SAN RAFAEL CITY COUNCIL AGENDA REPORT

Department: Digital Service & Open Government

**Prepared by: Rebecca Woodbury,
                    Director**

City Manager Approval: _____

TOPIC: CANAL NEIGHBORHOOD WIFI NETWORK

SUBJECT: INFORMATIONAL REPORT ABOUT INCREASING WIFI INTERNET ACCESS IN THE CANAL NEIGHBORHOOD

RECOMMENDATION: Accept report.

BACKGROUND:

The Canal neighborhood in San Rafael has a high concentration of multifamily housing and families. Over half of the families earn less than $35,000/year and many have no or limited internet access. The neighborhood is home to about 2,000 school-aged children.

This project is part of a multi-pronged approach for addressing digital equity issues in the Canal neighborhood. There is no single silver bullet to addressing digital equity challenges. This informational report will discuss a WiFi project that helps address this issue. At their May 8 board meeting, the Marin General Services Agency (MGSA) will consider an item regarding the use of streetlights for this proposed project.

For Fiscal Year 2019/20, the City Council's annual Goals and Strategies included "Begin digital inclusion initiative that increases internet connectivity in East San Rafael." This effort began with a discovery process to better understand digital equity issues in the Canal neighborhood and work towards addressing them. Then, six weeks ago, the COVID-19 Shelter-in-Place health order closed schools and many businesses sending an unprecedented number of students and workers home for an extended period. The internet has made it possible for people to participate in e-learning, apply for unemployment, sign up for food assistance, and access critical health information. Unfortunately, many families in the Canal neighborhood don't have access to the internet.

When the Shelter-in-Place order first went into effect, staff began working with San Rafael City Schools and volunteers in the community on ways to increase internet access. We helped promote low-cost commercial internet access such as Comcast Internet Essentials, Sonic, and AT&T Access programs. While these programs are economically affordable, some families still encounter barriers to access such as eligibility requirements or service in their apartment buildings. We promoted free and open hotspots across the City through the Keep Americans Connected pledge. Another great program, however

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coverage and bandwidth are inconsistent, and people experience time limits. We worked with the San Rafael City Schools to provide 450 personal hotspots to students without internet. Lastly, we also boosted the WiFi signal at the Pickleweed Library and designated several parking spaces for students only. Clearly, all of these efforts are positive but insufficient.

There remains a great and unmet need in the Canal neighborhood for more internet access. As there is no silver bullet to solving this challenge, it takes a multi-pronged approach. Over the past several weeks we have worked in collaboration with the County of Marin, San Rafael City Schools, Canal Alliance, and the MGSA to design a mesh-WiFi network in the neighborhood. This effort has been augmented by community volunteers that have brought decades of network design expertise to the effort. We formed two subcommittees:

Policy / Funding	Technical
• Lorenzo Cordova, Supervisor Rodoni's Office	• Vinh Pham, City of San Rafael
• Rebecca Woodbury, City of San Rafael	• Laurie Childers, County of Marin
• Liza Massey, County of Marin	• Sarah Ashton, San Rafael City Schools
• Javier Trujillo, County of Marin	• Dan McMahon, MARINet
• Sara Jones, Marin Free Library	• Henry Bankhead, City of San Rafael
• Omar Carrera, Canal Alliance	• Dave Cooper, Marin IT (volunteer)
	• Lionel Florit, Cisco (volunteer)

ANALYSIS:

The proposed solution is a mesh-WiFi network that connects to the Marin Information and Data Access System (MIDAS) network, a County-run internet service for local government agencies. The equipment would be located at the Boro Community Center, Marin Health and Wellness Center, and a Canal Alliance owned property on Novato Street with WiFi equipment mounted on street lights throughout the neighborhood. The proposed equipment is 9 x 6.8 x 3.9 inches and weighs 5.6 lbs. It is either attached to the pole or horizontal branch of the streetlight.

The proposed design would have two networks. One network would be designed for students. They will login using a student ID or Library card to access e-learning services. A second network will not require a password but be restricted to critical emergency information or access to government services such as filing for unemployment, signing up for food stamps, and accessing information about COVID-19.

The proposed system is based on the same WiFi technology that is inside many people's homes. It operates in 2.4 GHz and 5 GHz radio bands. This is different from "5G" which stands for Fifth Generation and is cellular network technology.

On May 8, 2020, the MGSA Board will consider a resolution granting approval to negotiate and sign an agreement allowing the installation of wireless access points on street lights in the Canal neighborhood. Once we begin purchasing equipment, delivery will take up to 28 days and we estimate installation to take about two weeks. Our goal is to have WiFi service available starting in mid to late June.

Following the initial build out we want to work with property owners on expanding coverage of the network on their properties, as we know we will have coverage issues in some of the larger apartment buildings from using street lights alone.

We believe this public-private partnership will have a lasting impact (beyond COVID-19) for students and residents in the Canal neighborhood, however additional work to bring wired broadband connections to the neighborhood is highly desirable. Staff has begun this effort and will continue to explore the feasibility

of this longer-term solution. Community broadband can take several years and cost millions of dollars to implement, while this current WiFi project can be done quickly and inexpensively.

COMMUNITY OUTREACH:
Staff has been working with several community-based organizations and volunteers on this project. Working with San Rafael City Schools, we have heard feedback from parents on internet access challenges they are facing. In the coming weeks and months ahead, staff plans to work closely with Canal Alliance to promote this project in the neighborhood.

FISCAL IMPACT:
The estimated cost for the project is $230,000 in the first year and $55,000 in subsequent years. We believe these cost estimates are conservative and hope to bring them down through pro bono services and possible additional discounts.

At this time there is no request for City General Fund money to support this project. A funding plan is currently being developed with the goal of funding this through grant opportunities, potential contributions from partner agencies, in-kind donations, and private monetary donations.
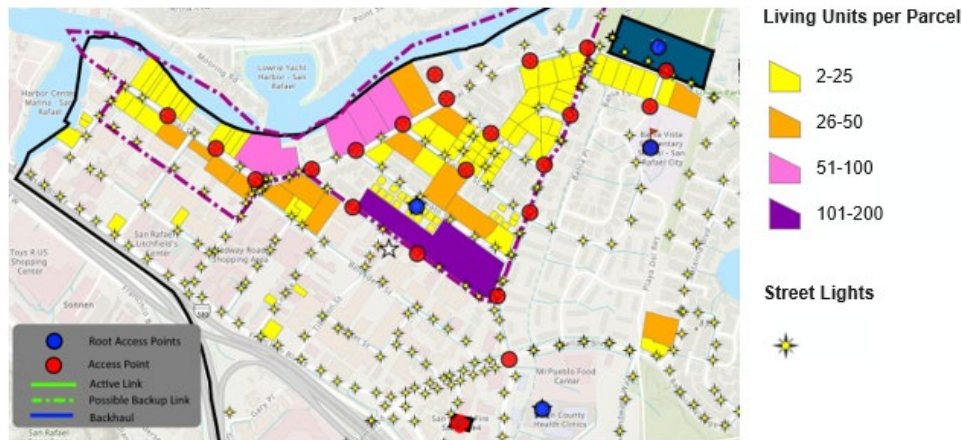
RECOMMENDED ACTION:
Accept report.

ATTACHMENTS:
1. Project pitch for potential donors

Canal WiFi Network

The Canal neighborhood in San Rafael has a high concentration of multifamily housing and families. Over half of the families earn less than $35,000/year and many have no or limited internet access. The neighborhood is home to about 2,000 school-aged children, who are now at home due to COVID-19 Stay at Home orders.

We want to create a free student-only WiFi network & community COVID-19 resource portal in the neighborhood so that students can access e-learning services from home and people can access critical information and services.

Click on the above map to see assets and neighborhood information

The proposed solution is a mesh-WiFi network, using root access points with wired connections to the Marin Information and Data Access System (MIDAS) network, a County-run internet service for local government agencies. The mesh access points will be mounted on street lights throughout the neighborhood. This project is part of a multi-pronged approach for addressing digital equity issues in the Canal neighborhood. We are also distributing personal hotspots and Chromebooks to students, as well as working with local ISPs to expand wired fiber connections.

Estimated Costs

Equipment (one-time)		$130 K
Installation (one-time)		$60 K
Internet Service (annual, ongoing)		$40 K
Maintenance (annual, ongoing)		$15 K
	Year 1	$230 K
	Year 2	$55 K

Timing

We are ready to purchase and install equipment. Equipment will take 28 days for delivery and installation will take 15 days. We believe we can have a WiFi service available to students by mid-June 2020.

A collaborative effort of multiple agencies, organizations, and businesses: