organized multiple face-to-face community engagement events with diverse groups of Long Beach residents. While the survey responses help answer the "what," the focus groups and forums (e.g. community conversations) provide deeper insights into the "why," as well as humanize the impact of Long Beach's digital divide.

In line with the City's equity-based framework for engaging with residents, the Commission partnered with community-based organizations to conduct outreach to community members. The California Emerging Technology Fund (CETF) awarded the City a $10,000 grant for digital inclusion efforts. A portion the funds were used to provide incentives to residents to participate. The Commission's community outreach and engagement efforts identified obstacles to accessing home broadband that are universally experienced—with some difference by age, income level, and language. Affordability was cited as the most common barrier to access, followed by lack of technical knowledge or digital literacy. Residents also reported language barriers when troubleshooting connection problems.

During the community events facilitated by the Commission and in partnership with community groups, residents gave their input and ideas on how best to create a more digitally inclusive City.

- ***Free Multilingual Digital Literacy Classes*** that are provided by the City and located in areas with the greatest Internet access needs. Programs need to be designed for low-income residents and the specific needs of each community or group.

- ***City-Owned Wi-Fi Network*** that is free and/or low-cost. This service would eliminate challenges residents experience when dealing with Internet Service Providers (ISPs).

- ***Tech Centers And/or Makerspaces*** that are located in the most under-served neighborhoods would be helpful in offering digital literacy classes and trainings. Trainings and opportunities related to entrepreneurship and small business ownership are needed and could be offered in these spaces.

- ***List Of After-school Programs That Provide Free Internet Access For Student***s needs to be made widely available to low-income parents and families who are unable to afford Internet at home.

- ***Promote existing affordable and/or free internet options, including City-maintained Wi-Fi hotspots.***

- ***Language Assistance Is Needed*** by non-English speaking residents and residents with limited English language proficiency. This need is high within the Cambodian community, especially when contacting ISPs to gain assistance and/or technical help.

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The Guidance Center
The Commission hosted a community forum on July 26, 2018 at The Guidance Center (a community-based organization providing mental health care to local children and families), located in downtown Long Beach. This was a community-friendly event to engage with residents most impacted by digital divide.

The forum offered Long Beach residents an opportunity to share their experiences with accessing the Internet, as well as to learn about the City's digital inclusion efforts. Spanish translation was also provided. Also, child watch was offered. During a facilitated discussion, 19 community members talked about barriers to Internet access and technology use more broadly. Residents cited cost as the greatest barrier to accessing the Internet.

The costs described included inconsistent pricing; unexpected rate increases; and paying for a router. Several residents also expressed concern about their own lack of computer skills.

Residents also responded to questions about what they and their families most value when going online. Finally, residents suggested programs and resources that would benefit Long Beach community members struggling to access the Internet. When asked what kinds of programs or resources would benefit their community, residents mentioned a city-owned Wi-Fi network and programs designed specifically for low-income residents. Other suggestions included creating a tech center and/or makerspace in the neighborhood, and a comprehensive list of after-school programs that provide free Internet access for students. Similarly, residents said the City does too little to promote affordable and/or free Internet options that do exist, such as City-maintained Wi-Fi hotspots.

Centro CHA
On June 27, 2018, the Commission facilitated a group conversation on digital inclusion with teens who identify as Latino. Centro CHA—a social service agency that provides career training, legal support and other services to Long Beach's Hispanic/Latino communities—hosted the dialogue. The teens shared that the high cost of Internet meant a majority of the them used their smartphones or the local libraries to access Internet to complete their homework. The teens said that not being able to access Internet at home affected their ability to fully excel in school and obtain good employment opportunities.

The Long Beach Senior Arts Colony and The Senior Center at The Expo Arts Center
Focus groups facilitated by the Commission and hosted by the Long Beach Senior Arts Colony on August 22, 2018 and the Senior Center at the Expo Arts Center in Bixby Knolls on July 17, shed light on the challenges older city residents face when it comes to online access. A combined total of 31 older adults participated in these discussions. They cited an inability to afford an Internet subscription; the absence of a nearby public library; and a lack of digital literacy skills as primary reasons for not using the Internet. Residents suggested access to a free or low-cost

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Internet network, as well as free workshops on using and better understanding technology, including how to safely use the Internet, would benefit their community.

The United Cambodian Community

On September 11, 2018, the Commission facilitated a focus group hosted by the United Cambodian Community and attended by 15 older Long Beach residents. A lack of relevant content and instructions in Khmer emerged as a major barrier to using the Internet. Residents also said they lacked digital literacy skills and could not rely on family members for help connecting to the Internet. Residents identified high costs and unreliable connectivity as barriers unique to younger members of Long Beach's Cambodian community. When asked what kinds of programs or resources would benefit their community, residents cited "free Internet for everyone" and free computer skills classes. To meets the needs of older members of the Cambodian community, residents expressed a desire for language support, faster speeds, and more reliable connectivity.

The Century Villages at Cabrillo

On November 16, 2018, the Commission facilitated a focus group with 15 veterans—comprised of racially diverse men ranging in age from 30s to 70s—living at Century Villages at Cabrillo (CVC). Due to the temporary nature of their current housing situation, none of the residents currently have residential broadband. Most said they rely on their cell phones for connecting to the Internet, but others use their own laptops and tablets to access Wi-Fi in public spaces at CVC. The residents expressed frustration at not being able to go online after 10 pm. They all use the Internet for entertainment—particularly for watching YouTube videos—but they also said they "need" Internet access to search for jobs, to complete job applications, and to stay in touch with friends and family. Two older veterans said they do not know how to use the Internet, and others expressed a desire to advance their online skills.

"I would like to use the Internet but, honestly, I don't know how to use it."
- Older Adult Military Veteran

"Everything is online now. If we want to participate in our community or request disability assistance or benefits, we must have Internet. It isn't optional."
- Older Adult Resident

"I need a new job badly, but it's very hard to apply for jobs on my phone. That's how I get Internet because I can't afford it and the libraries aren't open when I'm off work."
- Latina Resident in her 30's

"It would be beneficial to my children's education."
- Latina Resident in her 30's

"I live by myself and I don't speak English. So, it's really hard for me to contact the Internet Service Provider. And there's no actual store for me to go into (for help)."
- Older Adult Cambodian Resident

Community Voices

A Broad Cross-Section of City Residents Value the Internet

The most commonly mentioned reasons for needing Internet at home were for educational purposes, job-seeking, paying bills, entertainment, and connecting with family (e.g., social media and messaging).

- As one older adult resident put it, "No Internet means no communication with family."
- A 16-year-old Latino resident shared, "I have to get to school early to finish my homework because my family can't afford Internet."
- A Cambodian senior resident said, "I go to the UCC almost every week to pay my bills online since I don't have Internet at home."
- A 30-something Latina resident said, "I need a new job badly, but it's very hard to apply for jobs on my phone. That's how I get Internet because I can't afford it and the libraries aren't open when I'm off work."

Affordability is a Key Driver of Access

Affordability was frequently identified as a barrier by residents who participated in community meetings and the citywide forum:

- A 17-year-old Latina resident said: "The information on the Internet is free, say if you want to look for jobs or school information. But to get access to that information, I'm forced to pay. It's not fair that we're being excluded because we can't pay such high prices for Internet."
- During face-to-face meetings, Long Beach residents of diverse races, ages, ethnicities and income consistently stated that Internet access is a necessity, not a luxury. One commenter called it a "human right".
- An older adult resident from the Long Beach Senior Arts Colony said: "Everything is online now. If we want to participate in our community or request disability assistance or benefits, we must have Internet. It isn't optional."

Computer/Digital Literacy is a Significant Obstacle to Access in Vulnerable Communities

Residents said they and others they knew could benefit from digital literacy knowledge and training. Of the senior groups spoken to by the Commission, most residents expressed a real desire to learn about computers and how to more effectively and safely access needed information and services online. Also, most seniors shared their concerns about privacy and identify theft as being contributing reasons for not having Internet at home.

- An older adult woman at the Senior Center at the Expo Arts Center in Bixby Knolls said she'd be able to save money (by not being charged service fees) if she could understand how to use computers and the Internet to pay online, saying "If I could learn the Internet, I wouldn't have to pay by phone and I could save money."
- An older military veteran living at CVC said, "I would like to use the Internet but, honestly, I don't know how to use it." Another resident noted that he lacked the skills to troubleshoot problems, such as losing a Wi-Fi connection.

The Cambodian Community Frequently Citied Need for Language Assistance

According to Khmer-speaking residents who participated in a focus group on the digital divide, language and cost are obstacles to maintaining home Internet connections.

- One older adult Cambodian resident said, "I live by myself and I don't speak English. So, it's really hard for me to contact the (Internet) company. And there's no actual store for me to go into (for help)."
- Another older adult Cambodian resident said if he was having problems with his Internet, "When I call, I have to figure out how to get to a live person, then explain I speak Khmer. Then I hang up and hope someone who speaks Khmer calls back. Sometimes they do but takes hours. Sometimes they don't."

Additional Data & References

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Findings from Other Relevant Broadband Access Studies

Long Beach Unified School District Broadband Study

The Long Beach Unified School District (LBUSD, 2018), which serves more than 72,000 students from pre-K to high school, administered an Internet access survey during the 2016-2017 academic year.

Dr. Christopher Lund, assistant superintendent of research, planning, evaluation and student improvement for LBUSD, identified the following key barriers to home Internet access for his students and parents: 1) language; 2) poverty; and 3) awareness of low-cost Internet options. Between 15 and 30 percent of LBUSD students lack home Internet access or have insufficient access to home Internet, depending on where the students live, according to Lund. The school district's digital inclusion survey found that students attending downtown schools have the lowest rates of access to home Internet, followed by students enrolled in Westside, Central and North Long Beach schools.

About 20,000 district parents completed the Internet access survey, which found that 15 percent of elementary school students lack home Internet access that is "good enough" for students to complete their homework (LBUSD, 2017). Nearly 30 percent of LBUSD students in grades 6-12 reported accessing the Internet exclusively from their cell phones when at home (LBUSD, 2017).

Significant variation exists when it comes to demographic characteristics such as race and income. For example, 94 percent of all families with children enrolled at Lowell Elementary School—a predominantly white school located in Belmont Shore—reported access to an Internet connection "good enough" for completing homework. Yet just 71 percent of African American students attending Lowell reported having adequate residential Internet connectivity. Overall, just 73 percent of residents whose children attend King Elementary School in North Long Beach (west of the 710 Freeway and 86 percent Hispanic, 10 percent African American) reported access to an Internet connection "good enough" for completing homework.

To close this digital gap, LBUSD (in partnership with California Emerging Technology Fund and Human-I-T) launched Connect Long Beach in June 2018. This program provides free laptops on a pilot basis and then district-wide in September 2018 that provides free laptops and low-cost Internet to qualified low-income individuals and families. Human-I-T has set-up a simple sign-up page in which interested LBUSD parents can complete online, by text, and over the phone. The information about this program is publicized on each individual school's website.

LBUSD Study found between 15 and 30 percent of LBUSD students lack home Internet access or have insufficient access to home Internet.

LBUSD has launched a program providing free laptops to qualifying students and families.

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U.S. Census Bureau's 2017 American Community Survey (ACS)
Although 84 percent of all Long Beach residents report having an Internet subscription, 9.3 percent of the city's population relies exclusively on cell phones to access the Internet at home. When broken down by income, disparities in access are obvious. About 39 percent of households with annual incomes below $20,000 report not having an Internet subscription at all. By contrast, about 5 percent of households with an annual income of at least $75,000 lack an Internet connection.

ACS data suggests 9.3 percent of the city relies solely on cell phones to access the Internet.

Annenberg Research Network on International Communication
Trends in broadband competition in Los Angeles County are relevant to understanding the broader context of access to Internet for Long Beach residents. The Annenberg Research Network on International Communication, housed at the University of Southern California, analyzed broadband trends between 2015 and 2016. Key findings include 1) shrinking coverage where fewer Los Angeles residents are served by broadband; 2) the number of ISPs remains unchanged, but more are offering higher-speed services; 3) the benefits of competition are bypassing low-income areas and Latino households; and 4) fiber investments in L.A. County have stalled.

Still, the number of Long Beach residences served by broadband is higher than Los Angeles County as a whole, according to USC Annenberg's preliminary findings. In 2016, 99.5 percent of Long Beach residents had access to a broadband provider. This translates into about 2,200 residents living in communities not served by an ISP. The share of Long Beach residents served by DSL service—broadband from incumbent phone provider Frontier Communications—increased significantly from 57 percent in 2015 to 92 percent in 2016. The share of residents served by cable broadband provider Spectrum Communications remained unchanged, at about 99 percent.

Annenberg found 99.5 percent of City residents had access to a broadband provider...

In 2016, 85 percent of Long Beach residents were served by at least two broadband providers—a decrease from about 91 percent of residents in 2015. In other words, about 30,000 more Long Beach residents lived in a monopoly broadband area in 2016 compared to just one year prior. This trend is troubling, generally, given that competition typically suggests better quality of service and lower pricing. Even more concerning, however, is that the communities that lost at least one broadband provider between 2015 and 2016 are predominantly African American and tend to experience high rates of poverty. Without competition, these communities are vulnerable to being forced to pay higher prices for broadband access, while receiving poorer quality service. Specifically, a low-poverty census block had a 10 percent chance of experiencing a decrease in broadband competition between 2015 and 2016, and those odds double to 20 percent in high-poverty areas.

... but a declining number of residents have access to more than one broadband provider.

The data from USC Annenberg raises the question of how ISPs determine which areas to offer broadband or fiber service and whether the bypassing of low-income and

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communities of color is occurring in Long Beach. The history of ISPs' deliberate non-deployment policies, known as redlining, continues to affect millions of low-income and urban households (National Digital Inclusion Alliance, 2018). Further consideration of this issue would be helpful to ensure the City's digital inclusion road map addresses all the underlying factors of the digital divide.

USC Annenberg's interactive mapping tool provides broadband adoption data and can be found at tinyurl.com/DigitalDivideLA.

City of Long Beach Fiber Master Planning Process
In November 2017, the City of Long Beach developed a plan for a city-owned fiber network that included three scenarios. Scenario one involves laying fiber to connect every city-owned building and brings the fiber "backbone path" within two miles of any location in Long Beach at a cost of about $17 million. The second scenario of the plan would expand the fiber in the first scenario to connect to commercial corridors and take advantage of unused capacity in the city network to provide connectivity to nearby local businesses. The estimated $33 million price tag includes resources to market broadband to local businesses and provide technical support.

The third scenario of the plan centers on an ambitious $183 million proposal to build a network that extends to residential neighborhoods. The city would lease excess fiber capacity to an anchor tenant, and that competitive ISP would deliver services to residents. Providing an alternative to current local broadband providers Spectrum and Frontier would likely help close the city's digital divide. However, it means convincing the public to take on significant debt and prospective challenges form incumbent service providers.

The City has a three-scenario plan for expanding fiber for purposes of economic development and, potentially, residential access.

Existing Options for Long Beach Residents Who Lack Home Internet Access

Public computers and Wi-Fi
Residents can use computers and access Wi-Fi at all 12 Long Beach Public Library branches. Free Wi-Fi is also available at 23 community centers and parks. Students of all ages can go online using computer labs operated by the Long Beach Unified School District, Long Beach City College and Cal State Long Beach.

However, a City Council resolution passed in January 2018 requests that these schools step up their digital engagement efforts. In addition, digital literacy training is available at the libraries and other locations as shown in Appendix E.

Discounted broadband plans available in Long Beach

Spectrum Internet Assist. Spectrum (2018) offers a $14.99 per month broadband subscription to Long Beach residents who qualify. Download speeds are up to 30 megabits per second (mbps), while upload speeds are up to 4 mbps. Recipients are not required to sign a contract. To qualify, a member of the household must be a recipient of one of the following programs:

- The National School Lunch Program (NSLP), providing free or reduced cost lunch
- The Community Eligibility Provision of the NSLP
- Supplemental Security Income (SSI) and be age 65 or older

Additionally, Spectrum Internet Assist is available only to residential customers who have not subscribed to the company's Internet service during the previous 30 days, and who have no outstanding payments incurred to Spectrum during the previous year. Spectrum does not advertise or mass market this discounted broadband plan. Rather, the company relies on community-based organizations and local non-profit Human I-T to spread the word about its existence.

Frontier Fundamentals. Frontier (2018a) offers qualified subscribers broadband access and a modem for $19.99 a month. Some subscribers also receive a free Chromebook and speeds range from 7 mbps to 25 mbps, "depending on the available technology." Recipients are not required to sign a contract. To qualify, a member of the household must participate in one of the following programs:

- CalFresh
- The Bureau of Indian Affairs General Assistance
- SSI
- Medi-Cal programs

Frontier Communications (2018b) does not list its Frontier Fundamentals plan on the "discount programs" page on its website, and the company does not appear to market the plan outside of its contract with Human I-T. A Google search turned up one reference to Frontier Fundamentals and that was in a legal brief filed by the company, defending itself against charges that it failed "in its commitment to offer and broadly market an affordable broadband offer to low-income eligible households" (Frontier Communications, 2018a).

For more information or to sign up for one of these discounted programs, contact Human I-T: https://www.human-i-t.org/request-Internet

Relevant Best Practices in Other U.S. Cities

San Jose

Small Cell Deployment, Digital Inclusion Fund

The City of San Jose negotiated agreements with Verizon, AT&T, and Mobilitie to install small cells on approximately 4,000 city-owned light poles throughout San Jose. The deal is the largest small cell driven broadband infrastructure deployment in any U.S. city (City of San Jose, 2018). The expected investment from these three companies will total more than $500 million of private sector investment and bring more Internet connectivity choices for San Jose residents and businesses. Through these agreements, the three companies will collectively contribute about $24 million over the next decade for San Jose's Digital Inclusion Fund. The Digital Inclusion Fund was created by the City Council to support programs and initiatives that will help close the digital divide in San Jose, where more than 95,000 residents still lack access to broadband Internet service at home.

Louisville

Outreach and Education

Policymakers in the City of Louisville initially tackled its digital divide by ensuring residents knew about discounted broadband plans, which local ISPs offered but failed to market. For instance, Comcast's Internet Essentials plan cost just $10/month for those who qualify. Another key tactic employed by Louisville officials was persuading residents that the Internet is, indeed, relevant to their lives and then teaching them to use it. The City invested in a tech community center in a traditionally under-served neighborhood, making it possible for nearby residents to participate in trainings and classes.

One of the City's most impactful actions was hosting a multi-day startup conference in this tech center, according to Louisville's innovation manager. The conference brought tech creators into the neighborhood to make them more accessible. The city's innovation department is partnering with civic tech groups to create tools that promote and facilitate residential access.

Detroit

Outreach, Education and Grassroots Engagement

A grassroots non-profit is leading efforts to expand broadband access in Detroit. The Detroit Community Technology Project has launched a series of initiatives that attack the digital divide from all sides. The Digital Stewards program prepares teams of community organizers, people with construction skills, and techies to design and deploy wireless mesh networks in under-served neighborhoods. The Equitable Internet Initiative was created to ensure more Detroit residents possess the ability to leverage online access and digital technology for social and economic development. The initiative deployed shared Gigabit Internet connections in three under-served neighborhoods to boost access, and it offers "advanced" digital literacy trainings.

In 2017, Libraries Without Borders (BSF) launched "Wash & Learn," a program that transforms laundromats throughout Detroit into informal learning spaces. BSF equipped each laundromat with a KoomBook digital library server, creating a Wi-Fi hotspot that laundromat patrons can use to access pre-loaded educational content at any hour of the day. Partner organizations help BSF curate, customize and adapt the materials to meet the needs of participating community members.

South Bay (Los Angeles County) Cities

Regional Infrastructure

In an effort to get more Internet bandwidth for a lower per megabit rate, a consortium of 15 South Bay cities are deploying a regional fiber network. According to the fiber master plan released in May 2017 (Magellan Advisors, 2017), the cities will also share systems and data to operate more cost-effectively. The fiber network consortium is comprised of 15 cities with varied demographics and resources.

The network is meant to enable the 15 partner cities to provide public access and enable local institutions and non-profits to spend less money for more bandwidth. A secondary rationale for the network is improved regional public-sector communications. Emergency services, public works, and transportation will be faster and more effective—leading to "safer, healthier, and less stressed" residents, according to the Bay Cities report. Local officials see the need for a fiber network accessible for residents who would like to boost their skills and engage in higher-paying online jobs. A third driver for deploying a regional network involves luring high-tech companies to the South Bay with "a local talent pool" and "ultra-fast broadband."

Los Angeles

Hardware Access

The City of Los Angeles launched OurCycle LA, a digital inclusion program designed to take advantage of the thousands of salvage computers from the city, in February 2015. In addition to bridging the digital divide in Los Angeles, the program is meant to maximize the use of computers; reduce the electronic waste footprint; provide job training to young people; and boost job opportunities for individuals with high barriers to employment. City Council is partnering with various government agencies, local schools and non-profit organizations to implement OurCycle LA. Through this joint-effort, low-income households with K-12 students have received more than 500 free refurbished computers and hotspot devices. In addition, nearly 200 free refurbished computers were donated to older residents living in senior housing units and a senior community center. Nearly 1,000 families/individuals have attended the digital literacy training class (City of Los Angeles, 2018).

The program boasts of related accomplishments, as well. More than 3,000 PCs have been refurbished and distributed to low-income families and non-profit organizations. Several thousand older model computers have been properly de-manufactured and recycled. Through OurCycle LA, more than 100 youths have been trained on refurbishing tasks and software/hardware configuration work, and 10 temporary and full-time jobs have been created.

Baltimore

Hardware Access

The City of Baltimore is working to close its digital divide by providing low-income residents with tablets and wireless Internet access. T-Mobile donated 500 tablets to Baltimore Housing Authority residents, and the housing authority is covering the cost of the data plans for two years. Residents report using the tablets to apply for jobs, complete homework, help start businesses and attend college.

Residents chosen for the program are enrolled in a self-sufficiency program. The housing authority says while the residents may have smartphones, they typically have limited data plans and that's tough to write resumes or fill out job applications — or do homework — on small screens.

Recommendations

ATTACHMENT A

Recommendations: Overview

Based on the analysis of the more than 1,000 collected surveys, and informed by more than a dozen community meetings and a review of relevant research, the Technology and Innovation Commission makes the following recommendations.

Digital Literacy
Long Beach residents are most likely to take advantage of opportunities to develop digital literacy skills when trainings are offered in convenient spaces they already visit, such as libraries, recreation centers, their children's schools, churches and senior centers.

Access to Device and Broadband Connections
In order to achieve meaningful Internet access for all Long Beach residents by 2024—including 50,000 households that currently lack a fixed broadband subscription—the Commission recommends an expansion of existing city efforts as well as several new initiatives.

Ongoing Research and Evaluation
Recognizing the need for developing policies and programs based on sound data, the Commission recommends the City commit to ongoing study in a number of key areas.

Infrastructure Deployment
In recognition of the reality that residential connectivity cannot exist without robust infrastructure, the Commission recommends a series of potential partnerships and actions.

Apply Rigorous Standards
Recent federal efforts have sought to undermine the definition of meaningful access. As the City pursues future digital inclusion efforts, it should also advocate for standards that meet legitimate technical requirements for access.

Regional, State and Federal Advocacy
The City of Long Beach should lead neighboring cities in advocating for increased local control in telecommunications decisions and strict privacy standards at the state and federal level.

Recommendations: Detail

Promote Digital Literacy

Long Beach residents are most likely to take advantage of opportunities to develop digital literacy skills when trainings are offered in convenient spaces they already visit, such as libraries, recreation centers, their children's schools, churches and senior centers. With this in mind, the Commission recommends the following:

1. ***Free technology training and IT support.*** The City should fund or provide multilingual and culturally competent digital literacy training to build both competence and confidence for residents with minimal technology skills. Innovative "pop-up" digital literacy programs could be held at places frequently visited by residents who may lack meaningful broadband access, such as laundromats and other venues.
2. ***Provide one-on-one digital literacy training.*** Research shows that one-on-one assistance is far more effective for teaching basic computer skills, compared to classes structured around specific topics (i.e. creating a resume, setting up an email account). The key is to connect digital literacy training with relevant content and services. The city should partner with community organizations to provide one-on-one digital literacy training for people at homeless shelters, health clinics, senior centers, etc. Because many people are adverse to sitting in a classroom, digital literacy efforts must take a relevancy approach.
3. ***Tech centers in digitally disconnected communities.*** The City should identify anchor institutions—encompassing both the public and private sector—that could serve as sites for community tech centers and/or maker spaces. Specifically, these spaces should be located in Long Beach communities with low Internet adoption rates (primarily, West and North Long Beach).

Increase Access to Device and Broadband Connections

In order to achieve meaningful Internet access for all Long Beach residents by 2024—including 50,000 households that currently lack a fixed broadband subscription—the Commission recommends the following:

1. ***Promote existing resources.*** The City should design a targeted public information campaign to raise awareness that incumbent ISPs (Frontier and Spectrum Communications) offer steeply discounted Internet subscriptions, while avoiding direct promotion of either company. Outreach efforts should prioritize Long Beach communities with the lowest Internet adoption rates. The campaign could include interior and exterior mass transit advertisements, flyers inserted into utility bills, and targeted text messages.
2. ***Expand city-owned Wi-Fi hotspots.*** The City should deploy Wi-Fi hotspots in communities where residents lack home broadband. Public hotspots are already available in city parks, as well as in downtown locations frequented by tourists and the business community.
3. ***Open Internet connections subsidized by the federal E-Rate program.*** Through the E-Rate program, U.S. taxpayers heavily subsidize the broadband connections owned by schools and libraries. Therefore, they belong to the public. The typical U.S. school day is seven hours long, and the standard academic year lasts 180 days. This means school broadband networks are unused by late afternoon, on the weekends and during summer months. Similarly, most public library branches remain closed on Sunday and during weekday evenings. By placing signal routers on school and library buildings, these institutions could supply bandwidth for ad hoc networks in surrounding low-income neighborhoods. This would enable residents to take advantage of the connectivity to look for employment, complete homework, access government services and to accomplish countless other tasks.

4. ***Extend library hours.*** The City should allocate adequate funds to enable public libraries to remain open during the evening, the only time many residents can use public computers.
5. ***Pilot a mobile hotspot and device checkout initiative in under-served communities.*** Public libraries across the country are teaming up with cell phone providers to offer mobile hotspots for checkout. Patrons can check out hotspot devices, along with tablets and laptops, for an allotted period of time. The City should pilot hotspot checkout initiatives in library branches that serve residents with the greatest need.
6. ***Expand Long Beach Unified School District's Connect Long Beach program.*** This initiative currently offers free-to-low cost technology and Internet access to low-income parents with children attending LBUSD. The City should explore opportunities to expand this program to all low-income Long Beach residents who qualify.

Infrastructure Planning and Deployment

In recognition of the reality that residential connectivity cannot exist without robust infrastructure, the Commission recommends the following:

1. ***Negotiate with 5G providers to deploy infrastructure in Long Beach with a priority on communities with low Internet adoption rates.*** As 5G and the next generation of telecom infrastructure is deployed, Long Beach has a unique opportunity to promote digital equity. The City should negotiate with 5G carriers to match, one-for-one, towers and fiber deployed downtown and in other already-connected neighborhoods. A potential model for this might entail the City reducing the $3,000 fee it charges carriers for each tower erected. In exchange, carriers would be required to erect an additional 5G tower in North or West Long Beach.
2. ***Negotiate with 5G carriers to contribute funding to Digital Inclusion initiatives.*** The City should use funding contributions from carriers that attach small cells to city owned light poles and public buildings for digital equity programs and broadband connectivity.
3. ***Elevate the priority placed on residential connectivity in Long Beach's Master Fiber Plan.*** As the City expands its own fiber network, the Commission urges local policymakers to prioritize residential connectivity. Specifically, when making decisions about where to deploy fiber, prioritize residents' need for meaningful broadband. This means placing public access on par with economic development.
4. ***Include contractual requirement for broadband providers to provide geodata maps.*** At the RFP and service contract stages broadband providers must commit to provide 1) geodata mapping of current fiber locations, as well as 2) forecast geodata maps that show where future fiber is planned. The requirement should expect service providers to commit to update both current and planned geodata on a regular basis, such as quarterly or annually. This will help the City align projects with the Dig Once policy, and give priority to infrastructure that promotes digital inclusion.

Research and Evaluation

Recognizing the need for developing policies and programs based on sound data, the Commission recommends the following:

1. ***Identify City programs that can incorporate meaningful broadband efforts.*** The Commission encourages the City to identify departments that currently contribute to digital skills building through their programs, or have the potential to do so. Then embed and integrate digital inclusion into each department's mission and into various layers of policy.
2. ***Collect broadband adoption data.*** The Commission recommends that the City survey residents annually to measure levels of technology access and adoption, and to assess barriers to adoption (with the understanding that the indicators must evolve as technology and communities change). These data points would help guide local strategies.
3. ***Evaluate programs and implement data-driven policies***. The City should routinely evaluate the digital inclusion-related initiatives that it funds, and make changes when data suggests they are needed.
4. ***Request anonymized aggregate subscription data from service providers to broadband pricing and rate of adoption across the city, as well as maps of current and planned broadband and/or fiber infrastructure.*** Make this data available on DataLB.

Apply Rigorous Standards

As the City pursues future digital inclusion efforts, it should also advocate for standards that meet legitimate technical requirements for access. In November 2017, the Federal Communications Commission (FCC) began exploring the option of adopting a lower benchmark of 10 Mbps, which aligns with typical mobile Internet speeds. FCC Chair Ajit Pai has suggested that a mobile benchmark should be sufficient to claim broadband is being deployed to all Americans in a reasonable and timely manner (Broadband Now, 2018; Brodkin, 2017).

1. ***Adopt a definition of 25 Mbps as a minimum standard of access, and reassess every five years.***
2. ***Reject the notion that mobile benchmarks are an acceptable standard of access.*** The notion that a mobile connection is the same as accessing the Internet from a PC does not fully reflect the day-to-day realities many people in the community face. Typing a research paper for school or completing a job application on a cellphone is not practical as there is limited functionality on a mobile device. In addition, community members are likely to lose connection in dead spots where no wireless service is available.

Increase Regional, State and Federal Advocacy on Privacy and Local Control

A series of state laws have undermined local control to regulate telecommunications and effectively advocate for access on behalf of their residents. Similarly, federal efforts on net neutrality and inaction on privacy undermines trust, which our study found to be a key issue among various constituencies in the city.

1. ***Advocate for State Legislation on Equity and Local Control.*** Call upon the legislature to adopt legislation that establishes enforceable fiber deployment benchmarks that apply to all providers, fosters competition and eliminates monopolies, and seek to restore local control in regulatory matters concerning Internet telecommunications.
2. ***Support State and Federal legislation that protects consumer privacy and a free and open Internet.***
3. ***Partner with Other Local Governments on Federal Issues.*** Partner with other large municipalities and local government advocacy groups to challenge FCC efforts to preempt local government control over rights-of-way, 5G and other telecommunications infrastructure.

APPENDIX A

List of Digital Inclusion Partners and Stakeholders
California State University, Long Beach (CSULB)
Downtown Long Beach Alliance
Economic Development Commission (EDC)
Economic Development Department
Frontier Communications Corporation
Human-I-T
Khmer Girls in Action (KGA)
Laserfiche
Library Services Department
Long Beach City College (LBCC)
Long Beach Forward
Long Beach Unified School District (LBUSD)
Office of Civic Innovation (Innovation Team)
Office of Equity
Office of Mayor Robert Garcia
Spectrum (Charter Communications)
Studio META
Technology and Innovation Commission (TIC)
Technology and Innovation Department (TID)
Uptown Business Improvement District
Verizon Wireless

ATTACHMENT A

Survey Distribution Locations - Libraries
Alamitos Neighborhood Library
Bay Shore Neighborhood Library
Bret Harte Neighborhood Library
Brewitt Neighborhood Library
Burnett Neighborhood Library
Dana Neighborhood Library
El Dorado Neighborhood Library
Los Altos Neighborhood Library
Main Library
Mark Twain Neighborhood Library
Michelle Obama Neighborhood Library
Ruth Bach Neighborhood Library

Survey Distribution Locations- Community Events
AOC7-sponsored Literacy Fair
Alma Family Services
JustLBC Event
Latinos in Action
Long Beach Forward Community Meeting
Uptown Farmers Market
Washington Neighborhood

Locations of In-Person Community Engagement Events
Centro C.H.A.
Expo Arts Center
Long Beach Forward
Long Beach Senior Arts Colony
The Guidance Center
The Century Villages at Cabrillo
United Cambodian Community

Survey Distribution Locations- Community Centers
El Dorado Park West Community Center
Heartwell Park Community Center
Houghton Park Community Center
Leeway Sailing Center
Long Beach Senior Center
MacArthur Park Community Center
Martin Luther King Park Community Center
McBride Park Community Center
Orizaba Park Community Center
Pan American Park Community Center
Ramona Park Community Center
Recreation Park Community Center
Scherer Park Community Center
Silverado Park Community Center
Somerset Park Community Center
Stearns Champions Park Community Center
Veterans Park Community Center
Wardlow Park Community Center
Whaley Park Community Center

ATTACHMENT A

"Home Internet Access? Yes" Survey

The City of Long Beach wants to know how you access the internet.
Thank you for taking a few minutes to share your experiences by completing this brief survey.
All responses will remain strictly anonymous and confidential.

Does your home have internet access? YES

**** If "Yes" please take the "Home Internet" Survey***
**If "No" please take the "No Home Internet" Survey*

Home Internet Survey:

1. How do people in your household get Internet access for their device at home? (check all that apply)
   - ☐ Mobile phone plan with data
   - ☐ Home Internet subscription (e.g. Charter Spectrum, Frontier)
   - ☐ School-provided free Wi-Fi
   - ☐ Other free Wi-Fi (please specify): _____

   *1a. * If you answered "a" to the question above please answer the following question:*
   *Why do you use the Internet primarily on your mobile device?
   - a) All I can afford
   - b) Most convenient
   - c) Most reliable
   - d) Other (please specify): _____

2. What devices do members of your household use to access the Internet at home? (check all that apply)
   - ☐ Cell Phone
   - ☐ Laptop
   - ☐ School Laptop
   - ☐ Tablet
   - ☐ Desktop Computer
   - ☐ Other (please specify): _____

3. What is your current bill for Internet services (excluding a cellular phone data plan)?
   - a) Less than $10 a month
   - b) $10 - $30 a month
   - c) $30 - $50 a month
   - d) More than $50 a month
   - e) Other (please state cost): _____

4. Is your home Internet reliable?
   - a) Always
   - b) Very Often
   - c) Sometimes
   - d) Rarely
   - e) Never

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5. Is it adequate for (check all that apply):
   - ☐ Accessing City services, like paying bills online
   - ☐ Work or seeking employment
   - ☐ Social Media and entertainment purposes
   - ☐ School and educational purposes
   - ☐ Other (please specify): _____

6. If the Long Beach Public Library offered these free services, which would you use? (check all that apply)
   - ☐ Laptops to check out and take home
   - ☐ Tablets to check out and take home
   - ☐ Wi-Fi devices (hot spots) to check out and take home to connect to the Internet
   - ☐ Classes on how to use Wi-Fi devices/tablets/laptops
   - ☐ Other (please specify): _____

7. What is your five-digit home zip code?
   Zip code: _____

Your responses to the following questions will help us determine how to provide better internet access, but answering them is optional:

8. What is the total combined annual income in your home?
   - a) Less than $15,000
   - b) $15,000 - $24,999
   - c) $25,000 - $34,999
   - d) $35,000 - $49,999
   - e) $50,000 - $74,999
   - f) $75,000 or Greater

9. How many total people currently live in your house, including yourself?
   Please specify number: _____

10. Does your household have any children in school (Kindergarten – 12th Grade)?
    - a) Yes
    - b) No

11. What gender do you identify as?
    - a) Male
    - b) Female
    - c) Decline to state
    - d) Other (please specify): _____

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12. Do you identify as?
    a) White
    b) Hispanic/ Latino
    c) Black/ African American
    d) Asian / Pacific Islander
    e) Decline to state
    f) Other (please specify): _____

13. In what year were you born? (Please enter a four-digit number like 1980)
    Year of birth: _____

14. Is there anything else you would like to share regarding your internet access or usage?

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Thank you for all your help!

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ATTACHMENT A

"Home Internet Access? No" Survey

The City of Long Beach wants to know how you access the internet.
Thank you for taking a few minutes to share your experiences by completing this brief survey.
All responses will remain strictly anonymous and confidential.

Does your home have internet access? NO

** If "Yes" please take the "Home Internet" Survey*
****If "No" please take the "No Home Internet" Survey***

No Home Internet Survey:

1. What would be the benefits of having Internet access in your home? (Select two)
   - ☐ For accessing City services, like paying bills online
   - ☐ For Work or seeking employment
   - ☐ For Social Media and entertainment purposes
   - ☐ For school and education purposes
   - ☐ Other (please specify): _____

2. What is the top reason that you don't have Internet in your home?
   - a) Can't afford device that uses Internet (e.g. laptop, desktop computer)
   - b) Can't afford Internet service
   - c) Use a cellular phone with a data plan
   - d) Privacy concerns
   - e) Bad credit / no credit
   - f) Don't know how to use it
   - g) Unable to set it up
   - h) Not interested
   - i) Other (please specify): _____

3. Is there a second reason that you don't have Internet in your home?
   - a) Can't afford device that uses Internet (e.g. laptop, desktop computer)
   - b) Can't afford Internet service
   - c) Use a cellular phone with a data plan
   - d) Privacy concerns
   - e) Bad credit / no credit
   - f) Don't know how to use it
   - g) Unable to set it up
   - h) Not interested
   - i) Other (please specify): _____

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4. Are any of the following preventing you from signing up for home Internet? (Check all that apply)
   - ☐ Credit/ debit card needed
   - ☐ State/ fed ID needed
   - ☐ Contract requirements
   - ☐ Credit check
   - ☐ No in person payment option
   - ☐ No help in my language
   - ☐ Other (please specify): _____

5. Where do you most often go to access the Internet outside of your home?
   - a) Library
   - b) Community center
   - c) Work
   - d) Family or friends
   - e) Cellular data plan
   - f) Public places (e.g., coffee shop, park)
   - g) Other (please specify): _____

6. Which venue would you trust the most to help you sign up for home Internet access? (Check all that apply)
   - ☐ Internet provider (e.g. Charter Spectrum, Frontier)
   - ☐ Local business
   - ☐ Library
   - ☐ School
   - ☐ Community center
   - ☐ Nonprofit
   - ☐ Parks and recreation centers
   - ☐ Other (please specify): _____

7. If the Long Beach Public Library offered these free services, which would you use? (check all that apply)
   - ☐ Laptops to check out and take home
   - ☐ Tablets to check out and take home
   - ☐ Wi-Fi devices (hot spots) to check out and take home to connect to the Internet
   - ☐ Classes on how to use Wi-Fi devices/tablets/laptops
   - ☐ Other (please specify): _____

8. What is your five-digit home zip code?
   Zip code: _____

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Your responses to the following questions will help us determine how to provide better internet access, but answering them is optional:

9. What is the most you can afford to pay for home Internet per month?
   a) Can't afford it
   b) Less than $10
   c) $10 - $20
   d) $21 - $30
   e) More than $30

10. What is the total combined annual income in your home?
   a) Less than $15,000
   b) $15,000 - $24,999
   c) $25,000 - $34,999
   d) $35,000 - $49,999
   e) $50,000 - $74,999
   f) $75,000 or Greater

11. How many total people currently live in your house, including yourself?
   Please specify number: _____

12. Does your household have any children in school (Kindergarten – 12th Grade)?
   a) Yes
   b) No

13. What gender do you identify as?
   a) Male
   b) Female
   c) Decline to state
   d) Other (please specify): _____

14. Do you identify as?
   a) White
   b) Hispanic/ Latino
   c) Black/ African American
   d) Asian / Pacific Islander
   e) Decline to state
   f) Other (please specify): _____

15. In what year were you born? (Please enter a four-digit number like 1980)
   Year of birth: _____

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16. Is there anything else you would like to share regarding internet access?

_____
_____
_____
_____
_____
_____
_____
_____

Thank you for all your help!

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ATTACHMENT A

Digital Literacy/Training Resources			
Contact Type	**Business Name**	**Phone**	**Address**
Training Center	Long Beach School for Adults	(562) 595-8893	3701 E Willow St Long Beach, CA 90815
Training Center	Centro C.H.A. Inc.	(562) 612-4180	727 Pine Ave Long Beach, CA 90813
Library	Main Library	(562) 570-7500	101 Pacific Ave. Long Beach, CA 90822
Library	Alamitos Branch Library	(562) 570-1037	1836 E. Third St. Long Beach, CA 90802
Library	Bach Branch Library	(562) 570-1038	4055 Bellflower Blvd Long Beach, CA 90808.
Library	Bay Shore Branch Library	(562) 570-1039	195 Bay Shore Ave. Long Beach, CA 90803
Library	Brewitt Branch Library	(562) 570-1040	4036 E. Anaheim St. Long Beach, CA 90804
Library	Burnett Branch Library	(562) 570-1041	560 E. Hill St. Long Beach, CA 9086
Library	Dana Branch Library	(562) 570-1042	3680 Atlantic Ave. Long Beach, CA 90807
Library	El Dorado Branch Library	(562) 570-3136	2900 Studebaker Rd. Long Beach, CA 90815
Library	Bret Harte Branch Library	(562) 570-1044	1595 W. Willow St. Long Beach, CA 90810
Library	Los Altos Branch Library	(562) 570-1045	5614 Britton Dr. Long Beach, CA 90815
Library	Mark Twain Branch Library	(562) 570-1046	1401 E. Anaheim St. Long Beach, CA 90813
Library	North Branch Library	(562) 570-1047	5571 Orange Ave. Long Beach, CA 90805

Source: www.everyoneon.org

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ATTACHMENT B

City of Long Beach
Working Together to Serve

Memorandum

Date: May 15, 2018

To: Patrick H. West, City Manager

From: Lea D. Eriksen, Interim Director Technology and Innovation

For: Mayor and Members of the City Council

Subject: **Status Update – Digital Inclusion Initiatives**

At its January 23, 2018 meeting, the City Council requested that the City Manager direct staff to implement the following Digital Inclusion projects:

1. Work closely with Technology and Innovation Department (TI), Innovation Team (i-team), Library Services, Office of Equity and community stakeholders to develop a Digital Inclusion Master Plan and report back in 120 days.
2. Establish Long Beach as an official affiliate of the National Digital Inclusion Alliance and recognize Digital Inclusion Week.
3. Collaborate with Technology and Innovation Department (TI) and community stakeholders on a Recycling Technology Infrastructure Plan and report back in 90 days.
4. Partner with Technology and Innovation Department (TI), the Innovation Team (i-team) and Economic Development Department (ED) on Long Beach's patents and report back in 90 days.

This memorandum provides an update of the City's Digitial Inclusion Initiatives.

DIGITAL INCLUSION MASTER PLANNING PROCESS

Technology and Infrastructure

In addition to actively promoting digital inclusion through various City plans, such as the Blueprint for Economic Development and the Fiber Master Plan, the City has also installed a variety of technology infrastructure in City facilities aimed at enabling individuals and groups to access and use information and communications technologies.

The installation of Wi-Fi infrastructure is an important step to achieving digital inclusion. Most Long Beach residents are within one mile of City-provided Wi-Fi. While the City does not provide broadband access for in-home use, the City does provide access to free Wi-Fi at all 12 branch libraries and 22 of the City's parks. In addition, Council District 9 funded the "UpLink" smart corridor project to expand public Wi-Fi access and security cameras along Atlantic Avenue, between Jordan High School and the Michelle Obama Neighborhood Library. Along the Atlantic Corridor, there are five new Wi-Fi access points, which can support up to 200 users connecting simultaneously for up to 60 minutes of Wi-Fi service. A map of City-provided Public Wi-Fi Access, locations, and range of access across Long Beach is provided (Attachment A).

Moving forward, staff will use a data-driven approach to identify strategic locations for future City-provided public Wi-Fi locations. New locations take into consideration construction projects, City initiatives, and regulations from the Wireless Ordinance recently approved by the City Council. Additional public Wi-Fi was one of the needs identified in the critical technology infrastructure needs presentation to the City Council on December 5, 2017.

The City also offers a total of 327 public access personal computers (PC) at the branch libraries (Attachment B). Over the past year, TI has upgraded all 12 branch libraries to an ultrafast one gigabyte broadband connection. This upgraded connectivity provides the public with high-performance access to information and technology resources that digitally empowers residents. All City libraries also offer computer and coding training classes, both in-person and online, in English and Spanish. Moreover, in 2017, Library Services (LS) sponsored the month-long "Maker Camp" program designed to engage kids ages 10 to 16 in design and technology-centered activities at the Main Library, Michelle Obama Library, and Mark Twain Library.

Digital Divide

City staff has begun to identify Long Beach communities impacted by the "Digital Divide" and will focus on neighborhoods that are high in density, concentrated with renters and low-income households. The City's Technology and Innovation Commission (TIC) has drafted a community-based survey that will be administered to residents to gain a deeper understanding of how residents are currently accessing the internet and the barriers faced to connect to Internet services. To reach residents, the survey will be in translated in multiple languages and distributed at libraries, community centers, and with community-based organizations. A cultural competency and equity lens is proposed to be used to administer the survey by identifying community-based organizations in the areas of immigration advocacy, job training, and economic development. Further, community outreach is planned to be conducted in the form of workshops and forums in conjunction with the TIC, as funding is identified.

TI staff will also contact local Internet service providers including, but not limited to, AT&T, Frontier, and Charter Communications to identify programs and resources that support moderate to low-income households. In addition to working with Internet service providers, TI staff plans to collaborate with the digital inclusion non-profit *Everyone On* to assist with this effort. A roundtable of these providers and partners is in the planning phase and is sponsored by Council District 1, in conjunction with other Digital Inclusion Week activities.

To enhance competitiveness for workers and small business owners in low-income areas, which tend to be areas with the greatest digital divide, the Economic Development Department (ED) launched Kiva, an innovative crowdfunding micro-lending platform. This initiative provides opportunities for small business owners in low-income areas to access zero percent interest loans with zero fees aimed at lowering the cost and increasing the access to business capital, including technology infrastructure and resources.

ED staff remains active in ongoing conversations with potential partners to launch educational courses for small business owners focused on using technology platforms to market their businesses. ED will continue to look for opportunities to partner on programming that will

educate business owners in low-income areas about technology solutions that may improve their business operations and/or sales.

NDIA AND DIGITAL INCLUSION WEEK

The City is now designated as a Digital Trailblazer by the National Digital Inclusion Association (NDIA) based on our Digital Inclusion initiatives. Additionally, TI staff worked with the i-Team, the Office of Equity, Council District 1, and the Mayor's Office to recognize Digital Inclusion Week in Long Beach May 7, 2018 through May 11, 2018. A Digital Inclusion Roundtable will be hosted following Digital Inclusion Week to include service providers and partners. Details regarding this Roundtable are currently being finalized.

RECYCLING TECHNOLOGY INFRASTRUCTURE PLAN

On February 13, 2018, the City Council approved the selection of Homeboy Recycling as the City's new e-waste vendor. Homeboy Recycling provides training and jobs for formerly incarcerated individuals. Included in this new contract is a revenue share where the City will receive 20 percent of gross sales less an administrative fee.

TI works with vendors to ensure that e-waste is disposed of in a manner that is compliant with federal, state, and local laws. In addition, TI requests that any potential City e-waste vendor be certified in a standard that promotes sustainable and responsible e-waste disposal practices such as R2, E-Stewards, or ISO 14001. The City's e-waste program includes the disposal of computers from the replacement program. In 2019, TI will be switching from a four-year to a five-year computer replacement cycle, which will result in cost savings to the City. Computer monitors are replaced when a monitor is no longer operable and/or when there is a business need to do so. Replaced operable monitors with usable life are repurposed within the City as a cost saving measure.

Computer donations in underserved neighborhoods will require collaboration from multiple departments. Legal guidance from the City Attorney will be required to ensure that proper legislation is approved by the City Council to allow donation of City-purchased assets directly from the City or through another entity like a non-profit organization. The goal is to have this process finalized prior to the disposal of any computers stemming from the move to the new Civic Center.

LOCAL PATENTS

ED is working to establish baseline patent information within all industries in the City by partnering with the CSULB Institute for Innovation and Entrepreneurship (IIE). ED's Entrepreneur Fellow has met with a local patent expert to learn more about the patenting process and get advice pertaining to patent research. The Fellow has also begun a review of reports focused on patent research to gain an understanding of the different research methodologies that are used in these types of reports. ED has also contracted with *mySidewalk* to help track, analyze, and communicate progress on Citywide patents.

The IIE delivered a presentation to the Economic Development Commission (EDC) in February 2017 to inform the Commissioners about their findings. The IIE has embraced the Blueprint for Economic Development and is committed to working with the City, the private sector, and the community on implementation. ED plans to continue to find ways to partner with the IIE on programs and projects that are mutually beneficial, such as patent workshops, entrepreneurial education programs, marketing business assistance resources to entrepreneurs, and connecting and augmenting the different resources in our local entrepreneurial ecosystem.

The IIE, in partnership with the CSULB College of Business Administration, coordinated a workshop on March 6, 2018 that focused on informing current and future business owners on patents, trademarks, and copyrights. Additionally, the IIE and the Downtown Long Beach Business Alliance (DLBA) have applied to the LA2050 Activation Challenge, which may result in a $200,000 grant focusing on developing a Sustainable Tech Intellectual Property Education Series. The Series will provide the tools and skills to develop and launch green technology businesses, file potential intellectual property, and scale qualified businesses. Twenty-five finalists will be selected and the public will select five winning proposals.

ED will continue to look for ways to support additional Digital Inclusion efforts by either providing letters of support for grant opportunities, attending events and seminars to show City support, making introductions to potential funding opportunities, and coordinating joint programs and events. Coordination and stakeholder management for this will require additional staff resources, time and funding.

DIGITAL INCLUSION INITIATIVES IN PROGRESS

The following is a list of tasks that City staff is exploring to expand its efforts in Digital Inclusion, as well as various challenges faced to compete these tasks:

- Provide more robust Digital Inclusion outreach efforts, including community roundtable discussion events and the distribution of the TIC community-based survey on multiple formats. This will involve additional resources, including funding and administrative support.

- Identify large and small business within the technology sector that can provide internships and retraining opportunities to students and unemployed adults via Pacific Gateway will benefit the initiative. This will involve additional staff resources to work with Pacific Gateway and the businesses.

- Identify existing additional non-City-owned locations that have free public Wi-Fi will provide a wide-reaching Digital Inclusion effort. Opportunities to students and unemployed adults via Pacific Gateway will benefit the initiative. This effort will involve additional staff resources to work with Pacific Gateway and the businesses.

- Explore the feasibility of rebranding the existing City-based public Wi-Fi networks to "LB Wi-Fi." This project would require TI staff to engage with multiple City departments and involves the modernization of outdated equipment/systems. A cost estimate is not currently available, but can be developed with additional staff resources.

- Conduct a needs assessment for the support and expansion of existing digital literacy programs for subpopulations. This will require additional staff resources.

- Engage Long Beach Unified School District (LBUSD), Long Beach City College (LBCC), and CSULB to identify digital literacy and computer access programs for youth, the unemployed and underemployed, older adults, and limited English speakers who are residing in communities impacted by the digital divide. This will require additional staff resources to engage these entities.

- Develop plans to improve access to high-speed internet to facilitate business development and job growth. Implementation of the fiber master plan requires significant resources. Phase One is in the planning phases, which will connect City facilities.

- Explore opportunities for partnerships with the private sector. This will require additional staff resources to explore these partnerships.

- Engage non-profit partners such as Human IT, Pacific Gateway, etc. to implement support with training, and wiping of refurbished computers is essential, but will also require additional funding and administrative resources.

- Engage intergenerational residents with learning activities such as using email, digital archiving of physical files, etc., which will require additional funding and administrative resources.

FISCAL IMPACT

Significant progress has been made in Digital Inclusion efforts Citywide. However, dedicated administrative resources are necessary to effectively carryout a robust Digital Inclusion Plan. An additional full-time equivalent (FTE) staff person would work collaboratively with other City departments, community partners, and service providers to accomplish the remaining tasks and would also serve as the coordinator of both digital and economic inclusion activities for the City going forward. The estimated cost for one FTE is $130,000. Additionally, a one-time budget of $50,000 is needed to conduct a robust outreach process for the digital inclusion activities and administration of the community-based survey.

Without the dedicated administrative resources described, progress on the City's Digital Inclusion efforts will take significantly longer and will need to be prioritized in conjunction with the City's other critical technology and economic development projects and initiatives.

If you have questions regarding this matter, please contact Lea Eriksen, Interim Director Technology and Innovation, at lea.eriksen@longbeach.gov or 562-570-6234, or John Keisler, Director of Economic Development, at john.keisler@longbeach.gov or 562-570-5282.

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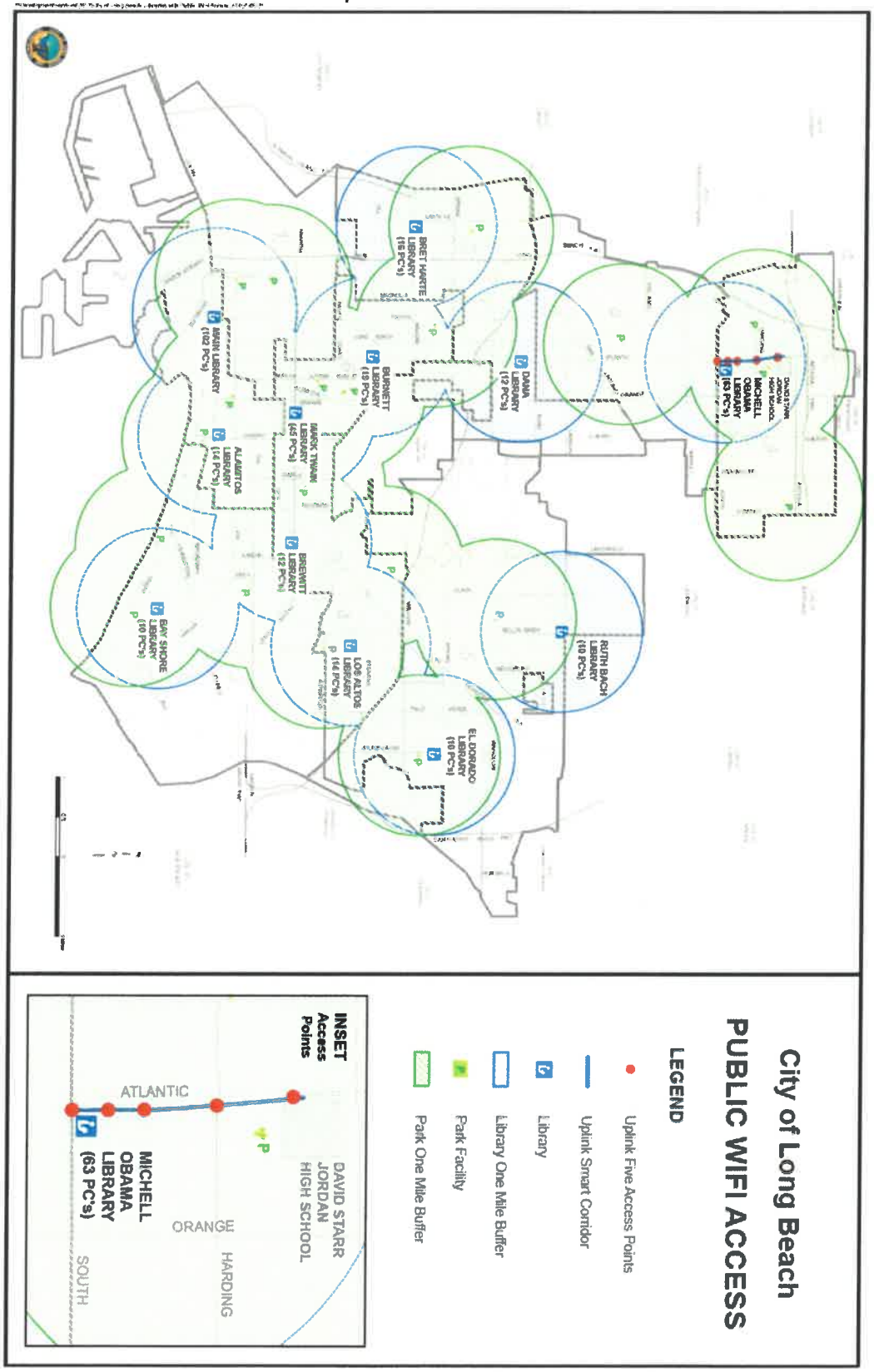
ATTACHMENTS:
Attachment A: Public Wi-Fi Access Map
Attachment B: Public Access PC in Long Beach Public Library System
Attachment C: Public Wi-Fi Access in Long Beach at Long Beach City Parks

CC: CHARLES PARKIN, CITY ATTORNEY
LAURA L. DOUD, CITY AUDITOR
TOM MODICA, ASSISTANT CITY MANAGER
KEVIN JACKSON, DEPUTY CITY MANAGER
REBECCA GARNER, ASSISTANT TO THE CITY MANAGER
MONIQUE DE LA GARZA, CITY CLERK (REF FILES #18-0060, #18-0061, #18-0062, #18-0063)

Attachment A: Public Wi-Fi Access Map



Attachment B: Public Access PC in Long Beach Public Library System

Library Name	Public Wi-Fi?	Public PC Count
Main Library	Yes	102
Alamitos Library	Yes	14
Bach Library	Yes	10
Bay Shore Library	Yes	10
Brewitt Library	Yes	12
Burnett Library	Yes	19
Dana Library	Yes	12
El Dorado Library	Yes	10
Harte Library	Yes	16
Los Altos Library	Yes	14
Mark Twain Library	Yes	45
Michelle Obama Library	Yes	63

Attachment C: Public Wi-Fi Access in Long Beach at Long Beach City Parks

Facility Name	Address
1. Belmont Pool	4000 E Olympic Plaza
2. Bixby Park	130 Cherry Avenue
3. Cesar E. Chavez Park	401 Golden Avenue
4. DeForest Park	6255 De Forest Avenue
5. Drake Park	951 Maine Avenue
6. El Dorado Park	2760 Studebaker Road
7. Houghton Park	6335 Myrthle Avenue
8. King Park	1910 Lemon Avenue
9. Leeway Sailing & Aquatics Center	5437 E. Ocean Boulevard
10. Long Beach Senior Citizens Center	1150 E. 4th Street
11. McAurthur Park	1321 Anaheim Avenue
12. McBride Park	1550 Martin Luther King Jr. Avenue
13. Orizaba Park	1435 Orizaba Avenue
14. Ramona Park	3301 E. 65th Street
15. Recreation Park Community Center	4900 E. 7th Street
16. Scherer Park	4600 Long Beach Boulevard
17. Silverado Park	1545 West 31st Street
18. Silverado Pool	1545 West 31st Street
19. Stearns Champions Park	4520 E. 23rd Street
20. Veterans Memorial Park	101 East 28th Street
21. Wardlow Park	3457 Stanbridge Avenue
22. Whaley Park	5620 Atherton Street

ATTACHMENT C

Community Centers with Free Public Wi-Fi Social Graphic

Long Beach City
Published by Anabell Romero-Chávez [?] · October 16 at 6:00 PM ·

Through Long Beach Parks, Recreation & Marine you can access free public Wi-Fi at any of the 23 community centers!

Find a complete list here http://www.longbeach.gov/park/park-and-facilities/directory/ #LBDigitalInclusion #IDIW2018

Get More Likes, Comments and Shares
Boost this post for $10 to reach up to 5,200 people.

2,127	48	
People Reached	Engagements	Boost Post

Johnny Vallejo, Lea Eriksen and 5 others — 5 Shares

Like · Comment · Share

Performance for Your Post

2,127 People Reached

15 Reactions, Comments & Shares

8 Like	5 On Post	3 On Shares
2 Love	2 On Post	0 On Shares
0 Comments	0 On Post	0 On Shares
5 Shares	5 On Post	0 On Shares

33 Post Clicks

9 Photo Views	4 Link Clicks	20 Other Clicks

NEGATIVE FEEDBACK

1 Hide Post	1 Hide All Posts
0 Report as Spam	0 Unlike Page

Reported stats may be delayed from what appears on posts

ATTACHMENT D

Facebook Public Wi-Fi Contest Social Graphic

Post Details

Long Beach City
Published by Anabell Romero-Chávez [?] · October 15 at 3:00 PM ·

Enter to win a $50 gift card!! 💸

In the comments below tag a location that offers free wifi 📶 that you regularly go to, to work 👩‍💼, study 👩‍🎓, or just explore the web 📱.

This will help the City identify other places in Long Beach that offer free Wi-Fi. But we need your help to locate them!... See More

Get More Likes, Comments and Shares
Boost this post for $10 to reach up to 5,200 people.

1,709	243	Boost Post
People Reached	Engagements	

Lea Eriksen, Lili Arroyo and 10 others — 23 Comments 11 Shares

Like · Comment · Share

Performance for Your Post

1,709 People Reached

65 Reactions, Comments & Shares

18 Like	11 On Post	7 On Shares
1 Love	1 On Post	0 On Shares
35 Comments	24 On Post	11 On Shares
11 Shares	11 On Post	0 On Shares

178 Post Clicks

37 Photo Views	0 Link Clicks	141 Other Clicks

NEGATIVE FEEDBACK

0 Hide Post	0 Hide All Posts
0 Report as Spam	0 Unlike Page

Reported stats may be delayed from what appears on posts

ATTACHMENT E

Public Wi-Fi Contest Locations

Location	Type of Location
Amora di Roma	Dessert shop
Bay Shore Neighborhood Library	Library
Beachwood BBQ and Brewing	Restaurant
Berlin Bistro	Coffee shop
Bixby Joe Coffee and Tea	Coffee shop
Bobbie Smith YMCA Community School	Non-profit organization
Burnett Neighborhood Library	Library
Cafe 1909	Coffee shop
Café Cabinet	Coffee shop
Caffe Bene	Coffee shop
California State University, Long Beach	College/University
CHA FOR TEA	Coffee shop
Coldstone Creamery	Ice-cream shop
Community Development YMCA of Greater Long Beach	Non-profit organization
Confidential Coffee	Coffee shop
Cuppa Cuppa	Coffee shop
Dana Branch Library	Library
Governor George Deukmejian Courthouse	Courthouse
Hilton Long Beach	Hotel
Hot Java	Coffee shop
Jack in the Box	Restaurant
Kohls	Clothing store
LA Fitness-Long Beach/Bellflower	Gym
LBUSD schools	K-12 schools
Linden Public	Coffee shop
Long Beach Airport	Airport
Long Beach City College	College/University
Long Beach Parks	City property
Long Beach Police Department	City property
Long Beach Public Main Library	Library
Los Altos Branch Library	Library
Mark Twain Neighborhood Library	Library
McDonald's	Restaurant
Michelle Obama Neighborhood Library	Library
Panera	Bakery
Portfolio Coffeehouse LLC	Coffee shop
Recreational Coffee	Coffee shop
Ruby Launderland	Laundromat
Ruth Bach Neighborhood Library	Library
Saints and Sinners Bakeshop	Bakery
Starbucks	Coffee shop
Steelcraft	Restaurant
Steelhead Coffee	Coffee shop
The Library A Coffee House	Coffee shop
The Merchant	Coffee shop
The Smith Family Center	Non-profit organization
The Village Grind	Coffee shop
Tierra Mia Coffee	Coffee shop

ATTACHMENT F

Digital Inclusion Flyer

CITY OF
LONG BEACH
Digital Inclusion

The City of Long Beach is striving for digital inclusion to ensure that everyone in Long Beach has equitable access to digital services, resources and tools.

Did You Know?

The Long Beach Public Library provides free in-person English and Spanish computer literacy classes.

There are **23** Long Beach community centers where free public Wi-Fi is provided.

12 Long Beach libraries have been upgraded to an ultrafast 1 gigabyte broadband connection.

Many internet service providers (ISPs) in Long Beach provide low-cost internet services for qualifying households.

The Long Beach Public Library has **261** public access PCs within the public library system.

The City will be co-creating a Digital Inclusion Roadmap with community members and local stakeholders. Some of the focus areas of the Roadmap will include computer literacy classes, low-cost internet services, low-cost devices and more!

For more information regarding the City's Digital Inclusion efforts, please contact: **digitalinclusion@longbeach.gov** or visit our website at **http://www.longbeach.gov/ti/digital-inclusion.**