



Memorandum

TO: NEIGHBORHOOD SERVICES AND EDUCATION COMMITTEE **FROM:** Jill Bourne

SUBJECT: Digital Equity Assessment Status Report

DATE: January 27, 2025

Approved

Date:

2/6/2025

RECOMMENDATION

Accept the status report on the digital divide in San José, an assessment of current broadband and digital equity gaps, and an update to the City's existing Broadband and Digital Inclusion Strategy.

BACKGROUND

The City's digital inclusion journey began after the realization in 2016 that San José lagged peer cities in creating and enabling an environment for all residents to benefit from the opportunities of the modern digital economy. The City conducted a market and community assessment to better understand the digital divide in San José, which was completed in 2017 and identified the following findings:

- Approximately 95,000 San José residents were “unconnected” with no internet access or device at home.
 - Affordability: More than 50% of survey respondents cited affordability of internet plans and devices as the predominant reasons for not accessing the internet at home.
 - Safety and Fear: Beyond inadequate infrastructure and cost, 20% of families stated that they were choosing not to adopt the internet because they were fearful of harms present on the internet, such as fraud and scams, cyberbullying, and general insecurity from not understanding how to use the technology.
 - Infrastructure: In 2017, San José significantly lagged peer cities in home and mobile internet speeds and the deployment of technologies that could provide reliable high-speed broadband.

Informed by the assessment findings, the City Council approved the City's Digital Inclusion and Broadband Strategy on November 13, 2017. The strategy adopted a hybrid approach to broadband deployment, prioritizing public-private partnerships that

stimulate and accelerate private investments, and an intentional focus on delivering digital inclusion and equity programs to close the digital divide. The City Council opted not to pursue the creation of a municipal internet service program. This decision was based on the substantial and ongoing costs, as well as the risks, associated with building and managing telecommunications infrastructure and services.

In 2018, the City Council approved public-private partnership agreements with AT&T, Verizon, and Mobilitie (on behalf of Sprint, now merged with T-Mobile) for small cell installations on City-owned streetlights. Based on the shared goal to expedite deployment of technology that expands access to modern and reliable connectivity using both wired and wireless networks, these public private partnership agreements established batch discount lease rates for streetlight attachments and established a timeline for City permit review. In 2019, the City Council approved a public-private partnership with T-Mobile to expedite citywide macro site deployment. The partnership concluded on December 1, 2022, with 188 sites permitted and average permit review time improved from several months to within two weeks. A summary of small cell permitting performance is available in Attachment A.

The City Council further directed the City Manager to establish a “Digital Inclusion Fund” (DIF) within the General Fund to fund City programs and initiatives aimed at closing the digital divide in San José. The DIF is supported by the lease revenue from telecommunications installations on City streetlights, as well as donations from corporations and philanthropic organizations. Leveraging the DIF, the Administration developed the Digital Inclusion Grant Program to fund community-based organizations’ digital adoption programs which focus on supporting vulnerable populations, such as low-income youth, the elderly, or disabled. The first distribution of grants to community-based organizations was approved by the City Council on February 25, 2020. A summary of grant program outcomes is available in Attachment B.

In response to the COVID-19 pandemic, associated stay-at-home orders and the drastic shifts to remote work and distance learning, the City activated the Digital Inclusion Branch in the Emergency Operations Center. The Digital Inclusion Branch, led by the Library and staffed by representatives from Information Technology, Public Works, and the City Manager’s Office, developed the Digital Inclusion Expenditure Plan which was approved by the City Council in June 2020. The Expenditure Plan identified strategic investments and partnerships to fund 15,800 hotspots for student and community use, the expansion of City-funded outdoor Wi-Fi networks at select community centers, libraries, and parks facilities, and leveraged federal funding to rapidly expand the existing Community Wi-Fi program in partnership with East Side Union High School District from three networks to eight by 2023. The distribution of these key investments was guided by the Digital Inclusion Priority Index, which uses census data to determine where there are high concentrations of need for connectivity and devices.

Changes in technology, specifically a shift away from streetlight attachments to monopole and building installations by telecommunications providers, have resulted in

lower revenues to the DIF. On February 15, 2022, the City Council approved staff's recommendation to complete an assessment of the Digital Inclusion Grant Program to define the City's "next phase" for achieving its digital inclusion goals and to preserve the financial health of the Digital Inclusion Fund, due to declining revenue. In April 2023, the City Council approved staff's recommendation to transition the grant program to be managed by the Library Department, with the San José Public Library Foundation serving as the fiscal agent. This change was made to reduce costs to the Digital Inclusion Fund and further align staff efforts in digital inclusion programming.

To further bolster the DIF, the City Council approved staff's recommendation on June 13, 2023, to transfer ten percent of the lease revenue from new macro site lease agreements with telecommunications providers for macro cell and tower installations on City-owned buildings and land to the Digital Inclusion Fund.

To streamline and centralize the City's strategic approach to digital equity, staff positions that were previously organized in the Information Technology department were moved to the Library Department in June 2024. The Broadband Manager and a Broadband Permit Analyst are now organized into the Library's Digital Empowerment and Public Technology division. The Digital Empowerment and Public Technology division includes the Digital Equity & Empowerment programming unit, Data and Analytics, Library Information and Technology, and now includes the Citywide Broadband Partnerships unit.

Status reports and program updates have been approved by the City Council at various times from 2022 through 2024, including through the Education and Digital Literacy Annual Report. This work is aligned with and supports the citywide Children and Youth Services Master Plan (Master Plan), with intentional focus on providing direct support and safety net connectivity services in the Mayfair and Poco Way demonstration areas. Improving digital empowerment in communities with the greatest barriers to information and technology access directly advances the work of the Master Plan. This is the first comprehensive assessment of the citywide strategy that has been conducted and presented since the original 2017 Digital Inclusion and Broadband Strategy was approved by the City Council.

ANALYSIS

Digital Equity Assessment

The assessment was conducted in collaboration with Guidehouse, Inc., the consulting partnership that supported the development of the City's original 2017 Broadband and Digital Inclusion Strategy. The assessment was produced with data from the Federal Communications Commission (FCC), American Community Survey, Ookla Speedtest data, other publicly available and reputable datasets, as well as information from local programs and direct feedback from residents and community partners. While the

assessment draft is still being finalized, the key findings regarding the current state are summarized below.

Access:

- Internet Adoption: In 2017, 15% of households in San José lacked reliable home internet access. By 2023, the percentage decreased to 12%. Affordability is the primary driver of this gap, disproportionately affecting those with lower levels of income and educational attainment, seniors, and Black and Hispanic/Latino residents.
- Choice in Service Providers: In 2017, about 90% of San José could receive service from only 1 or 2 providers. In 2024, the percentage decreased to 68%, with 32% of San José having a choice of three or more providers.
- Lack of Infrastructure: Mobile homes and multifamily housing are most impacted by inadequate broadband infrastructure and limited options for service providers.
- Fiber: In 2017, 1% of San José had access to fiber internet service. By 2024, the percentage increased to 37%, providing access to future-ready broadband with the capability to offer Gigabit speeds and beyond. However, San José lags the national level of 56% fiber availability.
- Cable: In 2017, most census blocks in San José had access to cable that met the basic speed of 25 Mbps download and 3 Mbps upload (25/3 Mbps). In 2024, cable availability is 99% at the basic speed of 100/20 Mbps, with Gigabit and higher download speeds available as well, through DOCSIS 4.0 upgrades currently being deployed, but upload speeds are limited compared to fiber.
- DSL: In 2017, most census blocks in San José had access to DSL that met the basic speed of 25/3 Mbps. In 2024, DSL is being phased out because it can no longer meet modern internet speed requirements. Currently, only 10% of DSL connections achieve the basic speed benchmark of 100/20 Mbps.
- Home Wireless: In 2017, fixed wireless access was only available for business internet service in San José. In 2024, 52% of San José has access to fixed wireless access internet service, including home internet, at 100/20 Mbps.
- Mobile Wireless: Mobile 5G service covers 91% of San José, meeting the FCC's minimum speed of 35/3 Mbps for outdoor mobile service. However, service quality can vary due to signal strength, network congestion, environment, and provider-specific operations. While coverage has improved since 2017, it remains limited in the southern foothills of Districts 2 and 10.
- Speed Performance: Internet speeds in San José have improved since 2017 but continue to lag peer cities in the U.S. based on home internet and mobile service speeds. According to 2024 Ookla Speedtest data, San José ranks 37th for median home internet download speeds (264 Mbps) and 55th for upload speeds (35 Mbps) among the 100 major U.S. cities. Mobile speeds similarly lag, ranking 89th at 132 Mbps download and 73rd at 11.5 Mbps upload. Latency ranks 30th for home and 23rd for mobile networks, highlighting room for improvement.

Affordability:

- Internet Service Cost: Despite growth in below market rate internet plans, cost remains a significant barrier to internet adoption, with many low-income families unable to afford the national average \$68/month¹ internet bill.
- Free Outdoor Wi-Fi: Community Wi-Fi provided in partnership with East Side Union High School District is now fully constructed, serving over 200,000 users with 76,800 unduplicated unique devices per month, but is not scalable beyond its current deployment due to sustainability challenges from limited upgradability and the cost of ongoing operation and maintenance.
- Free Hotspot and Connected Device Lending: Provided as an emergency program supported through temporary Covid-19 funding sources between 2020 and 2024, over 15,700 hotspots and 1,500 laptops with mobile internet service were available for lending through libraries for student and community use, with an overall 98% checkout rate over the duration of the program. Due to the high cost of monthly mobile internet service as well as the lifecycle replacement, maintenance, and management of devices, the program was retired in August 2024 when emergency funding was exhausted. The Library lending program continues to offer 1,900 laptops and Chromebooks, with an overall checkout rate of 98%, that can connect to the internet through public or private Wi-Fi.
- Device Cost: 5% of San José households rely exclusively on a smartphone without access to any other type of device, a 2% increase compared to 2017. The highly variable cost and capabilities of computers, laptops, tablets, and smartphones continues to be a key factor impacting full participation in the digital economy as well as lack of skill using the devices, related software and the internet, particularly for seniors and those with lower levels of income and educational attainment.

Digital Skills:

- Digital Skill Building Pathways: Launched in April 2023, the San José Public Library's (SJPL) Digital Skill Building Pathways have supported over 700 participants through in-person programming and reached over 13,900 participants via the online platform, offering courses in multiple languages. Comprised of seven inclusive pathways—Digital Skills, Tech for Fun, Career, Education, Health/Telehealth, Online Forms and Applications, and Finances—that empower community members to develop essential digital competencies for civic engagement, employment, accessing services, and lifelong learning. Covering foundational to intermediate skills, the pathways include topics like internet safety, job applications, social media, and artificial intelligence (AI).
- Continuous Digital Skill Curriculum Enhancements: Through ongoing curriculum enhancements, such as adding AI 101 and 102 lessons in July 2024 which have supported over 500 participants, SJPL regularly updates digital skill programming

¹ Hayes, Joseph, et. al. "Achieving Universal Broadband in California.", March 2023. Public Policy Institute of California. Accessed at [Achieving Universal Broadband in California - Public Policy Institute of California \(ppic.org\)](https://ppic.org/publications/achieving-universal-broadband-in-california/)

and lesson offerings to best equip learners with relevant and timely tools to navigate emerging technologies and evolving safety and ethical considerations.

- Digital Literacy Program Quality Standards (DLPQS): Developed by the Library and adopted by City Council in 2020, the DLPQS establish evidence-based quality standards which ensure that all residents receive high quality programs and services offered by the City and its partners. It includes eight program quality areas, emphasizing technology access, privacy and security, and safe, supportive learning environments, while adhering to the City's privacy principles.
- Digital Inclusion Grant Program: Launched in 2020 with funding from small cell lease revenue, the program has distributed approximately \$4 million to community-based organizations and schools, providing 4,000 students with devices for remote learning and benefiting more than 13,000 residents through digital skill-building and support with gaining affordable internet and devices.
- Federal Subsidies: In February 2021, the FCC launched a temporary \$50/month internet subsidy program called the Emergency Broadband Benefit (EBB). The EBB also provided a one-time device discount of up to \$100. The EBB transitioned to the Affordable Connectivity Program (ACP) on December 31, 2021, intended as a long-term successor program continuing the one-time device discount and a \$30/month internet discount. Due to a lack of renewed funding by Congress, the ACP ended on June 1, 2024, when all funds were expended.
- Impact of ACP Termination: At its conclusion, about 39,900 households in San José were enrolled in the ACP, covering approximately 63% of the estimated 62,900 total eligible San José households. Together, the ACP discount saved enrolled households an estimated \$1,197,000 a month on internet service. Through engagement with ACP enrollees, staff estimates that approximately 16% of those enrolled chose to cancel their internet service when the ACP subsidy ended, with most citing affordability of comparable plans as the reason for cancellation.

Broadband Market Shifts and Digital Inclusion Fund Impacts

Current broadband market trends indicate a broad slowdown in small cell deployments nationally as mobile network providers focus on macro site installations, which support both mobile and home wireless services.

The deployment of small cells began to decline in 2020 and has since retracted rather than return to growth. At the peak, more than 2,000 streetlights were leased by the telecommunications companies for small cell installations. As of January 2025, the number of leases has decreased to 1,800 and by 2028 the deployment will not achieve the 4,000 small cell leases that was integral to the small cell public-private partnerships.

The reduced deployment of small cells has resulted in a 50% revenue deficit for the Digital Inclusion Fund compared to the initial 2018 projection, with estimated 10-year revenue at approximately \$10 million instead of \$20 million. The shortfall means the small cell revenue alone is insufficient to sustain the City's digital equity efforts, including the Digital Inclusion Grant Program and the City staff overseeing citywide

broadband and digital equity programs. Strategies to address the deficit include: seeking new and renewed public-private partnerships realigned to current City, community, and internet provider needs; seeking applicable state and federal grant funding; San José Public Library Foundation fundraising for the Digital Inclusion Grant Program; and considering other cost recovery methods.

SJ Access – New Digital Empowerment Programs

Digital Inclusion Grant Program (Grant Program) – Tech Hubs: In 2024, the Grant Program was restructured to focus on creating “Tech Hubs” — community-centered spaces within multi-service centers operated by community-based organizations in low-income areas. With initial rollout from September 2024 to August 2025, these hubs will operate at least 20 hours per week (1,040 hours annually) and are projected to serve approximately 3,000 residents per year, providing free internet access, devices, culturally tailored digital navigation support, and skill-building classes to help residents achieve long-term success in education, employment, health, and civic engagement.

Key services at the Tech Hubs include but are not limited to:

- Computer labs with set hours of operation for public access
- Staff onsite to answer questions and provide one-on-one tech support
- Assistance with internet plan selection and sign-up as well as obtaining devices
- Individual needs assessments to align support with the actual needs of person
- Implement SJPL's Digital Skill Building Pathways curriculum
- Community outreach and promotion of Tech Hub services
- Gather and report community input and program performance data

Resilience Corps Information Technology & Computer Science Pathway: The Resilience Corps program at SJPL offers unemployed and underemployed young adults living-wage part-time employment and work experience opportunities. The Information Technology & Computer Science (IT/CS) Pathway launched in January 2025 with four Resilience Corps Associates and is currently funded for one year through grants from Apple Inc. and PriceWaterhouseCoopers. Future years are expected to be funded by grants in partnership with the San José Public Library Foundation.

Participants in the IT/CS Pathway receive on-the-job technical skills training in coding and library IT functions, serve as digital navigators at City grant funded Tech Hubs, and are supported with achieving industry-recognized certifications. By combining meaningful work opportunities with community impact, the program empowers participants to grow personally and professionally while helping to close the Digital Divide in San José and offering a stepping-stone into the technology industry.

Federal Digital Equity Competitive Grant: On January 17, 2025, the National Telecommunications and Information Administration (NTIA) released award

recommendations for the Digital Equity Competitive Grant Program, which is funded through the Digital Equity Act (Digital Equity Act Grant). The recommended awards include \$11.6 million to expand SJPL's Digital Skill Building Pathways and the Tech Hub model—currently implemented through the Digital Inclusion Grant Program in San José—into Santa Clara and San Mateo Counties. This regional expansion will be carried out in partnership with Joint Venture Silicon Valley, which will oversee grant administration. The award is contingent on NTIA's formal approval which may be delayed or otherwise impacted by the presidential administration change.

Subject to City Council approval, the Digital Equity Act Grant will allow SJPL to:

- Lead County-wide coordination and oversee the implementation of \$8.7 million dollars to expand and enhance the City's proven digital equity model at eight community-based organizations that will operate sixteen Tech Hubs—fifteen in San José and one serving SCC.
- Directly receive a subgrant of \$700,000 to fund a Library staff position for four years to develop additional digital skills curricula for City, community-based organizations, and public use.
- Fund eleven Resilience Corps IT/CS Pathway participants over four years.

In San Mateo County (SMC), \$1.5 million of the NTIA grant will serve 7,250 people by funding seven Tech Hubs operated by four CBOs, one SMC match-funded Tech Hub, and an on-demand Digital Navigator program. Finally, \$1.4 million is allocated to Joint Venture Silicon Valley for grant administration and management.

Future State

Renewal of the City's Broadband and Digital Inclusion Strategy

The concluding step of the assessment is to renew the City's Broadband and Digital Inclusion Strategy.

This Strategy ensures that the City is prepared to adapt to rapid technological change while fostering an inclusive digital environment where all residents can thrive.

Technology coupled with the internet is reshaping the world's economic and social landscape, bringing both new opportunities and challenges at local, national, and global levels. As technology advances, it drives the rapid emergence of innovations such as next-generation wireless networks (5G, 6G, and beyond), Artificial Intelligence (AI), machine learning, digital currencies like cryptocurrency, digital twins (virtual models of physical assets), and immersive virtual spaces like the Metaverse. Over the coming decades, this technological evolution is expected to accelerate further, transforming human experience in ways yet to be imagined.

These advancements will deeply influence how residents' access and interact with education, healthcare, transportation, construction, goods and manufacturing, food and agriculture, and everyday services—including retail, banking, and government.

While still in draft form, a high-level summary of the key goals and objectives is included in Attachment C for input and feedback.

The updated strategy will be presented to the City Council in Spring 2025.

COORDINATION

This memorandum was coordinated with the City Attorney's Office and City Manager's Budget Office.

/s/
Jill Bourne
City Librarian

For questions, please contact Abigail Shull, Acting Division Manager for Digital Empowerment and Public Technology, at Abigail.Shull@sjlibrary.org.