



Digital Equity & Public Technology Program Overview and Update



2022-2023 Workplan



8,031 Hotspots in Use



2,225 Chromebooks & iPads in circulation to residents

~95%

Hotspots in circulation to residents



**Community Wi-Fi
5 attendance areas operational (160k);
1 in construction (16.8k);
2 in pre-construction**



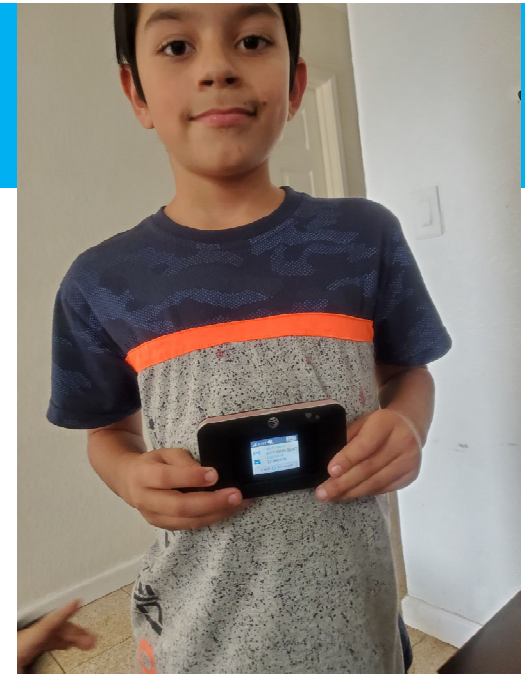
**SJ311 Service Add
-
Outreach Campaign**



Updated Needs Assessment & Evaluation



Hotspots & Devices











Device	Quantity	Check-Out Rate	Funding Source
Hotspot - Unfiltered	4,090	99%	American Rescue Plan
Hotspot – Filtered	3,941	77%	Emergency Connectivity Fund
Wi-Fi Chromebook – Unfiltered	600	80%	General Fund (2021 purchases)
LTE Chromebook – Filtered	1,500	45%	Emergency Connectivity Fund
Wi-Fi iPads	120	100%	Grant Funded
Laptop Kits	35	100%	Grant Funded

8,031 filtered and unfiltered hotspots, and 2,255 computing devices available at Library branches





SJ Access Community Wi-Fi Buildout schedule

ESUHSD Attendance Area	Procurement	Planning and Design	Construction Start	Open for Public Use
James Lick				★
Overfelt				★
Yerba Buena				★
Independence				★
Andrew P. Hill				★
Oak Grove				Dec. 2022
Mt. Pleasant				March 2023
Silver Creek				April 2023

SJ Access – Community Wi-Fi

Network Name: SJ Access Free Wi-Fi
 Currently Serving: ~ 176,800 residents

James Lick	200 APs	} 40,000 Households ~ 160,000 residents
Overfelt	200 Aps	
Yerba Buena	200 APs	
Independence	340 APs	
Andrew P Hill	200 APs	
Oak Grove	243 APs	- 4,200 Households
Mt Pleasant	200 APs	~ 16,800 residents
Silver Creek	200 APs	

Current speed: up to 20 Mbps.

Currently scoping infrastructure changes to increase speeds to 100/100 Mbps, Citywide.





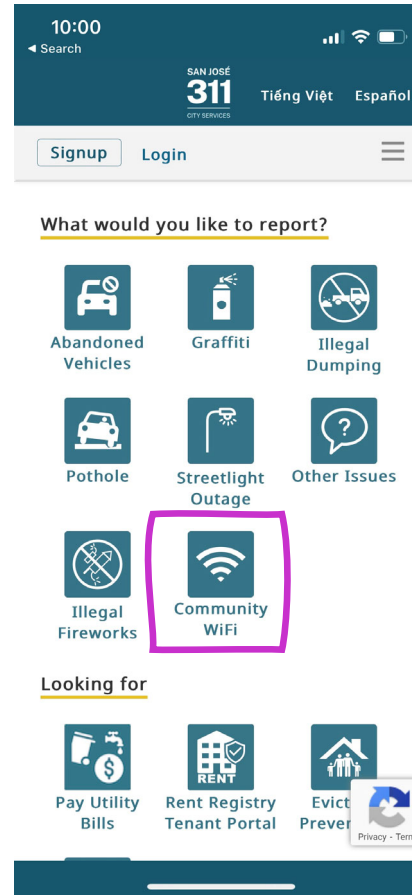
SJ Access – Outreach & Engagement

Connect to **FREE Community Wi-Fi** in your Neighborhood

Conéctate a Internet con **Wi-Fi Comunitario Gratuito** en tu Vecindario

Kết nối Internet với **Mạng Wi-Fi Cộng Đồng Miễn Phí** trong khu phố của quý vị.

Network Name: **SJ Access Free Wi-Fi**



Quick Links

- Get a Library Card
- Equity & Inclusion: You Belong
- Library-by-Mail
- Hotspots, Chromebooks, iPads, & Laptops
- eBooks & eMedia
- Online Learning
- For Children
- Ask for Help



Future Actions: Spring 2023

- Continue and finalize the Digital Equity and Broadband Strategy Assessment and Report
- 2023-2023 Budget Proposal to continue SJ Access
- Consideration of Federal and State Grants
 - California Public Utilities Commission
 - Local Agency Technical Assistance Grant (Infrastructure Design/Planning)
 - Broadband Equity, Access, and Deployment (Infrastructure)
 - Federal Communications Commission
 - Outreach and Enrollment:
 - Affordable Connectivity Program: National Competitive Outreach Grant Pilot Program
 - Affordable Connectivity Program: Your Home, Your Internet Grant Pilot Program
 - Devices & Service:
 - Emergency Connectivity Fund



SJ Access



Community Use

Connectivity Activities

Distance learning	68.7%
Remote work	41%
Socializing w/family, friends	30%
Telehealth	25%
Virtual public programs and services	24.75%
Job search	23.8%
Other	5.8%

Broadband Internet Access

Hotspot borrowers without broadband subscriptions	46.4%
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Zip Codes

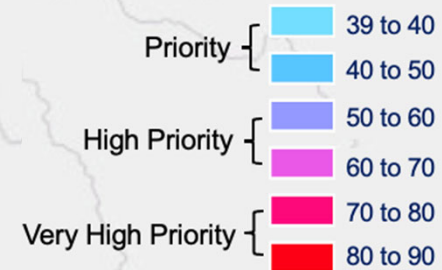
95127	6.85%
95148	6.58%
95121	6.04%
95111	5.95%
95116	5.72%
95122	5.68%
95132	5.09%
95112	4.64%
95133	4.55%
95129	3.83%
95123	3.79%

Centering Equity

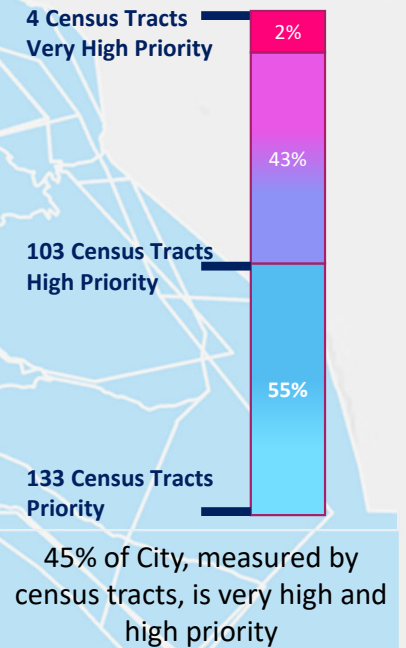
Priority Index is a ranking from 0 to 100 indicating the relative need within a census tract for digital access based on several criteria, including:

- K-12 enrollment
- Poverty rate
- Households with no computer
- Households with no Internet access
- Population in households with limited English proficiency
- Shared opportunities or other programs in the area

A higher index value indicates a greater need or higher priority.



Citywide Priority Breakdown





Digital Equity | Funding & Opportunities

2020-2021 Funding

City Funding: \$8,787,381
CDBG: \$2,000,000

Total: \$10,787,381

2021-2022 Funding

City Funding: \$4,820,000
Add'l ARPA: \$1,500,000
CDBG: \$1,700,000
ECF Award: \$3,600,000

Total: \$8,020,000

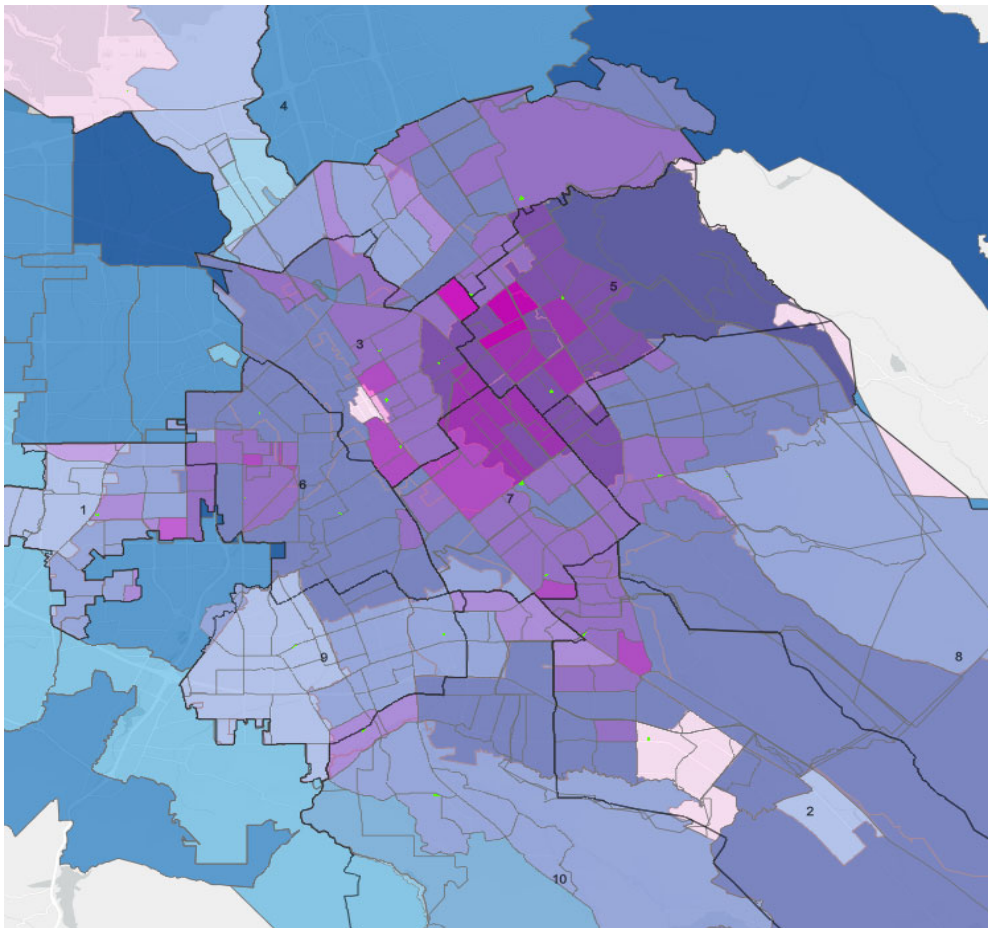
2022-2023 Funding Request

City Funding: \$2,200,000
State Earmark: \$1,500,000
Future ECF: \$2,200,000

Total: +\$5,900,000



Distributing Devices through SJPL



Branches that received larger allocations of devices based on Digital Equity Need and COVID impact:

- Alum Rock
- Bascom
- Biblioteca Latinoamericana
- East Branch
- Edenvale
- Educational Park
- Evergreen
- Hillview
- Joyce Ellington
- Mt. Pleasant
- Seven Trees
- Tully

Image: Map of San Jose showing Digital Inclusion Index (pink hues) with COVID-19 Infection rates (blue). Areas with highest impact/need are shown in brightest shades of magenta. Library branches are shown in lime green.

Partners



Memorandum

TO: LIBRARY & EDUCATION
COMMISSION

FROM: Jill Bourne
Director

**SUBJECT: DIGITAL EQUITY & PUBLIC
TECHNOLOGY STATUS REPORT**

DATE: November 9, 2022

Approved

Date

RECOMMENDATION

Accept the status report on citywide Digital Equity and Public Technology efforts.

OUTCOME

The Library and Education Commission (Commission) will be aware of and provide feedback on the current implementation of the Digital Equity program, including internet access to children and neighborhoods, significant partnerships, project and funding updates, communications and outreach, key metrics, opportunities, and management approach. The digital literacy aspect of the Digital Equity program is discussed at length in the Education and Digital Literacy Annual Report, which was heard by the Commission at the October 19, 2022, meeting.

BACKGROUND

The San José Public Library (Library, SJPL) has led the Citywide Digital Equity priority since April 2020 when the City activated the Digital Inclusion Branch of the Emergency Operations Center. On June 23, 2020, the City Council approved the Digital Inclusion Expenditure Plan, which outlined the use of various funding streams to support 1) the purchase of hotspots for students and residents, 2) the rapid development of outdoor wi-fi networks at civic buildings, and 3) the expedited buildout of five additional community wi-fi networks in East Side Union High School District (ESUHSD) attendance areas. The Council took separate actions to authorize contracts associated with these projects throughout the 2020-2021 fiscal year. The Council also approved funding in the Adopted 2021-2022 Operating Budget and the Adopted 2022-2023 Operating Budget for the continuation of these activities.

In April 2021, the Digital Inclusion Branch transitioned to the Digital Equity Team implementing an ongoing priority on the City Roadmap. The Digital Equity Team is led by the Library and includes membership from the Parks, Recreation, and Neighborhood Services

(PRNS), Public Works, Information Technology Department, Department of Transportation, and the City Manager's Office.

To coordinate and organize the work in a manner that would be easily relatable and accessible to the public, SJ Access was developed as the all-encompassing brand for the Digital Equity initiatives. The City Roadmap item, "Education, Digital Equity, and Digital Literacy" includes the implementation and evaluation of programs within SJ Access: Device Lending, Community Wi-Fi Project management and implementation, wi-fi expansion and maintenance at civic buildings, digital literacy trainings, and implementation of the Digital Inclusion Fund grant program. The Information Technology Department and Department of Transportation provide ongoing strategic support to connectivity efforts through the maintenance of the City's fiber network and public right of way, which Community Wi-Fi relies upon. The Small Cell Public Private Partnership program is not part of SJ Access/Digital Equity Roadmap item but is relevant and critical to advancing outcomes in Digital Equity. Additional reporting on the Small Cell program and maintenance of technology assets is reported through the Smart Cities and Service Improvements Committee.

ANALYSIS

2022 Equity Index

The Digital Equity Team's work to date has been centered in equity by using American Community Survey data to understand where the greatest barriers to access may be for those residents who are most vulnerable and in need of a connectivity solution. Initially, from 2020 through 2021, the communities most heavily prioritized in the 2020 Equity Index were K-12 students, households in poverty, those without access to the internet or a computer at home, those who spoke English less than very well, and zip codes most impacted by COVID-19. Recognizing the shift away from distance learning, the 2022 Equity Index shifts focus from being primarily student-centered to all underserved communities. Specifically, the Index considers higher poverty rates and households less likely to have internet access. The census tracts with the highest index scores were found in City Council Districts 3 and 5. The Council Districts with the largest number of higher index scoring census tracts are in Council Districts 3, 5, and 7.

Hotspots: Lending of 8,031 filtered and unfiltered hotspots, and 2,255 computing devices through San José Public Library branches

The Library's 25 locations continue to serve as the neighborhood-based distribution point for lending high speed AT&T hotspots with unlimited data plans and computing devices to residents. Through the 2021-2022 school year, hotspots were lent to students through their school locations. In June and July 2022, the Library received all remaining hotspots from school locations and redistributed those filtered hotspots to branch locations for student use. Consolidating the student, now called "filtered," collection into one single distribution channel at the Library allows for greater accountability for devices and more clear communication to residents on where they can receive a hotspot.

Hotspots are loaned to members of the public for an initial 90-day period, with a 30-day extension. A customer can renew their device if no other customers have requested that device. Customers are provided with a quick start guide translated into Spanish, Vietnamese, and Chinese. Library staff offer customers a quick tutorial on using the device and connecting any devices to the hotspot before leaving the checkout location. Library hotspots circulated 14,930 times in FY 2021-2022 and have routinely experienced high checkout rates at or above 98% since the creation of the program in 2020.

In May 2022, filtered LTE enabled Chromebooks were added to the Library collection. These devices are equipped with a mobile data plan and do not require a separate internet connection available through ethernet, wi-fi, or a mobile hotspot. Unfortunately, before the Chromebooks were to be distributed widely, an enterprise-level failure occurred due to an incompatible Google operating system update which prevented the device from connecting to the mobile network. The failure was fixed at scale in October 2022, and the filtered Chromebooks are now available for lending. Table 1 shows the current inventory for devices.

Table 1 – Device Inventory

Device	Quantity	Check-Out Rate	Funding Source
Hotspot - Unfiltered	4,090	99%	American Rescue Plan
Hotspot – Filtered	3,941	77%	Emergency Connectivity Fund
Wi-Fi Chromebook – Unfiltered	600	80%	General Fund (2021 purchases)
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The Library has relied on social media marketing and strategic partnerships with schools and community partners to provide information to residents about the availability of hotspots. During the back-to-school timeframe, the Library distributed materials to all San José-serving local education agencies about the availability of hotspots at library branches. The awareness campaign also included vinyl banners on school fences in high traffic areas, and collateral made available upon request to community organizations.

The Emergency Connectivity Fund is a \$7.1B fund authorized through the American Rescue Plan for schools and libraries to fund connectivity and devices for education and learning purposes. The Federal Communications Commission (FCC) and the Universal Service Administrative Company (USAC) released regulations that authorized funding for schools and libraries for purchases and contracts for hotspots, tablets, laptops and other hardware, as well as the monthly recurring service costs. Eligible devices must provide internet filtering compliant with the Children’s Internet Protection Act (CIPA). Eligible end-user recipients must certify that they do not have sufficient internet access to complete learning, and the device must be used for education and learning purposes.

To fund the purchase and ongoing monthly data of filtered devices without impacting the City's American Rescue Plan allocation or the General Fund, the City applied for and was awarded \$3.6M from the ECF for filtered hotspots and Chromebooks in January 2022. The award was retroactively applied for device purchases and monthly data plans beginning July 1, 2021. Staff applied for a second ECF award in May 2022. That award is still pending.

Community Wi-Fi – ESUHSD Attendance Areas: Six of Eight Networks Open for Use

The City Council approved the City's first partnership with East Side Union High School District (ESUHSD, District) to construct the first community wi-fi network area in 2016. The partnership, which leverages ESUHSD's technology bond as the sustaining funding source for ongoing operations and technology upgrades, uses City staff and contracts to manage the design and construction of an outdoor wi-fi network in high school attendance areas in Central, South, and East San José. The James Lick attendance area was opened to students in November 2017 and opened for public access in April 2019. The construction of the William C. Overfelt and Yerba Buena attendance areas pre-dated the pandemic response, but the networks opened for student and public use during the pandemic, opening in June 2020 and January 2021 respectively. Each of these three networks was constructed with 200 access points.

Independence High School Attendance Area Network: 340 access points – Open for Use

The Independence area proved to be the most complex area to design and build, due to the large size and diverse vegetation and topography of the attendance area. Typical attendance area networks were planned and budgeted to support 200 wireless access points each. Through further analysis, staff prioritized service areas by using data from the District and the Digital Inclusion Priority Index, and the CDBG low-moderate income census tracts. The final build totals 340 wireless access points. CDBG made an additional \$1.7M available to cover the additional access points, for a total of \$3.8M to construct the area. The area was expected to start construction in December 2021, but supply chain impacts delayed the construction start to May 2022. The network opened for use in September 2022.

Andrew P. Hill High School Attendance Area Network: 200 access points – Open for Use

Andrew P. Hill consists of 200 access points. The area was expected to start construction in January and open in March 2022. Supply chain impacts delayed the start of construction to July 2022. The network opened for use in October 2022.

Oak Grove High School Attendance Area Network: 243 access points – Open for Use late Nov.

The Oak Grove attendance area consists of 243 access points. Initially believed to be open for public use in May 2022, the same supply chain issues delayed the start of construction to August 2022. Construction of the network is complete, and final inspections and testing are underway. The network is expected to be open for public use in late November.

Mt. Pleasant & Silver Creek High School Attendance Area Networks: 200 access points each – Pre-Construction

The Mt. Pleasant and Silver Creek attendance areas are designed with 200 access points each. The projects are fully funded through a combination of ESUHSD and CDBG funding and are

each expected to cost approximately \$2.4M to complete. Rosendin Electric was awarded both construction contracts and each project are in the pre-construction phase. Mt. Pleasant is projected to begin installations in late December 2022. Silver Creek is projected to begin installations in January 2023.

In October 2022, staff applied for the Local Agency Technical Assistance grant from the California Public Utilities Commission for \$500,000. If awarded, the grant will support the technical changes to expand the bandwidth available to the public community Wi-Fi networks from 20 Mbps to 100Mbps upload and download speeds, as well as the network design to expand the Yerba Buena and Andrew P. Hill network areas, and possibly design the Evergreen High School attendance area network. The enhancement in speed is a prerequisite to meeting the minimum federal broadband service level and becoming eligible for additional broadband funding.

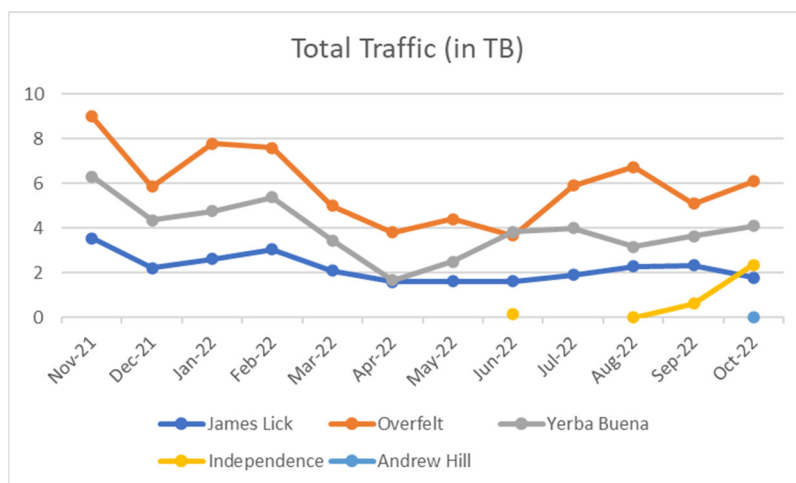
Community Wi-Fi Use & Outreach

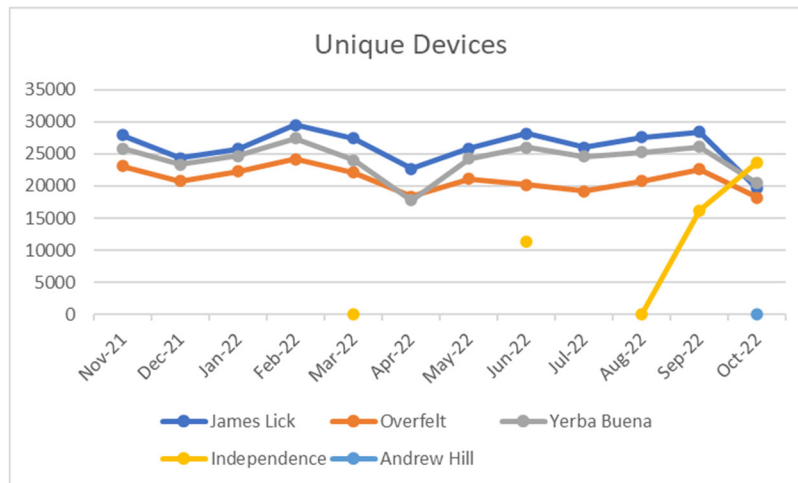
The Community Wi-Fi networks continue to show significant use in each attendance area, though intermittent data retrieval and limitations to data storage have created complications for conducting thorough analytics. As a free network that does not require a subscription, the City cannot definitively specify the number of people who have used the network. Instead, the system retrieves device-specific information from each network logon. Some resident users may only have one device – a phone or a laptop – connecting to the network, while others may have both.

In Fiscal Year 2021-2022, the James Lick, Overfelt, and Yerba Buena networks supported 247,767 unduplicated unique devices. The average number of sessions per month was 2.69M across all three areas combined. The total data transferred during user sessions was 182 Million MegaBytes – or 182 Terabytes of data.

In the first quarter of Fiscal Year 2022-2023, the first quarter in which Independence was open for use, the four active networks supported 123,925 unduplicated unique devices. This is a 50% increase over the previous fiscal year, just in the first quarter. The Independence network was used by roughly 16,000 devices in the first five weeks of use. The average number of sessions across all network areas combined was 3.2M sessions, which is a 125% increase over the first quarter of 2021-2022. The total data transfer in the first quarter was 34M MegaBytes.

Monthly data by attendance area is provided in the following graphs:





In April 2022, Community Wi-Fi was included as a new service in SJ311. This service allows residents to report the quality of their wi-fi session in SJ311. The quantitative data from the network equipment will be analyzed alongside qualitative data from customers to troubleshoot areas that are either performing at lower levels than expected or experiencing high demand but lacking the equipment to sufficiently meet the needs of the residents in the area. Use and community wi-fi reporting into SJ311 has been slow to start. Additional marketing and awareness efforts are underway and aligned with expanded outreach for Community Wi-Fi.

To ensure that residents are aware that they live in a community wi-fi coverage area, existing or new, the ~40,000 residential households within the six active network areas have been sent a postcard in three languages alerting them to the availability of a network near their home. The postcard was translated in Spanish and Vietnamese, directing residents to report their service quality in SJ311. This outreach will continue for future attendance areas. Vinyl banners for the schools within the network areas have been distributed, and staff is evaluating additional outreach and advertising programs as part of the 2023-2024 budget process. Additionally, a searchable map of the attendance areas is planned for integration into the Library’s SJ Access – Community Wi-Fi website for early 2023.

In partnership with ESUHSD and the elementary feeder districts within the attendance areas, each school received information and collateral to distribute to all students making them aware of the free community wi-fi networks in their area.

Assessment of Community Need

As part of the broader Digital Inclusion and Broadband Strategy refresh and evaluation, the Library plans to enter into a grant agreement with the San José State University (SJSU) Research Foundation, which will enable SJSU to conduct a survey and evaluation of broadband and digital literacy use among San José residents. The survey will specifically focus on San José and will also be part of SJSU’s broader statewide digital literacy survey. The project is slated to begin in January 2023, with the survey intending to be distributed in March 2023, though the project timeline is evolving. Staff is evaluating opportunities to support and partner with Community

Based Organizations to ensure that hard to reach populations are engaged in the survey and feedback sessions, which will be available in English, Spanish, and Vietnamese. The results of this work are expected to be provided to the City Council in late-Spring 2023.

CONCLUSION

The SJ Access program has provided a critical and unmatched level of connectivity solutions to San José residents. The current program has been funded with one-time or temporary funding sources, and the City Council will have the opportunity to determine if ongoing resources for hotspots and computing devices, and any level of future development of community wi-fi are prioritized and authorized as part of the 2023-2024 budget process.

EVALUATION AND FOLLOW-UP

This report will be provided to the Neighborhood Services and Education Commission on December 8, 2022. Staff will keep the City Council apprised of the project status through regular reporting associated with the City Roadmap.

CLIMATE SMART SAN JOSÉ

The recommendation in this memorandum has no effect on Climate Smart San José energy, water, or mobility goals.

PUBLIC OUTREACH

This memorandum will be posted on the Agenda website for the November 16, 2022 Library & Education Commission meeting.

COORDINATION

This memorandum has been coordinated with the Departments of Public Works, Information Technology, and City Manager's Office.

FISCAL/POLICY ALIGNMENT

This action aligns with the City's existing Broadband and Digital Literacy Strategy, which identifies the current state of unconnected households, and stipulates that the City's role in closing the digital divide is to provide connectivity solutions and leverage private investment from existing telecommunications companies.

This action also aligns with the City’s Education Policy – Council Policy 0-30. The policy states clearly the City’s position that the educational attainment of San José residents is a critical necessity to several priority City outcomes such as a strong economy, a safe city, and thriving residents. The policy states that wherever possible, City assets should be utilized to reduce barriers to accessing education.

COST SUMMARY/IMPLICATIONS

This action has no cost implications. All projects included in the Digital Equity/SJ Access program are fully funded through the Digital Equity Allocation of the American Rescue Plan Appropriation included in the 2022-2023 Adopted Operating Budget.

CEQA

Not a Project, PP 17-009, Staff Reports, Assessments, Annual Reports, and Informational Memos that involve no approvals of any City action.

/s/
JILL BOURNE
Director, Library Department

For questions, please contact Ann Grabowski, Division Manager – Digital Equity, at ann.grabowski@sjlibrary.org