CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Toni J. Taber, CMC
City Clerk

SUBJECT: SEE BELOW

DATE: February 14, 2023

SUBJECT: City Initiatives Roadmap: Digital Equity and Empowerment Program Status Report. - DEFERRED

Recommendation

As recommended by the Neighborhood Services and Education Committee on December 8, 2022, accept a report on preliminary findings and recommendations related to the Digital Inclusion and Broadband strategy, Digital Inclusion Fund grant program, and Digital Equity program outcomes as part of the approved City Initiatives Roadmap for 2022-2023.
CEQA: Not a Project, File No. PP17-009, Staff Report, Assessments, annual Reports, and Informational Memos that involve no approvals of any City action. (Library)
[Neighborhood Services and Education Committee referral 12/8/2022 - Item (d)4]
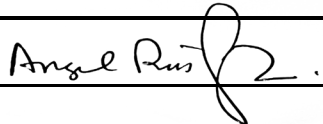**DEFERRED TO 3/7/2023 PER ADMINISTRATION**

CITY OF
SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: NEIGHBORHOOD SERVICES &
EDUCATION COMMITTEE

FROM: Jill Bourne

SUBJECT: **CITY INITIATIVES ROADMAP:**
DIGITAL EQUITY AND EMPOWERMENT
PROGRAM STATUS REPORT

DATE: November 21, 2022

Approved _Angel Rus_

Date 12/08/22

RECOMMENDATION

Accept a report on preliminary findings and recommendations related to the Digital Inclusion and Broadband strategy, Digital Inclusion Fund grant program, and Digital Equity program outcomes as part of the approved City Initiatives Roadmap for 2022-2023.

OUTCOME

The Neighborhood Services and Education Committee 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 was discussed at length in the Education and Digital Literacy Annual Report, which was heard by the Committee at the November 10, 2022, meeting.

BACKGROUND

The San José Public Library (Library, SJPL) began leading the Citywide Digital Equity priority in 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 the:
1. Purchase of hotspots for students and residents
2. Rapid development of outdoor wi-fi networks at civic buildings
3. Expedited buildout of five additional Community Wi-Fi networks in East Side Union High School District (ESUHSD) attendance areas

City Council took separate action to authorize contracts associated with these projects throughout the 2020-2021 fiscal year. The Council also approved funding in the Adopted 2021-2022 and 2022-2023 Operating Budgets for the continuation of these activities.

In April 2021, the Digital Inclusion Branch transitioned to the Digital Equity Team to implement the City Roadmap item, "Education, Digital Equity, and Digital Literacy." The Digital Equity Team is led by the Library and includes membership from the Office of the City Manager and the departments of Parks, Recreation, and Neighborhood Services (PRNS), Public Works, Information Technology and Transportation.

To coordinate and organize the work in a manner that would be easily relatable and accessible to the public, SJ Access is the all-encompassing brand for 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 departments of Information Technology and Transportation provide ongoing strategic support to connectivity efforts through the maintenance of the City's fiber network and public right of way, which the Community Wi-Fi project relies upon. The City's Public Private Partnerships for privately-owned and -operated commercial and public safety broadband and 5G network deployments are not part of the SJ Access/Digital Equity Roadmap item but are relevant and critical to advancing outcomes in Digital Equity. Additional reporting on privately-owned network deployments and maintenance of technology assets is referred through the Smart Cities and Service Improvements Committee.

ANALYSIS

2022 Equity Index

The Digital Equity Team's work is centered in equity by using American Community Survey data to understand where the greatest barriers to access are 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-scoring census tracts are in City Council districts 3, 5, and 7.

Hotspots: Lending of 8,031 filtered/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 them to branch locations for student use. Consolidating the student, now called "filtered hotspots," 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 it. Customers are provided 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 through ethernet, wi-fi, or a mobile hotspot. Unfortunately, before the Chromebooks were 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 were made 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)
LTE Chromebook – Filtered	1,500	45%	Emergency Connectivity Fund
Wi-Fi iPads	120	100%	Grant Funded
Laptop Kits	35	100%	Grant Funded

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 print 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 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. 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 Emergency Connectivity Fund for filtered hotspots and Chromebooks in January 2022. The award was retroactively applied for device purchases and monthly data plans beginning July 1, 2021. A second application for a pending Emergency Connectivity Fund award was submitted in May 2022.

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, 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 Community Development Block Grants (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 – Pending

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 undergoing post-construction optimization and testing and will be available in January 2023.

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 is 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.

Figure 1 depicts monthly Community Wi-Fi data by attendance area in total traffic and the number of unique devices.

Figure 1 - Community Wi-Fi Use
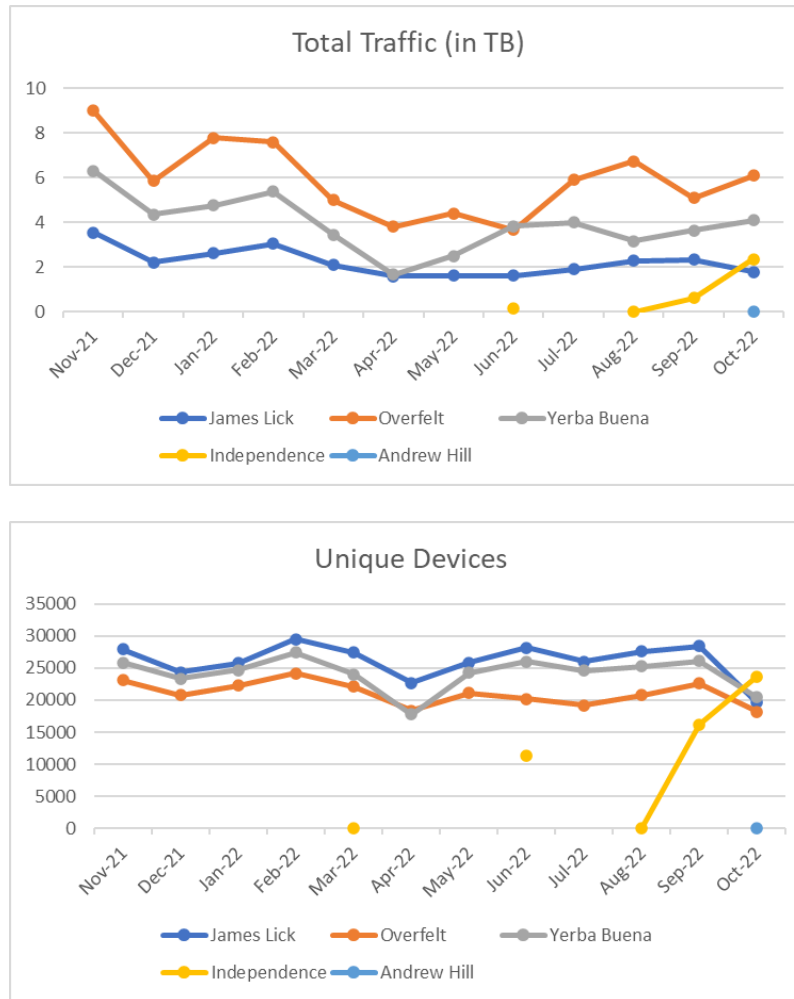
In April 2022, Community Wi-Fi was included as a new service in SJ311. This service allows residents to report the quality of their wi-fi session via the SJ311 reporting tools. The quantitative data from the network equipment will be analyzed alongside qualitative data from customers to troubleshoot 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 of Community Wi-Fi reporting into SJ311 has been slow to start. Additional SJ311 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 approximately 40,000 residential households within the six active network areas were sent a postcard in three languages alerting them to the availability of a network near their home. The postcard was published in English, Spanish, and Vietnamese, directing residents to

report their service quality in SJ311. This outreach will continue as Community Wi-Fi attendance areas expand. Vinyl banners for the schools within the network areas were distributed, and staff is evaluating additional outreach and advertising programs as part of the 2023-2024 budget process. Additionally, a searchable map of 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 to raise awareness of the free Community Wi-Fi networks in their area.

Assessment of Community Need
The most recent data available from the American Community Survey – 2020 Five-Year Estimates – show that the digital divide is changing in San José and there is still work to do.

Currently, about 43,716 households in San José are unconnected or under-connected. Another 26,558 are digitally disadvantaged – having no computing device or relying on only a smart phone, which for some is not suitable for taking full advantage of the digital economy. Table 2 shows the 5- year estimates per the American Community Survey.

Table 2 -American Community Survey: Comparison of 5-Year Estimates

Household Indicators:	2017 5-Year Estimates*	2020 5-Year Estimates	Statistically Different?
Total Households	319,558	324,340	Yes
No Internet Access – *Unconnected*	29,081	18,866	Yes
Cellular Data with No Other Internet Subscription – *Under-connected*	18,544	24,327	Yes
Dial-up with No Other Internet Subscription – *Under-connected*	1,532	523	Yes
No Computer	21,211	12,961	Yes
Smart Phone with No Other Computing Device	7,112	13,597	Yes

The original data set used to assess the digital divide for the 2017 Digital Inclusion & Broadband Strategy.

Between 2017 and 2022, the count of households with incomes of $75,000 or more increased and show an increase in broadband Internet subscriptions. Households with incomes below $10,000 and up to $74,999 decreased overall and they show an increase in Internet subscriptions.

Hispanic/Latino, Asian, White (non-Hispanic or Latino), households reporting race as "two or more," and residents within the 18 to 64 age group, and elderly populations show gains in broadband Internet subscriptions and presence of a computing device in the household. Residents in the 65 and over age group show gains in having computing devices, but those without an Internet subscription are unchanged. For Black or African American households, there is no statistically significant difference in broadband Internet subscription nor computing devices.

While the extent of the digital divide has changed for some in San José, thousands continue to be unconnected and under-connected across income, age, and racial groups. See Attachment B for a detailed chart comparing the American Community Survey 2017 and 2020 5-Year Estimates. The 2021 American Community Survey 5-Year Estimates will be released on December 8, 2022.

To compliment the Census data and FCC maps that staff use to evaluate SJ Access, 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 still 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 numerous, critically important connectivity solutions to San José residents. The current program has been funded with one-time or temporary funding sources. 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 Committee 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 December 8, 2022 Neighborhood Services & Education Committee meeting.

COORDINATION

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

COMMISSION RECOMMENDATION/INPUT

The Library and Education Commission heard this item at the November 16, 2022 meeting and provided positive feedback.

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