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June 1, 2021

To: Supervisor Hilda L. Solis, Chair
Supervisor Holly J. Mitchell
Supervisor Sheila Kuehl
Supervisor Janice Hahn
Supervisor Kathryn Barger

From: William S. Kehoe
Chief Information Officer

REPORT BACK ON DEVELOPING THE DIGITAL DIVIDE REGIONAL STRATEGIC PLAN (ITEM NO. 11, AGENDA OF FEBRUARY 23, 2021)

On February 23, 2021, the Board of Supervisors (Board) directed the County of Los Angeles (County), Office of the Chief Information Officer (OCIO), in coordination with the Departments of Internal Services; Regional Planning; Public Works; Consumer and Business Affairs; Workforce Development, Aging and Community Services; County Counsel; and other relevant departments, to develop and implement a County Digital Divide Internal Action Plan in 90 days that, at the minimum:

1. Aggregates all existing and planned Digital Divide efforts by County departments;
2. Identifies common strategic objectives among the various efforts and ensures coordinated implementation of the various efforts;
3. Standardizes the reporting on activities and outcomes, including an evaluation of utilizing visual dashboards to track progress; and
4. Identifies gaps and limitations, including resource and funding constraints, that will assist in the strategic development and prioritization of future initiatives.

In addition, the Board directed OCIO, in coordination with the above-listed departments, as well as external stakeholders including cities, private sector partners, community-based organizations, school districts, nonprofits, venture capitalists, and others, to develop and begin implementing a Comprehensive Regional Digital Divide Strategy for the County.

The OCIO initiated the effort in March 2021, by establishing the "*Digital Equity Regional Teams*" (Teams) structure to facilitate the development of the Digital Divide Regional

Strategic Plan (Strategic Plan). The Teams consist of multiple groups, including the working groups, the "*Los Angeles County Digital Divide Action Team,*" focused on an internal action plan, and the "*Los Angeles County Digital Divide Regional Strategy Team,*" focused on the regional strategy.

The following are the activities that were performed by the Teams:

Los Angeles County Digital Divide Action Team: The Los Angeles County Digital Divide Action Team (Action Team) is comprised of business leaders from 35 County departments. The objective of the Action Team is to come together as one organization to solve the digital divide problem documenting, aggregating, communicating, and providing visibility to current projects and initiatives and identifying synergistic efforts and gaps that will inform the development of a comprehensive Strategic Plan. The Action Team has been fully engaged since March 2021 and has achieved the following activities:

1. Collated all digital divide efforts completed/in progress by participating departments;
2. Developed strategic goals, strategic objectives, measurement criteria, and potential future initiatives;
3. Identified opportunities to consolidate cross-departmental efforts to improve synergies and reduce overhead; and
4. Initiated data strategy efforts to collate existing datasets available from all sources to baseline the current state at detailed level.

Los Angeles County Digital Divide Regional Strategy Team: The Los Angeles County Digital Divide Regional Strategy Team (Strategy Team) is comprised of a diverse stakeholder group representing public sector, private sector/corporation, academia, risk capital, and the entrepreneur community. The objective of the Strategy Team is to support short-term action plans that provide immediate assistance and develop a long-term Digital Divide Regional Strategy enabling sustainable solutions for addressing the digital divide problem holistically in the County. The following activities have been performed as part of this effort:

1. Defined comprehensive criteria to select external stakeholders to have a diverse, inclusive team who represent government, academia, private sector/corporation, venture capital, entrepreneurs, and nonprofit organizations;
2. Finalizing the contract with the Massachusetts Institute of Technology Regional Entrepreneurship Acceleration Program, as a Strategic Advisory Partner; and
3. Reviewing inputs from the Action Team and in the process of identifying quick wins, as well as existing solutions, which may be replicated with other locations.

Los Angeles County Digital Divide Regional Advisory Team: The Los Angeles County Digital Divide Regional Advisory Teams (Advisory Team) is comprised of three regional advisory teams that were nominated and established in early May 2021. The

Advisory Team members consist of industry experts, community-based organizations, private partners, and subject matter experts. The objective of the Advisory Team is to inform and ensure that the Strategic Plan accounts for the diverse digital needs of the community, currently available digital projects, and future needs and new solutions. The Advisory Teams will be focused on equitable access to broadband, providing devices, and digital literacy. The purpose of the Advisory Teams is to identify gaps, validate the approach and solutions, provide feedback to the other Teams, and assist in identifying appropriate solutions. The Advisory Teams are scheduled to be kicked off in late May 2021, which will be the key to the success of the Teams.

As a next step, the Teams will focus on the following:

1. Leverage the Strategic Plan to include regional initiatives and validate objectives/metrics;
2. Finalize the data strategy, including the development of visualizations reflecting the initiatives, progress, and potential impact using defined metrics; and
3. Prioritize future initiatives, which are high impact and can be initiated with available resources and funding. It will include identifying top communities (pilot regions) in each Supervisorial District and prioritizing the initiatives in these communities.

The attached report provides details of the approach, efforts, current status, and next steps.

Should you have any questions concerning this matter, please contact me at (213) 253-5601 or bkehoe@cio.lacounty.gov.

FAD:JMN:TJM
WSK:JD:jmn

Attachment

c: Department Heads

Developing the Digital Divide Strategic Plan

Jagjit Dhaliwal
Deputy Chief Information Officer

MAY 2021

OFFICE OF THE CIO
COUNTY OF LOS ANGELES

CEO
Chief Executive Office
COUNTY OF LOS ANGELES

Table of Contents

1. Glossary and Acronyms

Term/ Abbreviation	Definition/Expanded Name
American Community Survey (ACS)	ACS is a demographics survey program conducted by the U.S. Census Bureau. It regularly gathers information previously contained only in the long form of the decennial census, such as ancestry, citizenship, educational attainment, income, language proficiency, migration, disability, employment, and housing characteristics.
AmeriCorps	AmeriCorps is a voluntary civil society program supported by the U.S. Federal government, foundations, corporations, and other donors that engages adults in public service work with a goal of helping others and meeting critical needs in the community.
California Emerging Technology Fund (CETF)	CETF is a nonprofit corporation, established by the California Public Utilities Commission, with the mission and explicit focus to close the digital divide in California (https://www.cetfund.org/).
City of Long Beach Digital Inclusion Initiative	Digital Inclusion Initiative, established by the City of Long Beach, focuses on digital inclusion through an equity lens, proactively ensuring everyone has equitable access and use of digital literacy training, the Internet, technology devices, and other digital inclusion resources (https://longbeach.gov/ti/digital-inclusion/).
eSports Gaming Arena	eSports Gaming Arena is a chain of indoor arenas and event centers dedicated to esports. Los Angeles County Department of Parks and Recreation (DPR) is exploring eSports programs for children at DPR facilities.
Geek Squad	Geek Squad is a subsidiary of Best Buy and offers various computer-related services and accessories for residential and commercial clients.
Gig Economy	Gig Economy is a labor market characterized by the prevalence of short-term contracts or freelance work as opposed to permanent jobs.
Geographic Information System (GIS)	GIS is a conceptualized framework that provides the ability to capture and analyze spatial and geographic data.
Greater Avenues for Independence (GAIN)	GAIN Program, established by the Department of Public Social Services, provides employment-related services to help participants find a job, stay employed, and move on to higher paying jobs (https://dpss.lacounty.gov/en/jobs/gain.html).
MiFi	Mobile Wi-Fi.
MIT	Massachusetts Institute of Technology.
Pew Research Center (PRC)	PRC is a nonpartisan fact tank that informs the public about the issues, attitudes, and trends shaping the world. They conduct public opinion polling, demographic research, content analysis, and other data-driven social science research. They do not take policy positions.
Regional Entrepreneurship Acceleration Program (REAP)	REAP is a global program offered by MIT to assist regions in developing their regional strategies to solve their social economic issues through entrepreneurship opportunities (https://reap.mit.edu).

Term/ Abbreviation	Definition/Expanded Name
Sidewalk Infrastructure Partners (SIP)	SIP is a holding company that pioneers technology-enabled infrastructure to transform urban life and create long-term value. SIP's anchor partners are Alphabet Inc., Google's parent company and a world leader in technology; Sidewalk Labs, Alphabet's pathbreaking urban innovation platform; and the Ontario Teachers' Pension Plan (https://sidewalkinfra.com/).
South Bay Fiber Network	South Bay Fiber Network is a regional broadband, fiber-optic network, developed by South Bay Cities Council of Governments, who worked with the South Bay Workforce Investment Board to connect to at least one city facility in each of the South Bay cities (https://www.southbaycities.org/programs/south-bay-fiber-network).
Venture Capital (VC)	VC is a form of private equity financing that is provided by firms or funds to startups, early-stage, and emerging companies that have been deemed to have high growth potential or which have demonstrated high growth.
Work Ready Program	Work Ready Program is a workforce development program launched by LA County Library (Library), designed for Library customers who are looking to build job skills or discover new career opportunities, but who lack the device or internet connection to make it happen.

2. Background

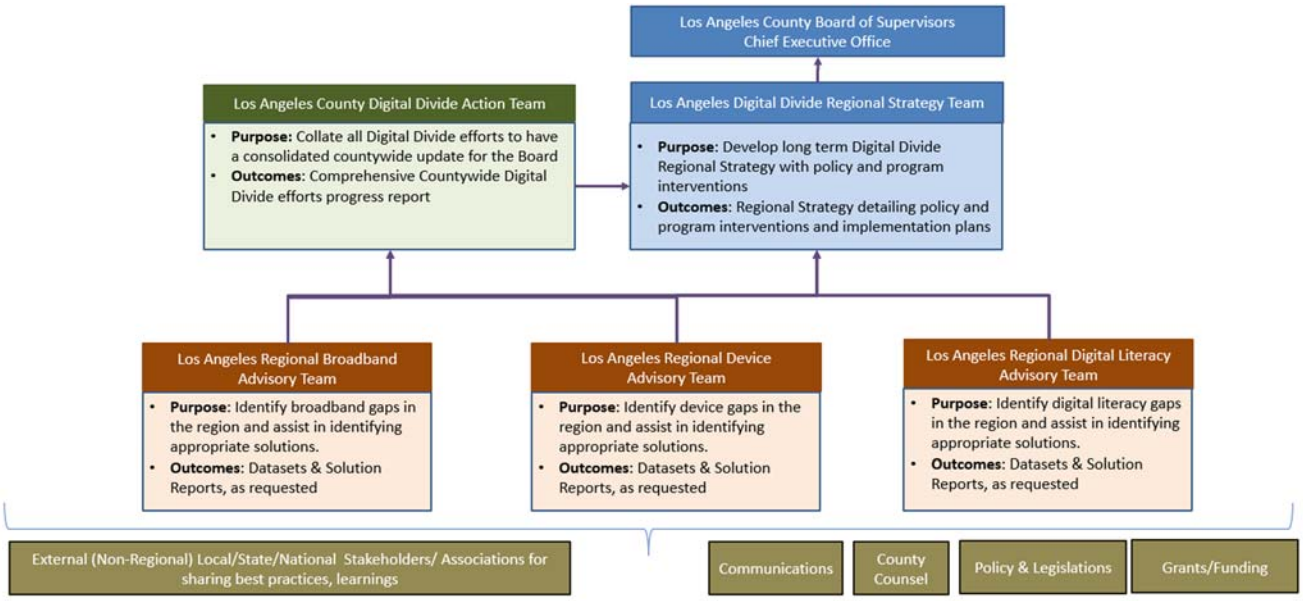
Historically underserved communities are impacted due to the lack of internet services, either because of their affordability, or unavailability of internet in their community. Communities may lack access to technology, such as computers or laptops, or they may lack knowledge and skills to effectively use these tools. Some communities experience all three barriers. As it is a multi-dimensional problem deeply interconnected with other social-economic issues, it requires a Digital Divide Strategic Plan (Strategic Plan), in partnership with County of Los Angeles (County) departments, cities, states, private partners, and other institutes. The Strategic Plan would enable sustainable solutions that will bridge the digital divide gap to provide all residents in the County the same opportunity to access and receive crucial information and services. The Strategic Plan will enable greater access to broadband, devices, and training, thereby increasing digital literacy in underserved communities in the County.

The following principles will be adhered to, to ensure the development of holistic sustainable solutions:

1. Equitable Access of broadband solutions to all communities.
2. Sustainable Solutions to provide all households in the County the same opportunity to access and receive crucial information and services.
3. Secured Solutions addressing internet security and privacy issues.
4. Inclusive Approach involving ecosystem stakeholders – private, public, and community partners.

3. Digital Equity Regional Team

As directed by the Board of Supervisors' (Board) motion dated February 23, 2021, the Office of the Chief Information Officer (OCIO) has established a Digital Equity Regional Team, which consists of various working groups as illustrated below:



The Digital Equity Regional Team will engage with the Board to establish the Community Cabinet to seek involvement from the community leaders in identifying, prioritizing and accomplishing high impact initiatives.

Los Angeles County Digital Divide Action Team: The purpose of the Los Angeles County Digital Divide Action Team (Action Team) is to come together and collaborate as one organization to solve the digital divide problem. The Action Team is documenting, aggregating, communicating, and providing visibility to current projects and initiatives, and identifying synergistic efforts and gaps that will inform the development of a comprehensive Strategic Plan. The working group will contribute to the Strategic Plan efforts with external partners. The Action Team membership consists of senior business leaders represented from all County departments. Since its launch in March 2021, the team has focused on the following:

- Developed draft strategic goals, objectives, and initial measurement criteria, as summarized in Section 4;
- Collated all County Digital Divide initiatives, as well as brainstormed on the future initiatives;
- Identified opportunities to consolidate cross-departmental efforts and existing Digital Divide governance structures to improve synergies and reduce overhead; and
- Initiated Data Strategy efforts to collate existing datasets available from all sources to baseline the current state.

As a next step, the Action Team will continue working to produce the following outcomes:

- Visual Dashboard reflecting the status of all ongoing initiatives, priorities of upcoming initiatives, and respective metrics.
- Planned Budget reflecting budget needs for the upcoming initiatives and associated funding source.
- Backlog activities/efforts/gaps which require intervention from external stakeholders and/or are not addressed by current ongoing initiatives.

Los Angeles County Digital Divide Regional Strategy Team: The purpose of the Los Angeles County Digital Divide Regional Strategy Team (Strategy Team) is to support short-term action plans that provide immediate assistance, and develop a long-term Digital Divide Regional Strategy enabling sustainable solutions for addressing the digital divide problem holistically in the County. This is being accomplished by partnering with a diverse stakeholder group representing the public sector, private sector/corporation, academia, venture capital, and the entrepreneur community.

The selection criteria, based on domain expertise, commitment to support the regional digital divide effort, innovation and visionary approach, diversity and inclusivity, and local community contribution, was defined to shortlist the Strategy Team members. The Strategy Team is partnering with the Massachusetts Institute of Technology (MIT) Regional Entrepreneurship Acceleration Program (REAP) for this strategic effort. MIT is assisting the County as a Strategic Advisor, bringing diverse stakeholders together to formulate a comprehensive strategy with an actionable implementation plan.

The Strategy Team has started looking at the current state baseline efforts and potential initiatives that can be started immediately. The Strategy Team is also receiving inputs from the Action Team, as well as the Los Angeles County Digital Divide Regional Advisory Teams (Advisory Team), to ensure feedback from local stakeholders for leveraging existing solutions and identifying new required solutions to fill gaps in the near and long-term are included.

The Strategy Team will review internal and external programs and help the Action Team by providing guidance and removing roadblocks. The Strategy Team will advocate for legislation and policy changes with the County, State, and Federal government to streamline processes and/or implement innovative solutions. The following are the outcomes expected from the Strategy Team:

- Region's Current State: Regional ecosystem assessment report with current gaps, GIS databases and maps, current state metrics, available current solutions, and strengths and challenges.
- Regional Strategic Plan: Encompassing strategic objectives developed based on data and analysis of the region and team's goals, associated metrics and sustainability, and strategic interventions (both policy and programs).
- Holistic Program Roadmap/Plan: Multiple program(s) implementation plan (subject to budget/priorities/timelines), along with synergies, and dependencies.
- Funding Sources: Comprehensive list of all funding sources, including stimulus, Federal/State grants, and private investments, with clear plan to secure the funding for the region.
- Regional Dashboards: Reflecting the status of all ongoing initiatives, priorities of upcoming initiatives, and respective metrics.

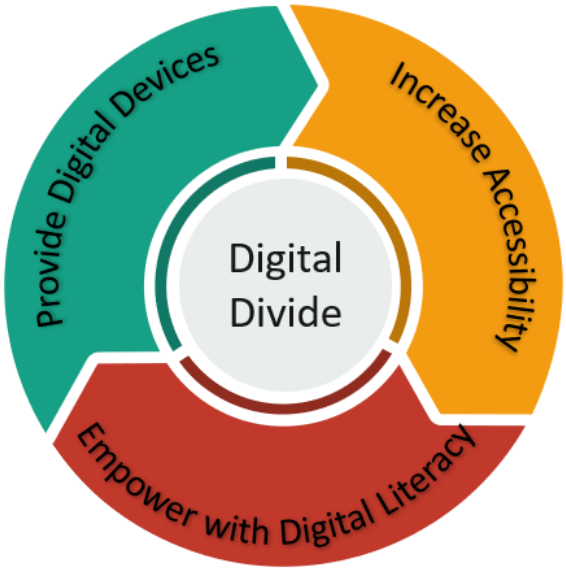
Los Angeles County Digital Divide Regional Advisory Teams: The Advisory Teams consist of three advisory focused groups: Los Angeles Regional Broadband Advisory Team, Los Angeles Regional Device Advisory Team, and Los Angeles Regional Digital Literacy Advisory Team. The purpose is to gather thought leadership from the regional experts in greater access to broadband, devices, and training (digital literacy) with a focus on actionable plans to achieve sustainable

solutions for the future. The Advisory Teams were launched in May 2021, and will continue to provide feedback, insights on the solutions and data needs for the Strategic Plan.

4. County Strategic Goals

The strategic approach will help in identifying the residents in communities that are most in need and provide tailored sustainable solutions by applying equitable and inclusive approaches. First and foremost, it is important to measure the gap by identifying the residents accurately that do not have internet access. The gap may be due to any of the following reasons:

- Low-income neighborhoods and neighborhoods of color do not have equal access to broadband and upgrade services.
- The community cannot afford the internet services.
- The gap could be due to awareness or language in which services are offered.



The gaps need to be validated by authentic engagement with the communities to ensure that all voices are heard, and that they are part of the solution process. Once the gaps are identified, the next step is to conduct outreach/make them aware of the solutions, if available, develop new solutions as needed, and then provide a best fit solution based on their need/situation. During the process, it is important to identify the datasets required to measure the gaps and provide visualization to track the progress. The following three goals and respective objectives are identified to solve this problem holistically:

Increase Accessibility	**Provide Digital Devices**	**Empower with Digital Literacy**
• Identify gaps in the availability of broadband access, capacity, and services. • Accelerate broadband access solutions deployed in the underserved areas. • Reduce internet subscription costs. • Increase public-private partnerships related to broadband access services. • Increase awareness about broadband access in the community.	• Develop sustainable device procurement process. • Enable reduced cost device options. • Enable after-purchase technology support options.	• Identify digital literacy gaps. • Enable new channels to deliver digital literacy programs. • Introduce new training programs to cover diverse needs.

5. Current and Future Initiatives

Apart from finalizing the County Strategic Goals and Objectives, the Action Team collated all County current initiatives and potential future initiative ideas. Please find below a list of current and future initiatives grouped by the Strategic Objectives. The department name in parentheses represents the department leading the respective initiative.

5.1 Goal 1: Increase Accessibility

Objective 1: Identify gaps in the availability of broadband access, capacity, and services.	
Current Initiatives: • Develop a database and GIS mapping viewer to catalog publicly available major existing broadband infrastructure to serve as the basis for a future needs assessment. • Work with external Federal and State partners to standardize on broadband service definition. • Leverage existing data sources, including ACS, PRC, CETF, to identify the gaps. • Develop Data Strategy with focus on data driven metrics, visualization and reports (OCIO, Internal Services Department [ISD], Department of Regional Planning [DRP], Department of Public Works [DPW]).	**Future Initiatives:** • Define broadband access criteria in terms of cost, speed, and other required parameters. • Develop datasets of households and homeless residents with mapped information about their current state of internet access, devices, and literacy levels/needs. o Enhance GIS maps by overlaying County information, including race, education, income, and community facilities. o Partner with national and State associations and private partners to access the required dataset to identify the gaps. • Develop new platform/enhance existing platforms to aggregate the developed datasets with an ability to refresh to provide up-to-date information on the baseline and gaps. • Develop dashboards to visually track the baseline and periodic progress made by initiatives.

Objective 2: Accelerate broadband access solutions deployed in the underserved communities.	
Current Initiatives: • Identify grantee nonprofits have boosted Wi-Fi in their facilities to allow community members to use it outside the building (Department of Arts and Culture [Arts and Culture]). • Develop best practices for accelerating the permitting of high-speed, broadband internet infrastructure (DPW, DRP). • Explore potential revisions or additions to the County's General Plan to ensure unincorporated areas have sufficient access to high-speed internet (DRP).	**Future Initiatives:** • Identify opportunities to accelerate, and aggregate/centralize between permitting jurisdictions, the permitting process for broadband infrastructure to accelerate deployment, particularly in underserved and under-resourced areas. • Identify and provide incentives for deployment of broadband in underserved communities. • Identify methods to increase competition in target areas to provide more customer choice and reduce access costs.

• Explore innovative strategies and permitting fee structures to enable the timely review of permit applications for high-speed broadband infrastructure (DPW, DRP). • Provide additional Wi-Fi hotspots in the Library parking lots in currently 34 locations. • Provide remote charging stations and Wi-Fi hotspot for Safe parking (Department of Military and Veterans Affairs). • Ancillary/work-related payments to CalWORKs participants for internet, laptops, and trainings through the GAIN program (Department of Public Social Services). • Evaluate extended range Wi-Fi at sites and MiFi program for program participants - Department of Workforce Development, Aging and Community Services (WDACS). • Develop and prepare for final adoption by the Board, two (2) wireless ordinances (Title 16 – Highways and Title 22 – Planning and Zoning) that will establish development standards and streamline reviews. Both ordinances will facilitate the build-out of broadband infrastructure to close the digital divide (DRP).	• Provide hotspots in the targeted buildings, including County buildings, senior living facilities, homeless shelters, and affordable housing. • Increase publicly available secure Wi-Fi locations in underserved communities. Partner with local facilities (senior centers, community centers, parks, academia and religious centers) and broadband providers to provide services to underserved communities at a reduced cost to the facility hosting the service. • Replicate successful programs like South Bay Fiber Network, and approaches from City of Los Angeles and City of Long Beach to other underserved communities. • Provide free Wi-Fi at County Parks (Department of Parks and Recreation [DPR]).

Objective 3: Reduce internet subscription costs.	
Current Initiatives:	**Future Initiatives:**
• Explore innovative short- and long-term strategies to provide free or low-cost highspeed internet and related devices to underserved communities (DPW).	• Low or no cost access for low-income/underserved communities and define the criteria for free internet eligibility. • Tiered price plan options for high-speed access based on income level of the residents. • Enable subsidy/reimbursement options for eligible community.

Objective 4: Increase public-private partnerships related to broadband access services.	
Current Initiatives:	**Future Initiatives:**
• Explore public-private partnerships and develop recommendations to incentivize private investment, including leveraging local, State, and Federal grant	• Increase partnerships with companies to provide broadband accessibility. • Train and develop skillsets required by the internet companies to develop local

opportunities, in broadband infrastructure in historically underserved and rural communities (DPW). • Partnership with Long Beach COVID-19 Pandemic Digital Inclusion Response Working Group (Los Angeles County Development Authority [LACDA]).	workforce needed by these companies as they expand their services.

Objective 5: Increase awareness about broadband access in the community.	
Current Initiatives: • Create a County workforce development pipeline program that identifies career opportunities created by supporting the expansion of broadband, fiber, and related telecommunications infrastructure industries (DPW).	**Future Initiatives:** • Develop and implement a Countywide awareness campaign with the goal of increasing broadband utilization. • Education efforts in native languages for free programming and access. • Promote education on broadband issues and promote engagement in broadband planning in local communities. • Enable digital divide solutions hotline.

5.2 Goal 2: Provide Digital Devices

Objective 1: Develop sustainable device procurement process.	
Current Initiatives: • Grantee arts nonprofits (and non-arts nonprofits that use arts in their programming) distributed tablets, laptops, hotspots, or other hardware to program participants during the COVID-19 Pandemic (Arts and Culture). • Laptop/MiFi kits made available at 85 libraries as part of the laptop lending program. Expanding availability to laptop and hotspot kits delivers an essential connection to job-seeking resources, educational materials, information, and benefits that the most underserved in these communities lack (Library). • Provide hardware, internet access, and digital literacy classes in community centers for residents (LACDA).	**Future Initiatives:** • Enhance County salvage process to provide devices with adequate software and all required hardware. • Provide easy to use and easy to manage devices for unserved communities. • Evaluate and replicate other cities/counties' successful efforts for free home internet and/or free Chromebook options. • Mechanism for residents to order digital device through call center. • Identify all partners and areas served by the partners and explore options to cover the gap areas. • Partner with technical trade schools to repair the salvaged devices and deliver it through community-based organizations. • Develop Technology Innovation Labs and upgrade Computer Clubs' desktops (DPR).

Objective 2: Enable reduced cost device options.	
Current Initiatives: • Library Work Ready program - 200 Laptop/MiFi kits available at 10 libraries (Library).	**Future Initiatives:** • Insure low-cost devices for low-income/underserved communities.

• Laptops for school kids in various school districts (Los Angeles County Office of Education).	• Affordable options for devices (income-based payment plans). • Partner with Health Plans (or other community-based organizations) in support of this initiative.

Objective 3: Enable after-purchase technology support options.	
Current Initiatives: • Identify nonprofit/community-based organizations in the region that provide technology support.	**Future Initiatives:** • Leverage Gig Economy workforce and college students for part-time technology support. • Partner with private corporations and/or nonprofit companies to provide after-purchase technology support (e.g., Geek Squad, AmeriCorps). • Partner with 211 call centers to provide Tier 1 support services. • Partner with local schools to provide an opportunity for high school students to earn work experience credit.

5.3 Goal 3: Empower with Digital Literacy

Objective 1: Increase outreach to identify and fulfill the digital literacy gap.	
Current Initiatives: • Library locations provide informal digital literacy education to customers regarding computer use, and using the Library website, Digital Library, devices, etc., upon request (Library). • Library continually develops in-person and, more recently, virtual digital literacy programming to assist customers of all ages with digital literacy. These include computer classes, coding classes, classes on how to download library materials onto devices, and instructions on using the Library website, app, databases, and online learning, etc. (Library).	**Future Initiatives:** • Identify gaps of technology educational skills in underserved communities, such as basic knowledge of apps, computers, internet, social media, and smartphones, through County outreach programs including surveys and interviews. • Identify challenges impacting the digital literacy of County residents. • Targeted outreach program to create awareness in underserved communities on the existing training programs. • Integrated digital literacy programs with the device and internet programs to serve the holistic needs of the underserved communities. • Partner with organizations which provide literacy programs and collect datasets and metrics available with them. • Leverage best practices from other social issues and outreach approaches (e.g., food distribution). • Leverage percent of online/in-person users for other County services to baseline the

	literacy level (e.g., number of people who can make an appointment for their vaccination and able to file their taxes).

Objective 2: Enable new channels to deliver digital literacy programs.	
Current Initiatives: • County Work Ready Program includes virtual programs and YouTube tutorials (Library).	**Future Initiatives:** • Make digital services available in several native languages. • Community-based training programs - train the trainer format. • Incentivize training programs – trainer-offered free or discounted devices. • Provide digital literacy training along with device program. • Explore partnerships with existing training partners (Udemy, LinkedIn Learning, etc.) to make available a free targeted computing basics/digital literacy curriculum for residents. • Leverage County programs to deliver devices and literacy as they visit the County facilities for services which can be delivered online efficiently.

Objective 3: Introduce new training programs to cover diverse needs.	
Current Initiatives: • Delete the Divide (DTD) - Empower youth and small businesses in underserved communities with direct access, training, and support services in modern technologies (ISD). • Provide grants to arts nonprofits (and non-arts nonprofits that use arts in their programming) throughout the County, some of whom use these funds to build their digital content and communication (Arts and Culture). • Piloting a program to check on homebound seniors daily through a real-time feature using Amazon Echo Show that will have additional software added to monitor their health and well-being (WDACS). • Telehealth visits via phone and video - partnership with Healthnet to provide phones during the COVID-19 Pandemic; robocalls to patients; Patient Wellness Portal; text messages; chatbot; re-designed	**Future Initiatives:** • Develop introductory Information Technology literacy training courses. • Provide local in-person training opportunities at County facilities as well as other locations, including community centers, senior centers, parks, and religious facilities. • Develop podcasts for basic digital literacy needs, including 101 sessions and short videos for respective communities. • Develop standards for eSports Gaming Arena (DPR).

internet site (Department of Health Services).	

6. Key Milestones

Many departments have completed or are working on the digital divide initiatives and have achieved milestones that are listed below.

Internal Services Department

DTD is an initiative led by the County to empower youth and small businesses in underserved communities who are adversely impacted by the digital divide.

Milestones executed in the last 3 months:

- Finalized agreements with core partners;
- Launched website; and
- Issued press release and began marketing/outreach.

Milestones to be executed for June 2021 launch:

- Finalize portal functionality and content, including eligibility/registration authentication, career pathways and course catalogs, and other program resources;
- Launch community outreach and informational sessions; and
- Launch DTD-sponsored events to increase youth and small business registrations, including MoonMark Challenge and Youth Enrollment Challenge.

Milestones to be executed after June 2021 launch:

- Establishment of DTD centers where participants can have access to computer equipment;
- Continue to establish agreements with corporate partners for more programs, events, and resources to offer to DTD participants;
- Continue creating partnerships with nonprofit organizations to provide assistance with outreach, equipment needs, and mentorships; and
- Project-based learning and internships through WDACS, and initial program metrics on quality and value (site analytics, enrollment data, feedback from interest survey, etc.), which can be used to modify offerings and outreach strategies.

Los Angeles County Office of Education

Milestones completed:

- Initiated an agreement with Spectrum Charter Communications to identify service addresses for district students; and
- Completed the process for one district as a pilot to identify all students who have Spectrum service, all who do not, and, of those who do not, whether Spectrum could provide it or not, and at what speed.

Planned Milestones:

- Replicate this process to all districts throughout the County who are willing to participate.

Public Works

DPW reported the progress to the Board on January 25, 2021. Since then, the Bridging the Digital Divide cross-departmental team, which DPW leads, has continued to:

- Meet with external and internal partners to explore public-private partnership opportunities (e.g., Charter/Spectrum, Verizon, Crown Castle, CETF, SIP, City of Los Angeles, etc.);
- Work collaboratively with ISD and DRP to investigate additional data sources to enhance the County's GIS database, in order to identify the needs and gaps in service levels related to digital/broadband services;
- Meet with DRP and County Counsel, as well as private sector entities, regarding streamlining the permitting process to expedite broadband expansion, with a particular focus on areas that are underserved and under-resourced;
- Examine DPW assets that may be used to expand broadband infrastructure and resources (e.g., street light poles); and
- Finalize the Request for Proposal for expert consulting services to assist the department in achieving the directives of the Bridging the Digital Divide Board motion.

Public Social Services

In response to the COVID-19 Pandemic, the GAIN Program expanded its ancillary policy to adopt a basic laptop allowance for GAIN participants to purchase a laptop (and show proof of purchase) to support vocational or educational classes that transitioned to online courses, or to those participants who wanted to enroll in online courses after April 2020.

Milestones completed:

- Since the policy was put in place in April 2020, GAIN staff have issued laptop payments to a total of 2,918 CalWORKs GAIN participants. The total expenditure in laptop allowances as of March 31, 2021 is $1,115,692. This represents a monthly average of $92,974 in ancillary issuances for laptops, to the benefit of an average of 243 CalWORKs GAIN participants a month.

Los Angeles County Development Authority

LACDA has recently joined ConnectHome USA Initiative and Long Beach COVID-19 Pandemic Digital Inclusion Response Working Groups.

Milestones completed:

- LACDA has concluded a basic digital needs assessment, surveying 220 tenants for the Housing Assistance Division, and a total of 227 tenants for the Housing Operations division, focusing on the Long Beach Housing site, Carmelitos.

Library

Milestones completed:

- As part of the Library Laptop and Hotspot Loan Program, Library delivered 2,290 Chromebooks to LA County residents in 7 months.

Upcoming Milestones:

- As part of the upcoming efforts to expand the Library Laptop and Hotspot Loan Program, Library plans to obtain 1,500 additional kits by the end of 2021.

7. Next Steps

The following are the key activities being pursued by the Digital Equity Regional Team:

- **Data Strategy**
  - Development of data-driven metrics;
  - Inventory of data sources;

  - Visualization of current baseline; and
  - Development of a dashboard, reflecting the initiatives, progress, and potential impact using defined metrics.
- **Prioritize Future Initiatives**
  - Prioritize key initiatives, which are high-impact and can be initiated with available resources and funding; and
  - Identify top communities (pilot regions) in each district and prioritize the initiatives in these communities.
- **Regional Strategy**
  - Expand the Strategic Plan to include regional efforts.

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JANICE HAHN
Fourth District

KATHRYN BARGER
Fifth District

October 26, 2021

To: Supervisor Hilda L. Solis, Chair
Supervisor Holly J. Mitchell
Supervisor Sheila Kuehl
Supervisor Janice Hahn
Supervisor Kathryn Barger

From: Peter Loo
Acting Chief Information Officer

SECOND REPORT BACK ON DEVELOPING THE DIGITAL DIVIDE REGIONAL STRATEGIC PLAN (ITEM NO. 11, AGENDA OF FEBRUARY 23, 2021)

On February 23, 2021, the Board of Supervisors (Board) directed the County of Los Angeles (County), Office of the Chief Information Officer (OCIO), in coordination with County departments and external stakeholders, to develop and implement a County Digital Divide Internal Action Plan (Action Plan), as well as a Regional Strategic Plan.

OCIO initiated the effort in March 2021, by establishing the following teams:

1. Digital Divide Strategy Team – Focused on developing and implementing the regional strategy and sustainable solutions to close the digital divide;

2. Digital Divide Action Team – Comprised of County departments and community leaders focused on coordinating the implementation of the County's internal action plan; and

3. Digital Divide Advisory Team – Comprised of regional leaders and partners providing input to the solutions and approaches.

Considering the urgent need to address the issue, as well as ensuring long-term equity-based sustainable solutions, the execution plan follows a dual approach: a community-based approach focused on the quick wins and immediate impact and a strategic approach focused on long-term sustainable solutions.

Below are the key highlights of the activities and/or accomplishments since the last progress report issued in May 2021:

- Community-Based Approach

    - 25 high-impact neighborhoods have been identified as focus areas for initiatives;

    - Local community leaders are nominated and included in the Advisory Team; and

    - A Countywide Action Plan is developed comprising of all County departments' initiatives with expected outcomes.

- Strategic Approach

    - Pursue public funding sources through appropriate departments and agencies, including the American Rescue Plan and the Emergency Connectivity Fund;

    - Partner with agencies including the City of Los Angeles, the City of Long Beach, Pasadena, EveryoneOn, and the Los Angeles Economic Development Corporation to ensure replication of local successes across the County;

    - Partner with the Massachusetts Institute of Technology's Regional Entrepreneurship Accelerator Program, to engage local entrepreneurs and venture capital to develop sustained opportunities in the County's communities of need;

    - Conduct financial modeling to close the digital divide in demonstration neighborhoods in the County, per the directive in the Board motion, *Accelerating efforts to crush the digital divide,* dated August 27, 2021; and

    - Advocate for policies and legislature, secure funding from the identified sources, and develop a model for the regional systemic initiatives, including, but not limited to, middle-mile and last-mile network, devices supply chain and technology support center, innovation hubs, and a full spectrum of digital literacy programs.

The attached report provides details of the approach, efforts, and the current status of the above-mentioned activities.

Should you have any questions concerning this matter, please contact me at (213) 253-5627 or ploo@cio.lacounty.gov.

FAD:JMN:TJM
PL:JD:jmn

Attachment

c: Department Heads

Attachment

Developing the Digital Divide Strategic Plan

SEPTEMBER 2021

OFFICE OF THE CIO
COUNTY OF LOS ANGELES

CEO
Chief Executive Office
COUNTY OF LOS ANGELES

Contents

Strategic Goals

The Office of the Chief Information Officer (OCIO) initiated the effort in March 2021, by establishing the "Digital Equity Regional Teams" structure to facilitate the development of the Digital Divide Regional Strategic Plan. The Teams consist of multiple groups, including the working groups, the "LA County Digital Divide Action Team (Action Team)" focused on County's internal action plan, the "LA County Digital Divide Regional Strategy Team (Strategy Team)," focused on the regional strategy and "LA County Digital Divide Regional Advisory Teams (Advisory Team)" comprised of regional leaders, partners providing inputs to the solutions and approaches. The Strategy Team is focusing on developing long-term sustainable solutions, policy, and high-value systemic programs interventions using perpetual funding options. The County of Los Angeles (County) is focusing on collating all digital divide efforts completed and in progress by participating departments, as well as aggregating all datasets to develop the current baseline and identify gaps. The top three to five neighborhoods are identified in each supervisorial district to help focus current and upcoming initiatives. The Action and Strategy Teams identified initiatives in the high-impact neighborhoods in each Supervisorial District that can be launched in the near term. The state and federal grants and funding applications are being considered for these prioritized initiatives.

The following goals, respective objectives, and metrics to address the digital divide holistically have been identified:

Goal 1: Increase Accessibility

Objectives:

- Identify gaps in the availability of broadband access, capacity, and services;
- Accelerate broadband access solutions deployed in underserved areas;
- Reduce internet subscription costs;
- Increase public-private partnerships related to broadband access services;
- Increase awareness about broadband access in the community;

Metrics:

- Percent of users without internet availability;
- Percent of users with internet availability less than Broadband Speed; and
- Percent of users who cannot afford internet subscription.

Goal 2: Provide Digital Devices

Objectives:

- Scale sustainable device supply chain process;
- Enable reduced-cost device options;
- Enable after-purchase technology support options;

Metrics:

- Percent of users without digital devices; and
- Percent of users without non-handheld digital devices.

Goal 3: Empower with Digital Literacy

Objectives:

- Identify digital literacy gaps;
- Enable new channels to deliver digital literacy programs; and
- Introduce new training programs to cover diverse needs.

Metrics:

- Percent of users unable to use the internet for basic purposes (e.g., email, web browser, messaging services, security awareness);
- Percent of users unable to use the internet to consume digital services (e.g., financial services, telehealth, social media, eCommerce); and
- Percent of users unable to use the internet for producing digital services (e.g., telework, job searches, online classes, or job training).

Strategy Execution – Approach and Progress

After finalizing the goals, the Teams moved into the Strategy execution phase consisting of a dual approach:

- Community-Based Approach focused on the Immediate Impact; and
- Strategic focused on long term Sustainable Solutions

Community-Based Approach – Countywide Action Plans

As part of this approach, the opportunities are explored to make an immediate impact in the highly impacted areas and underserved communities to help achieve equity across the region.

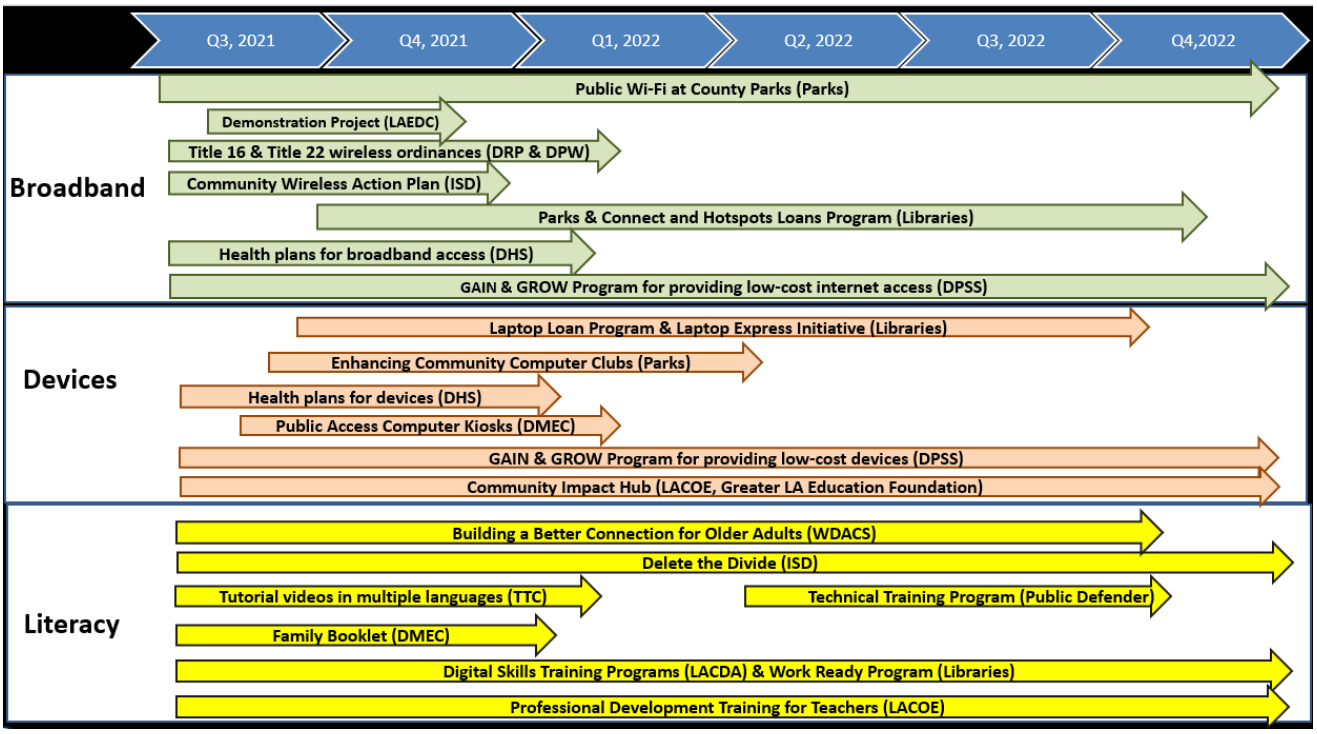
Prioritized Neighborhoods

To ensure equity in the solution approach, the OCIO collaborated with the Board of Supervisors (Board) to identify the top three to five neighborhoods in each district that are highly impacted by digital divide. The internet connectivity, race, income, and demographics maps are being used to identify these neighborhoods. These neighborhoods have been selected to prioritize the available funding and the planned initiatives.

1st District	2nd District	3rd District	4th District	5th District
• East Los Angeles • Boyle Heights/Lincoln Park • Huntington Park • El Monte/South El Monte • Bassett/West Puente Hills/Unincorporated La Puente	• Compton • Lynwood • Willowbrook • Florence-Firestone • Lennox	• City of San Fernando • Pacoima • Panorama City (with a small eastern portion of North Hills) • East Hollywood • High-need areas of Hollywood	• Hawaiian Gardens • Paramount • Downtown Long Beach • Bellflower • South Whittier • Norwalk	• Lancaster • Lake Los Angeles • High-need areas of Glendale • High-need areas of Pasadena • Duarte

County Action Plan

The Action Team collaborated to collate all department-specific initiatives in progress or planned in the next 6-12 months. The list of neighborhoods is provided to all departments to prioritize their activities within these initiatives. The following is the roadmap developed by identifying all current and upcoming initiatives. The departments are requested to share outcomes and metrics so that incremental progress can be tracked quarterly. The initiative's background, status, and upcoming milestones are provided in Section 7 – Appendix of the report.



The baseline metrics of the digital divide gaps is being prepared for these neighborhoods. The Los Angeles Economic Development Corporation (LAEDC) has launched a four-month project to ascertain the key obstacles to broadband adoption in two pilot communities – Lynwood and Willowbrook. LAEDC is partnering with the Second District, the City of Lynwood and school district of Lynwood and various community organizations to gather the necessary data and conduct focus groups with residents to better understand the barriers they face and then will be preparing a report cataloging those barriers and identifying potential solutions to each. Based on this framework, similar reports may be planned for other neighborhoods.

The funding for the following initiatives is approved as part of American Rescue Plan (ARP) Recovery Funds as Board approval dated July 27, 2021.

Program	Allocation
Library Laptop and Hotspot Lending and WorkReady Programs	$3.4 million
Delete the Divide Initiative	$2.9 million
Community Impact Hubs	$2.0 million
Public Wi-Fi at County Parks	$1.5 million
Library “Park and Connect” Program	$1.5 million

Program	Allocation
Building a Better Connection for Older Adults	$0.7 million
TOTAL	**$12 million**

Strategic Approach - Regional Strategic Efforts

While the Action Team is focusing on current direct impact initiatives, the Strategy Team is focusing on long-term sustainable solutions. The efforts are divided into three different areas to achieve the following objectives:

- Define ongoing sustainable operating model;
- Identify and implement high value systemic initiatives (cross-agency/regional);
- Enable entrepreneurship opportunities based on new solutions; and
- Identify Perpetual and Self-funding sources (Co-sponsor federal, state, Philanthropic Private Grants, Funds, and Investments).

The Strategy Team members were finalized and have been working on the regional strategic efforts since April 2021. The Strategy Team members with diverse background and expertise were shortlisted and are listed in Section 7.3.

The four identified areas, along with planned activities, are as follows:

Policy

The Team collaborates with the Chief Executive Office (CEO) Legislative affairs to advocate for the current and upcoming policies related to digital divide. The policies and bills which are being closely reviewed and tracked with assistance from CEO Legislative Affairs and other supporting partners are listed in Section 7.1.

On July 20, 2021, Governor Gavin Newsom signed Senate Bill (SB) 156 into law, initiating the creation of a statewide open-access middle mile network. The Digital Equity Regional Team is collaborating to provide public comment to the California Public Utilities Commission (CPUC) on the identified issues related to the network. The ruling can be found at: https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M397/K312/397312171.PDF

Entrepreneurship

The Strategy Team acknowledges the importance of entrepreneurship as a critical component in developing long term sustainable solutions. They have started discussing the approach and potential outcomes with the following objectives to be achieved in this focus area:

- Increase entrepreneurship mindset in the communities;
- Develop entrepreneurship skillsets;
- Ensure equity in the entrepreneurship opportunities;
- Support small and local businesses;
- Identify and enable capital investments;
- Streamline procurement processes to accelerate startups; and
- Enable connectivity across different entities.

The following successes from other initiatives are being studied to identify best practices and learnings while developing the future operating model for the digital divide:

- Los Angeles Cleantech Incubator (https://laincubator.org/);
- BioSpaceLA (https://biosciencela.org/);
- Metro – Extraordinary Innovation (https://www.metro.net/projects/oei/what-is-oei/); and
- Pledge LA (https://pledgela.org/).

Partnerships

The digital divide is a multi-dimensional problem deeply interconnected with other socioeconomic issues and therefore requires a partnership with County departments, cities, states, private partners, and other institutes. The team has collated a list of all non-profit and philanthropic efforts within the County to address the digital divide. The Team has initiated conversations with the following partners for maximum synergy and efficient solutions:

Digital Divide Regional Advisory Team: OCIO has established the Advisory Team as part of Digital Equity Regional Teams to ensure involvement from all regional stakeholders and community leaders in the inclusive development of sustainable, equity-based solutions. The Advisory Team is meeting on a monthly basis and consists of Community Leaders who are nominated by the Board representing each district to get local insights on the challenges and opportunities. Along with private partners, subject matter experts, solution providers, community-based organizations, non-profit organizations, the Advisory Team is assisting in the following areas:

- Provide inputs on prioritizing the neighborhoods;
- Provide inputs on existing programs/solutions in place in the neighborhoods;
- Review and validate initiatives from local needs and constraints;
- Provide executive oversight to the identified initiatives to ensure success;
- Assist in collecting data for these neighborhoods through County outreach efforts; and
- Provide inputs for any legislation, regulatory, policy changes, and/or potential funding sources related to current or future broadband, device, and literacy solutions.

University of California – California Emergent Technology Fund (USC-CETF): Since 2008, the CETF has conducted a statewide survey to assess California's progress towards closing the divide in broadband connectivity across the state. The 2021 Statewide Survey on Broadband Adoption was conducted by researchers at USC, as part of a new research partnership between CETF and USC. The Strategy Team is planning to leverage the USC-CETF partnership and survey outcomes periodically to track progress made through various initiatives. https://assets.uscannenberg.org/docs/CETF-USC_Statewide_Broadband_Adoption_Survey.pdf

Investor-Owned Utilities (IOU): As part of its electric utility operations, various IOU's have fiber-optic networks in Southern California. The Strategy team is looking into enabling multiple

middle-mile network solutions including partnerships with IOU for public access, apart from leveraging networks from Internet Service Providers (ISP).

Southern California Association of Governments: The Strategy Team is part of regional efforts in partnership with the Southern California Association of Governments and National Community Renaissance focusing on securing state and federal funds on Broadband Infrastructure as well as data collection efforts.

Los Angeles Digital Equity Action League (LA DEAL): LA DEAL (www.ladeal.org) is an inclusive and collaborative regional broadband consortium, led by LAEDC and UNITE-LA employing a community-driven process with more than 100 public and private partners across the County to assess and close the broadband gaps that exist in communities. The LA DEAL is awarded the Rural and Urban Regional Broadband Consortia grant of $300,000 from the CPUC's California Advanced Services Fund (CASF). This project piece of LA DEAL's work will facilitate the deployment of broadband services by assisting infrastructure applicants in the project development or grant application process in the County.

Gateway Cities Council of Governments: The Gateway Cities Council of Governments is in the process of developing a Request for Proposal to select a consulting firm to develop a sub-regional Broadband Master Plan for the 27 incorporated cities and 12 unincorporated communities within its service area. The development of the master plan is being funded by a $225,000 state budget allocation that was requested by Assembly Member Cristina Garcia, Assembly Speaker Anthony Rendon, and Senator Bob Archuleta. Once the consulting firm has been selected, it will take approximately nine months to prepare the Gateway Cities Council of Governments' Broadband Master Plan.

BizFed: BizFed and BizFed Institute representing chambers of commerce and industry associations is currently engaged in a pilot project that will enable rapid deployment of Wi-Fi access in targeted underserved areas identified by Southern California Association of Governments (SCAG) and County coverage mapping: East Los Angeles including Boyle Heights, South Los Angeles including Compton, Lynwood, Watts, and Willowbrook areas, 110 freeway corridor, 710 freeway corridor. The institute is also focusing on outreach efforts with adoption and literacy programs, hiring local talent and training them for jobs as "Neighborhood Cyber Stewards" and assisting in the efforts to get coverage mapping surveys completed across the County that identifies hot spots.

Internet Action Team: The Strategy Team is also participating and providing inputs to Internet Action Team – part of "No Going Back – LA" which focuses on developing a policy blueprint for systemic change. https://nogoingback.la/the-report-executive-summary/internet-as-a-right/.

EveryoneOn: With a grant from CPUC CASF, EveryoneOn is providing digital skills training to 240 K-12 parents and adults (working age or seniors) in Westlake/Pico-Union and Boyle Heights in partnership with Para los Niños, LIFT LA and Inner-City Struggle. The training will introduce participants to various digital tools that foster new learning and strengthen digital skills. The overarching training objectives will address digital literacy competencies like

1) increased comfort utilizing technology; 2) increased ability to communicate, collaborate, and create on digital platforms; 3) ability to set privacy settings; and 4) ability to access and use educational and employment resources. EveryoneOn will also provide enrollment assistance into a low-cost internet service option to participants.

The following regional and city-based efforts are being reviewed and an opportunity for expansion and partnerships is explored:

South Los Angeles Vision Lab: The City of Los Angeles is leading the South Los Angeles Vision Lab which will focus on disrupting the digital divide and bringing internet connectivity and digital literacy to businesses and residents in the County and beyond. There are three goals to the South Los Angeles Vision Lab that revolve around radically transforming the ability to:

- Help new, local businesses to create products and services that help break through the digital divide in creative ways to connect more people equitably and affordably online bringing economic opportunity;

- Support businesses impacted by the COVID-19 pandemic to quickly stand up, use, and connect with customers online in a way that helps them weather this storm and be more resilient and helps them gain additional economic stability; and

- Train today's students and workers in tomorrow's technologies in accredited, superfast, engaging ways that land them in jobs quickly and link to programs for foster youth, restorative justice, and opportunity youth.

Long Beach Digital Inclusion Roadmap: The City of Long Beach has created a Digital Inclusion Roadmap with community members and local cross-sector partners. The cross-sector partners engaged in a robust strategic planning process to develop a vision statement, goals, objectives, and strategies to ensure that everyone in Long Beach has equitable access and use of the internet, technology devices, and computer literacy training. http://longbeach.legistar.com/View.ashx?M=F&ID=9462191&GUID=C0905417-EF61-480F-A485-22D03FA687AD

Funding Sources

The Team is closely monitoring and securing all public funding sources available, as follows:

Funding Source	Potential Funding Available
ARP	• First Tranche Projects - $12 million approved for various County initiatives by the Board • Second Tranche from early 2022 • Potential funding through next phase - American Jobs Act of 2021
California Broadband Infrastructure - Assembly Bill (AB)/SB 156	• $3.25 billion state-owned open-access middle mile broadband infrastructure • $2 billion for last mile expenditures ($1 billion for rural and $1 billion for urban areas)

Funding Source	Potential Funding Available
	• $750 million for loan loss funds
Federal Communications Commission (FCC) - Emergency Connectivity Fund	The Emergency Connectivity Fund is a $7.17 billion program funded by the ARP Act of 2021 to help schools and libraries support remote learning. The Los Angeles County Office of Education (LACOE) as well as Libraries have applied for these funds.
FCC - Emergency Broadband Benefit	Provide a discount on broadband services and devices for underserved communities. Various outreach mechanisms are used to inform these communities about the benefit.
CASF Broadband Consortia	Funding for Broadband projects by California Public Utilities Commission/CASF Consortia Fund. The funds award is expected by end of August 2021.
National Telecommunications and Information Administration - Broadband Infrastructure Grant Program	Rural broadband deployment grant program for partnerships between a state or one or more political subdivisions, and a provider of fixed broadband service. A provider of fixed broadband service may participate in more than one covered partnership.
FCC - Rural Digital Opportunity Fund	Program Targets Areas With At Least $4 million Rural Homes, Small Businesses That Lack Modern Broadband Service.
FCC - Telehealth Initiatives	Providing telecommunications services, information services, and devices necessary to enable the provision of telehealth services.
Tribal Broadband Connectivity Grants Program	Broadband infrastructure deployments and discounts on Tribal lands.
Education Stabilization Fund	Composed of three primary emergency relief funds: 1) Governor's Emergency Education Relief Fund; 2) Elementary and Secondary School Emergency Relief Fund for local education agencies (LEA); and 3) Higher Education Emergency Relief Fund.
Department of Agriculture	$125 million - Re-Connect Pilot and Distance Learning and Telemedicine and Broadband Program.
Homeowner Assistance Fund	Provide mortgage assistance, as well as payment assistance for internet service, including broadband internet access service.
Connecting Minority Communities Pilot Program	Grant program for Historically Black Colleges and Universities, Tribal Colleges and Universities, and Minority-Serving Institutions or consortium applicants.
CARES Act	Already allocated to various initiatives.

Apart from these public funding sources, the philanthropic as well as private investments are being explored as part of regional strategic efforts.

Other Efforts and Resources

Website

OCIO has developed a website which will serve as starting point for partners to review the County's strategic approach and comprehensive list of various initiatives and resources: https://ceo.lacounty.gov/cio-digital-divide/

Data Sources and Storyboard

OCIO, in partnership with the Internal Services Department (ISD), is developing a publicly accessible site which will be used as a comprehensive source of Digital Divide metrics, baselines, and progress. The data and Geographic Information System (GIS) teams from Department of Public Works (DPW) and Department of Regional Planning (DRP) provided full support by collating different datasets and GIS maps required for the Storyboard. The site will be updated as new information and data becomes available. The draft version of the site can be accessed at: https://storymaps.arcgis.com/stories/b42115407a9b4c69b95f8ce84099c2f6.

The site contains maps showing baseline data of Digital Divide metrics in communities throughout the County. These data can be used to track progress of Digital Divide efforts in the County by comparing future data with these baseline data.

The site also contains a map of the Board's target communities for addressing the Digital Divide and profiles of these communities (including their baseline Digital Divide metrics). The data can be used to assist in pinpointing the type and scale of initiatives needed to address the specific needs of each target communities.

To assist with targeting and planning of Digital Divide initiatives in the County, the following maps have also been developed to supplement the Digital Divide metrics maps above:

- Public Wi-Fi locations and commercial Wi-Fi hotspots;
- School District internet availability;
- ISP Coverage Areas - Fixed Business, Residential/Consumer, Mobile Deployment;
- Broadband speed test data by Zip code;
- Fiber presence by census block; and
- Demographics (race and Hispanic origin, predominant race, household income).

To develop the above-mentioned maps and metrics, the County is leveraging various public data sources as well as in discussions with various private partners for the granular datasets, including:

- American Community Survey;
- ESRI Consumer Spending Survey;
- CETF-USC Statewide Broadband Adoption Survey;
- FCC Form 477/ California Public Utilities Commission; and
- Broadband Now.

Low-Cost Service Offerings

The County has partnered with EveryoneOn, a non-profit organization, and the California Emerging Technology Fund to provide access to a comprehensive list of service programs available to County residents. Multiple ISPs have made updates to their low-cost internet service programs to assist individuals and families to stay connected to the internet. The website can be accessed using the link: https://www.everyoneon.org/find-offers-lacounty?partner=lacounty&custom=1

Outreach Efforts

In all stakeholder discussions, one of the key challenges identified is an effective outreach to the intended audience. There are various low-cost services available, but those in need may not be aware of, or able to access, them. The following report highlights the low adoption of emergency broadband benefits programs in the County: https://www.benton.org/blog/emergency-broadband-benefit-has-thus-far-enrolled-just-1-12-eligible-households-places-low

To address this challenge, the Action Team is exploring options with the Department of Public Social Services (DPSS) to leverage their outreach efforts as part of Greater Avenues for Independence (GAIN) and General Relief Opportunities for Work (GROW) programs.

Next Steps

The Team will continue to work on the following activities:

- Support LAEDC in their Demonstration project for two pilot neighborhoods and expand the two neighborhoods pilots to other neighborhoods;
- Track progress, mitigate any identified risks in the current and in-progress projects;
- Provide written block-by-block financial modeling to close the digital divide in demonstration neighborhoods in the County as per Directive in the Board motion "Accelerating efforts to crush the digital divide" dated August 27, 2021;
- Granular data baselining for the identified metrics and quantified incremental progress made through identified projects; and
- Advocate for the policies and legislatures, secure funding from the identified sources and develop a model for the regional systemic initiatives including, but not limited to, middle-mile and last-mile network, devices supply chain and technology support center, entrepreneurship opportunities, and a full spectrum of digital literacy programs.

Appendix

Policies

The following policies related to Digital Divide are being reviewed and tracked closely with assistance from CEO Legislative Affairs and other supporting partners:

- SB 4: Update the CASF by making communities eligible for grants based on their true internet need, promoting the deployment of high-speed, 100mbps broadband, and making it easier for local governments to apply for grants and finance their own infrastructure.
- SB 28: Rural Broadband and Digital Infrastructure Video Competition Reform Act of 2021.
- SB 156: Implements the first year of a three-year $6 billion investment in broadband.
- SB 378: Promote the deployment of broadband infrastructure and internet connectivity for all Californians by requiring local jurisdictions to allow fiber cables to be installed using cost-effective techniques including open trenching or boring, or micro-trenching if specified criteria is met.
- SB 546: Communications - Lifeline Universal Service - require the CPUC to extend a two-year pilot foster youth program as an element of the lifeline telephone service program to provide eligible foster youth with a smartphone and monthly prepaid mobile telephony service, including unlimited voice, text, and data service.
- SB 556: Seeks to ensure local governments provide access and quickly permit approval of small wireless facility siting applications.
- SB 743: Housing developments - Broadband Adoption Grant Program - Would require the CPUC to establish a grant program to fund broadband adoption, digital literacy, and computer equipment for eligible publicly supported communities, low-income mobile home parks, and farmworker housing.
- SB 767: Establish the Digital Education Equity Program, to be administered by the State Department of Education.
- AB 14: Revises law regarding CASF.
- AB 41: Requires the CPUC to maintain and update a statewide map showing the accessibility of broadband service including the percentage of each census block that has broadband service meeting federal and state standards and requires Caltrans to install broadband conduit.
- AB 34: Authorizes the issuance of bonds in the amount of $10 billion pursuant to the State General Obligation Bond Law to support the 2022 Broadband for All Program.
- AB 74: Requires the CPUC to streamline the enrollment and recertification process for the Lifeline program.
- AB 75/SB 22: Included provisions for schools to upgrade their broadband infrastructure on the site.
- AB 464: Enhanced Infrastructure Financing Districts - Allowable Facilities and Projects - Authorizes the legislative body of a city or a county to establish an enhanced infrastructure financing district to finance public capital facilities or other specified projects that provide significant benefits to the district or the surrounding community.

- AB 537: Requires that the time for city and county approval of collocation or siting applications for wireless telecommunications facilities be deemed approved if the city and county fails to approve within the standard set by the FCC.
- AB 955: Encroachment permits - Broadband Facilities - Would establish additional procedures for the Department of Transportation's review of an application for an encroachment permit for a broadband facility.
- AB 1176: Universal Broadband Service - California Connect Fund - Would require the CPUC to develop, implement, and administer the California Connect Program to provide subsidies to ensure that high-speed broadband service is available to every household in the state at affordable rates.
- AB 1349: California Advanced Services Fund - Broadband Adoption Account - Would add nonprofit religious organizations as being within the category of nonprofit organizations that are eligible applicants for funds from the Broadband Adoption Account.
- AB 1425: Reestablishes the Broadband Public Housing Account in the CASF and annually allocates $25 million to the account.
- AB 1560: Pupil Access - Computing Devices and Broadband Internet Service - Would require the Superintendent of Public Instruction to survey each school district, County Office of Education, and charter school annually and report to the Legislature on the number of pupils without computing devices that meet the minimum performance standard for distance learning and on the number of pupils from households without residential broadband service.
- CPUC#20-08-021: Order Instituting Rulemaking Regarding Revisions to the California Advanced Services Fund.
- CPUC #20-09-001: Order Instituting Rulemaking Regarding Broadband Infrastructure Deployment and to Support Service Providers in the State of California.

Department Initiatives

The background, status, and upcoming milestones for County department initiatives are provided below:

Department of Arts and Culture

The Department of Arts and Culture (Arts and Culture) has been addressing the digital divide through both Organizational Grants Program (OGP) and professional development provided by the County Arts Ed Collective.

OGP: Arts and Culture makes grants through our OGP to approximately 450 nonprofit arts organizations each year, to increase access to Arts and Culture services for all residents of the County. During the COVID-19 pandemic, many of these organizations shifted to provide their programs and services online. Many incurred significant expenses to purchase hardware and software and invested significant time in gaining new skills. In 2020, the County used $12 million in CARES Act funds to make grants to Arts and Culture nonprofits to cover these and other losses and expenses due to the COVID-19 pandemic closures. As Public Health Officer orders loosened in 2021, Arts and Culture non-profits may continue providing online services which will benefit older adults and people living with disabilities. Using the available grants, the non-profits provided tablets/hotspots as well as boosted their Wi-Fi signals so that people in the community could access it in the parking lot.

Digital Skills Building for Educators: The County Arts Ed Collective (administered and staffed by Arts and Culture) provides professional development to K-12 educators and administrators and to teaching artists, to improve the quality, quantity, and equity of arts education in County public schools. When schools transitioned to online instruction during the COVID-19 pandemic, arts education did as well. The Arts Ed Collective has provided professional development training to help instructors improve their online teaching skills. Arts and Culture evaluated one of the professional development programs, Creative Wellbeing, which included an analysis of the transition to online instruction for this program and a toolkit with recommendations for how to provide healing-informed arts education online. The expected outcome is to improve the quality of online art education, thereby improving educational outcomes for students.

Department of Health Services

Screening for and providing tangible resources to address social care needs is a priority for the Department of Health Services (DHS), this includes assessing needs related to the Digital Divide and optimizing digital inclusiveness. DHS is transforming how the department delivers care, transitioning from traditional face-to-face visits to remote encounters utilizing phone and video-based communication modes. The goal is to increase completed Primary Care Video visits by 10 percent each month and ultimately be more intentional about Digital Inclusion. Connected Care Accelerator, Innovation Learning Collaborative grant awarded $100,000 to DHS to allow to learn and share strategies for sustainable remote strategies to provide acute, chronic, and preventive medical care. Furthermore, this grant will help to determine which of these modalities of care are most appropriate for different types of clinical services and the varying needs of our patients. DHS provides care to over 400,000 empaneled patients and serves a predominantly Black, Indigenous, People of Color population with a large proportion of Latinx patients. Many of the patients are non-native English speakers and are uninsured or underinsured at higher rates than state or national levels. The clinics serve communities that are clustered in parts of the County with the highest levels of the economic hardship index. Delivering virtual care to a safety-net population, particularly during a pandemic is a feat, but it is also a necessity that will drive how the department provides care for the future.

Most DHS clinics have or will have equipment provided by IT for the staff. The patient needs will be assessed, resources, such as devices, will be identified through partnerships with Community-Based Organizations. It is important to understand the needs to determine those most appropriate devices e.g. phone, computer, tablet, camera, etc. During the COVID-19 pandemic, Healthnet provided free phones and broadband. The metrics tracked are the number of telehealth visits done, with additional outcomes and metrics identified in the future for ongoing improvement, optimization, and sustainability. DHS will be implementing a new platform for video visits. The next steps are to engage in shared learning, identify best practices and resources needed to help our patients with needed resources such as technology devices and broadband services to optimize this service delivery. There is both local and regional shared collaborative learning. We will develop pathways for communication and linkage with other County Departments who are doing incredible work with Digital Inclusion, so that we are leveraging existing resources while also identifying opportunities to expand and create additional resources. The timeline of the grant is through 2022, and the goal is to then identify the sustainability of these efforts and integrate them into the DHS strategy for increasing telehealth visits and capabilities.

Department of Medical Examiner-Coroner

The Department of Medical Examiner-Coroner (DMEC) is in the process of implementing multiple initiatives to mitigate the digital divide and offer an improved experience for all.

- Family Booklet: Offering online information in an analog/paper-based brochure to families who do not have access to online services. DMEC is finalizing the document for implementation in the fall 2021.

- Amazon Call Center Solution: DMEC implemented a call center solution that has allowed our constituents to contact DMEC and be redirected to the proper department more efficiently, rather than waiting for available staff to pick up the calls. This has also allowed DMEC to monitor call wait time and manage the calls timelier. Constituents include funeral homes, local enforcement agencies, media, and family members of the decedents.

- Case Management System Upgrade: The upgraded system will integrate case information with the Amazon Call Center solution to provide families access to family case information through phone calls. This system is expected to roll out by the end of 2022.

- Public Access Computer Kiosks: The workspace will provide a "safe harbor" for County residents to access County Services (including DMEC-related information) online. DMEC is conducting a needs assessment and feasibility study of installing a public access computer kiosk.

Department of Parks and Recreation

The Department of Parks and Recreation (Parks) is actively working on the following initiatives to address the digital divide:

Provide Free Wi-Fi at Parks: Free Wi-Fi access to the internet allows park users to easily obtain information about their parks, reserve picnic areas or other amenities, register for recreation programs, or sign up to volunteer at their local parks. Parks is currently in the process of installing Wi-Fi at its 29 County pool facilities, in partnership with AT&T and ISD. This is part of Parks' plan to reduce barriers to online access to the County's ActiveNet system for program registration and facilities reservation. It is targeted to complete by the end of 2021. ISD was also awarded $1.5 million from ARP Recovery Funds to install public Wi-Fi at 36 County parks that serve communities hardest hit by the COVID-19 pandemic and with the lowest rates of home broadband access. This is targeted to be completed by the end of the fiscal year.

Department of Public Social Services

Department of Public Social Services (DPSS) CalWORKs/GAIN Program Digital Divide Initiatives:
DPSS' GAIN program provides ancillary/work-related payments to CalWORKs participants to cover the cost of items and/or services necessary to participate in Welfare-to-Work (WtW) activities and/or to accept or retain employment, including school supplies, tools, uniforms. In response to the COVID-19 pandemic, the GAIN Program expanded its ancillary policy to adopt a basic laptop allowance for GAIN participants whose vocational or educational classes

transitioned to online courses or who wanted to enroll in online courses effective in April 2020. In December 2020, the policy was further expanded to include payments towards the costs of modems and a monthly internet allowance for the participant to engage in any GAIN activity being conducted virtually. The outcomes of this policy help to address the digital divide for the CalWORKs WtW population across the County. Since this policy was implemented in April 2020, more than 4,059 CalWORKs WtW GAIN participants have been issued payments over $1.6 million towards the purchase of laptops. Within Fiscal Year (FY) 2020-21, ancillary payments for laptops were issued to 3,042 participants, totaling more than $1.25 million. This policy will continue until in-person activities are safe and readily available to CalWORKs WtW participants; at which time DPSS will re-evaluate the need for this policy.

DPSS GROW Program Digital Divide Initiatives:

- CalFresh Employment and Training (CFET) Lending Program: DPSS is developing CFET Lending Program in partnership with the Library. To increase accessibility to computers and to the internet, the CFET Lending Program will offer 700 CFET participants laptops and Wi-Fi devices to enhance participation in CFET activities. The expected start date is mid-2022.

- Short-Term Training Lending Program: DPSS is also working with LACOE to develop the Short-Term Training Lending Program. This program will provide 200 CFET participants with laptops to participate in short-term training provided by LACOE. Participants will be assisted in accessing the internet by locating available hot spots and other low-cost and/or free Wi-Fi access locations in their area. The expected start date is mid-2022.

Department of Public Works

In response to the Board's motion, "Bridging the Digital Divide" dated October 13, 2020, DPW is leading efforts in the following areas:

Code and Policy Changes to Streamline Permitting: In an effort to streamline the permitting for new and replacement wireless communication facilities (WCF) to increase bandwidth and coverage, Workgroup Team members from DRP and DPW are preparing an ordinance to clearly define the requirements for design and installation of these facilities. The ordinance would amend Title 16 and Title 22 of the County Code to establish countywide standards and procedures for WCFs. Checklists and design guidelines are also being prepared to facilitate the implementation of the ordinance. The goal of the changes being prepared is to streamline the permitting process for facilities within the public right of way by converting it to a ministerial process that would eliminate the need for a zoning conformance review or Conditional Use Permit currently required. The draft ordinances are expected to be released to the public in early fall 2021 and public outreach and comment periods will commence thereafter. It is anticipated that the Regional Planning Commission may hold a public hearing on the Title 22 ordinance before the end of 2021, and subsequently, both Title 16 and Title 22 ordinances may be scheduled for a Board public hearing.

The proposed code amendments are focused on streamlined processes, as follows:

- Title 16 (Highways) for small cell facilities located in the public right of way: Small cell facilities that meet standards would be approved ministerially by DPW and issued an encroachment permit.
- Title 22 (Planning and Zoning Code) for all other types of wireless facilities, including small cell facilities on private property and non-small cell facilities in the public right of way: Existing facilities that meet standards and small cell facilities would be approved ministerially by DRP. New facilities and existing facilities that do not meet standards would require a Conditional Use Permit.

Public Private Partnerships: The Workgroup dedicated to investigating public-private partnerships, led by DPW, undertook several efforts including:

- Ongoing meetings with OCIO to collaborate on partnership objectives and opportunities for the County;
- Meetings with the Second District and LAEDC regarding opportunities to promote partnerships in areas with significantly lower rates of internet connectivity and explore solutions that impact broadband adoption, access, and affordability;
- Continued to secure Southern California Edison light poles for potential use and master agreements to expand connectivity particularly in underserved and under-resourced areas; and
- Monitoring funding opportunities proposed at the state and federal levels.

Broadband GIS-Mapping: The GIS Workgroup has been collaborating with the Action Team and has supported the development of the data needs assessment, providing its expertise and the results of its data research to inform that regional effort. The GIS Workgroup also reached out to data vendors to identify more granular data that could support the initiative. Those contacts were provided to the Action Team to identify potential contract opportunities. The GIS Workgroup also met with BizFed and SCAG and compared data sets with them to ensure we had a complete understanding of the available baseline of data.

Bridging the Digital Divide Roadmap: To assist the Workgroup teams in developing a roadmap for Bridging the Digital Divide, a request for proposal for consultant services was issued with responses due by July 8, 2021. The proposal review and selection process will be completed by August 30, 2021. The goal is to engage the services of a highly qualified expert consultant to identify gaps in broadband access, examine strategies for increased accessibility, affordability, and adoption, and develop actionable recommendations to bridge the digital divide, targeting underserved and under-resourced areas and promoting equity and inclusion.

Internal Services Department

ISD Community Broadband Action Plan: In June 2021, ISD embarked on a review of its assets and infrastructure to develop an action plan that can support community wireless and broadband initiatives being considered by the Board and/or County departments. The action plan will provide an overview of the current state of ISD assets and infrastructure, including facilities, contracts, labor resources, etc., and present a path forward to facilitating wireless and broadband projects benefiting communities. ISD is working with a consultant to align asset data, materials, and deliverables. A draft report is projected by September 2021.

Delete the Divide: Pursuant to a Board motion approved in October 2020, Delete the Divide is administered by ISD and officially launched on June 1, 2021. Delete the Divide is an initiative led by the County to empower youth, young adults, and small businesses in underserved communities who are adversely impacted by the digital divide. Partnerships have been established with public, private, academic, and community-based organizations to unify efforts in ensuring that members have direct access to training and support services in modern technologies. This coalition of partners provides an abundance of programs and resources that create pathways to personal development and economic growth. County communities where 20.1 percent to 100 percent of the households lack internet access are considered adversely impacted by the digital divide. Delete the Divide membership is free for youth and young adults ages 12 to 24 and small businesses in these communities. Current offerings include:

Youth and Young Adults
- IT training courses;
- Technical certifications and badges;
- Conferences, tours, and special events;
- Academic scholarships;
- Paid internships and entry-level jobs;
- Business start-up programs;
- Job shadowing and mentoring;
- Industry connections; and
- Various support programs.

Small Businesses
- Early alerts of special events/opportunities;
- Business software training;
- Networking;
- Information seminars;
- Podcasts;
- Special assistance programs; and
- Support to expand an online presence via websites, social media, and e-commerce.

Progress Over the Last Three Months

- Developed GIS maps that identify the percentage of households within census tracts that lack internet access throughout the County based on U.S. Census data.
- Launched the Delete The Divide website at www.deletethedivide.org as well as social media sites.
- Established a trust fund in accordance with the County's policies and guidance from County Counsel and the Department of Auditor-Controller charitable donations and grants.
- Established partnerships and support networks with contributions from numerous entities, including public, private, academic, and community-based organizations.
- Presented information to various public agencies, corporations' organizations, academic institutions, and organizations.
- Collaborated with the Greater L.A. Education Foundation to develop a custom GIS mapping and analytics tool with socioeconomic data to assist in identifying potential locations for Best Buy Teen Tech Centers.
- Obtained donation from Esri of 2,000 user licenses to a local high school in South Los Angeles.
- Obtained donation from Google of 500 scholarships for IT certifications offered through Coursera.
- Conducted outreach at National Hot Rod Association Youth and Education Services Program at the Lucas Oil Winter Nationals, which included Science

Technology Engineering and Mathematics educational sessions, behind-the-scenes access to race cars and pit crews, and admission to the actual races.
- Met with various entities on concepts for a public-private partnership to rapidly expand free Wi-Fi access in underserved communities.
- Allocated $2.9 million from the County's American Recovery Program spending plan.

Next Three to Six Months

- Continued outreach to youth, young adults, and small businesses;
- Establish relations with new partners and supporters;
- Develop a paid internship program; and
- Compile metrics of achievements.

County Library

Laptop Express Initiative: The purpose of the Library Laptop Express Program is to provide Library customers with chrome books and internet accessibility while visiting Library locations. Currently, there are 27 Library locations with laptop lending kiosks, this program will be expanded to all 85 Library locations.

Laptop and Hotspot Loans: The purpose of the Library Laptop and Hotspot Loan Program is to provide Library customers impacted by the COVID-19 pandemic and/or the digital divide with chrome books and hotspots to borrow and use outside Library locations. Laptop and Hotspot Loan kits are available at all Library locations except bookmobiles. There is a plan to add additional kits in these locations.

Park and Connect Initiative: In partnership with ISD, Park and Connect allows the County residents who lack reliable internet service at home to benefit from outdoor Library Wi-Fi hotspots. Currently, it is available at 34 locations and the plan is to expand it to remaining locations during FY 2021-2022.

Work-Ready: The purpose of the Library Work Ready Program is to support job seekers with obtaining additional career opportunities and job skills. As of June 2021, the Library has completed four program sessions. Two additional program sessions are scheduled from July 2021 to December 2021. Currently, 20 Library locations offer Work Ready Kits with chrome books and hotspots; virtual live programs are open to all customers and recorded for later viewing.

Los Angeles County Development Authority

Los Angeles County Development Authority (LACDA) is focused on providing Public Housing and Housing Choice Voucher (HCV) clients with improved educational, employment, health, and social outcomes by reducing digital isolation. It includes providing sustainable efficient access, training and digital literacy, hardware, and securing partners for the Public Housing and HCV sites. With the launch site of Carmelitos Public Housing Development, the target is to cover 41 LACDA Public Housing Sites, 994 Public housing sites specifically, 8,195 Section 8/Housing

Choice Vouchers across the County. LACDA has partnered with ConnectHome USA (CHUSA) and is looking for additional partners. LACDA has completed an initial survey along with the CHUSA digital convening in June 2021. The next survey is planned for October 2021 seeking inputs for the roll-out plan.

Los Angeles County Office of Education

Professional Development Trainings: The Technology Learning and Support Services (TLSS) unit at LACOE provides ongoing professional development (PD) to school staff. There is basic application training planned for summer and fall (Word, Excel, PowerPoint) as well as PD on specific tech tools for the classroom (Flipgrid, Symbaloo, Bitmoji, Canva, Virtual Field Trips). In October 2021, LACOE will offer Digital Citizenship training for teachers. Training is conducted by the TLSS coordinators and is available to educators throughout the County. Based on attendance and evaluations, new sessions are added each quarter to meet the needs of the educational community that we serve. Information is distributed via a bi-weekly Constant Contact marketing email. Registration is available on the Instructional Technology Outreach Workshop page. (https://ito.lacoe.edu/workshops)

Community Impact Hub: The Greater LA Education Foundation (GLA), the philanthropic arm of LACOE, and the Best Buy Foundation are leading a growing collaborative of regional foundations and corporate partners to launch the Community Impact Hub (CIH) in the County. The CIH is a network of Teen Tech Centers, in-person spaces dedicated improving access to dynamic technology and career exploration with support from trained staff. Over the next five years at least 10 new Teen Tech Centers will be opening in priority communities in the County. The CIH is recently allocated $2 million funding as part of the American Recovery Plan. The Team is developing a map that integrates sophisticated community-level data analysis to determine with locations would benefit most from a Teen Tech Center. These indicators include educational attainment, median household income, racial demographics, access to broadband internet, and more. The map also overlays the location of potential sites with additional information including proximity to schools and public transportation. The inputs from the Board on the prioritized neighborhoods as well as crucial support from ISD - Delete the Divide initiative is being considered in selected sites. Two Teen Tech Centers (Vermont Slauson Economic Development Corporation, South Los Angeles and Legacy LA, Romona Gardens) are being planned to open by September 2021. Over the coming months, the Best Buy Foundation and GLA will hire additional staff people, define the process for selecting locations including a formal Request for Proposal process, build an advisory committee, continue ongoing development efforts, and finalize the operation of the project including logistical pieces related to the receipt and management of funds, reporting and grant management, and other components.

Public Defender

Technical Training Program: Public Defender is collaborating with ISD and Technology Partners to provide technical training for justice-involved youth and adults to be able to start a tech support career. The goal also includes technology certifications such as Cisco and Microsoft Technology Associate. Public Defender is planning to start the program early 2022.

Women in Technology: The County started a local university engagement to bring students of color from our local universities to implement technology solutions for County departments. It

has been consistently challenging to have female representation at those project teams because fewer female students pursue Computer Science and Computer Engineering schools. Public Defender has partnered with Troy High School in 2021 to bring female students for the technology projects. Public Defender is partnering with the Department of Human Resources to expand this program further from 2022.

Treasurer and Tax Collector

The Treasurer and Tax Collector (TTC) has implemented digital literacy enhancements to its website, including the ability to translate the website into the native language of choice and also by recording tutorial video segments, in several languages, explaining how to pay property taxes via online electronic check. Through these initiatives, we expand service delivery to constituents in their native languages and increase understanding of the information to facilitate more secure e-commerce transactions. We are currently evaluating additional languages to consider adding to the video bank.

In addition, to promote these services further and reach individuals that may be impacted by inaccessibility or lack of infrastructure, TTC published its communications in ethic media newspapers in nine languages, including English and Spanish. This allowed TTC to reach constituents in various cultural and ethnic pockets throughout the County. TTC's efforts intended to raise awareness and accessibility to information online and in native languages, to promote self-service throughout online mediums. These advertisements were incredibly impactful due to the COVID-19 pandemic impacts on service delivery and the mandatory closure of all County buildings that service the public, making in-person services inaccessible. TTC plans to replicate these advertisements during the mailing of the 2021-2022 Annual Secured Property Tax Bills in October 2021.

Workforce Development, Aging and Community Services

Building a Better Connection for Older Adults: The program will provide a tablet computer designed for use by older adults, along with internet connection, technical assistance, and ongoing support. Due to the COVID-19 pandemic and the stay-at-home order, older adults have faced many challenges including loneliness, isolation, and depression. Technology has become an increasingly important tool in creating connections and addressing social isolation. The purpose of this project is to mitigate loneliness and isolation for older adults by providing them with connectivity with their community, along with greater access to services, resources, and information. Program activities include the following:

- Enrolling eligible older adults in the project and provide them with a tablet computer and cellular data plan (internet connectivity);
- Provide customized onboarding and technical support, training on how to use the devices to make virtual appointments, medicine management services, socialization with family members and loved ones, and more; and
- Conduct pre- and post-pilot surveys with outcome measures defined.

To be eligible, older adults must be 60 years of age and older, or an informal caregiver of an older adult or adult with a disability; live alone, agree to complete Pre and Post Evaluation surveys. The project is kick-starting soon and planned for one year using ARP funds.

Digital Divide Regional Strategy Team

The following are the members of the Regional Strategy Team:

1. Government:
   - Peter Loo, Acting County Chief Information Officer;
   - Jagjit Dhaliwal, Former County Deputy Chief Information Officer;
   - Jeanne Holm, Deputy Mayor, City of Los Angeles; and
   - Bill Allen, Chief Executive Officer of the Los Angeles County Economic Development Corporation.
2. Corporations:
   - Ali Powell, General Manager, Microsoft.
3. Academia:
   - Elaine Hagan, Associate Dean, Entrepreneurial Initiatives, UCLA Anderson School of Management; and
   - Lindsey Kozberg, USC Edge, USC Rossier School of Education.
4. Venture Capital:
   - Aaron Fyke, Partner, Thin Line Capital.
5. Entrepreneurs:
   - Catherine Geanuracos, CityGrows; and
   - Jon Vein, Founder, Dignity Moves and Biology Works Inc.
6. Non-Profit and Community Based Organization:
   - Andy Wilson, Executive Director, Alliance for Southern California Innovation; and
   - Winnie Wechsler, Anthony and Jeanne Pritzker Family Foundation.

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JULIA OROZCO
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PETER LOO
Acting Chief Information Officer

Board of Supervisors
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HOLLY J. MITCHELL
Second District

SHEILA KUEHL
Third District

JANICE HAHN
Fourth District

KATHRYN BARGER
Fifth District

May 23, 2022

To: Supervisor Holly J. Mitchell, Chair
Supervisor Hilda L. Solis
Supervisor Sheila Kuehl
Supervisor Janice Hahn
Supervisor Kathryn Barger

From: Peter Loo
Acting Chief Information Officer

THIRD REPORT BACK ON DEVELOPING THE DIGITAL DIVIDE REGIONAL STRATEGIC PLAN (ITEM NO. 11, AGENDA OF FEBRUARY 23, 2021)

On February 23, 2021, the Board of Supervisors (Board) directed the Chief Information Officer (CIO), in coordination with County of Los Angeles (County) departments and external stakeholders, to develop and implement a County Digital Divide Internal Action Plan (Action Plan) and Regional Strategic Plan, with quarterly progress updates.

On October 26, 2021, the CIO submitted the second quarterly update summarizing the activities launched by the Advisory, Action, and Strategy Teams.

On November 16, 2021, the Board designated the Internal Services Department (ISD) as the lead department responsible for ensuring the County's efforts on all community broadband infrastructure and residential service initiatives to close the Digital Divide and the Chief Executive Officer to hire a consultant to conduct a financial and technical feasibility study for a County-administered municipal broadband service.

On February 7, 2022, ISD provided their first quarterly update describing the progress made in conducting a countywide campaign to increase enrollments for the Federal Emergency Broadband Benefit (EBB) and efforts to provide options for internet solutions, including cost estimates and timeline, that meet the digital needs of our most vulnerable residents: affordability, sustainability, and connectivity to high speed, quality service.

This quarterly report provides a summary of activities and/or accomplishments since the last progress report issued in October 2021 and not included in ISD's quarterly report.

Coordinating Regional Initiatives to Address the Digital Divide

The Los Angeles Digital Equity Action League (LA DEAL), has been selected by the California Public Utilities Commission as the Regional Broadband Consortium for Los Angeles County. As such, the County's coordination of regional digital equity activities have transitioned to LA DEAL's Affordability Task Force, Infrastructure for Deployment Task Force, Policy & Advocacy Task Force, and Digital Literacy and Devices Task Force.

Additionally, the CIO and ISD are also in discussions with GoldenStateNet, the State's third-party administrator contractor, to plan and deploy the open-access broadband network under Senate Bill 156. GoldenStateNet has identified 18 projects, including South Los Angeles communities (South Gate, Lynwood, Paramount, Bellflower, Compton, and Lakewood), for affordable, open-access, broadband middle-mile infrastructure to enable last mile network connectivity. The GoldenStateNet Action Team are identifying the design requirements and logistics to deploy the broadband middle-mile in the Los Angeles region, including candidates for additional Internet exchange points and broadband routes.

Feasibility Study for a County-Administered Municipal Broadband Service

The Chief Executive Office is finalizing a solicitation to conduct the feasibility of County administered municipal broadband services that will include:

- Market analysis to serve as the basis for determining penetration and adoption rates, foreseeable competition, and sensible pricing for services provided;

- Service and infrastructure analysis of the incumbent Internet service providers (ISPs) and existing broadband infrastructure within the identified communities of need. The analysis will identify service models that could be utilized in the region. Outcomes will include GIS maps detailing the physical extent of fiber-optic lines, service areas, incumbency, and level of service provided;

- Site analysis to discover whether existing public assets and/or land can be used to better facilitate network construction and operation and availability of public and private fiber optic and wireless infrastructure. Includes a cost model for the network, including one-time and ongoing capital expenditures, operations, network operations, field services, staffing, billing, and customer service. The analysis will also delineate items such as customer growth rates, competitive pricing schedules, and overall financial sustainability; and

- Programming and finance evaluation of financing options that are available to the region for funding the construction, implementation, and subsequent operation of the broadband infrastructure and services.

Should you have any questions concerning this matter, please contact me at (213) 253-5627 or ploo@cio.lacounty.gov.

PL:jmn

c: Department Heads

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KATHRYN BARGER
Fifth District

October 18, 2022

To: Supervisor Holly J. Mitchell, Chair
Supervisor Hilda L. Solis
Supervisor Sheila Kuehl
Supervisor Janice Hahn
Supervisor Kathryn Barger

From: Peter Loo
Acting Chief Information Officer

FOURTH REPORT BACK ON DEVELOPING THE DIGITAL DIVIDE REGIONAL STRATEGIC PLAN (ITEM NO. 11, AGENDA OF FEBRUARY 23, 2021)

On February 23, 2021, the Board of Supervisors (Board) directed the Chief Information Officer, in coordination with the County of Los Angeles (County) departments and external stakeholders, to develop and implement a County Digital Divide Internal Action Plan (Action Plan) and Regional Strategic Plan, with quarterly progress updates.

On November 16, 2021, the Board designated the Internal Services Department (ISD) as the lead department responsible for ensuring the County's efforts on all community broadband infrastructure and residential service initiatives to close the Digital Divide and the Chief Executive Officer to hire a consultant to conduct a financial and technical feasibility study for a County-administered municipal broadband service.

This quarterly report provides a summary of activities and/or accomplishments since the last progress report issued in May 2022.

Coordinating Regional Initiatives to Address the Digital Divide

The Los Angeles Digital Equity Action League (LA DEAL), has been selected by the California Public Utilities Commission as the Regional Broadband Consortium for the County. As such, the County's coordination of regional digital equity activities have

transitioned to the LA DEAL's Affordability Task Force, Infrastructure for Deployment Task Force, Policy and Advocacy Task Force, and Digital Literacy and Devices Task Force.

Additionally, the Chief Information Office and ISD are also in discussions with GoldenStateNet, the state's third party administrator contractor, to plan and deploy the open-access broadband network under Senate Bill 156. GoldenStateNet has identified 18 projects, including South Los Angeles communities (South Gate, Lynwood, Paramount, Bellflower, Compton, and Lakewood), for affordable, open-access, broadband middle-mile infrastructure to enable last mile network connectivity. The County has also identified two potential Internet Exchange Points, at the County's Data Center and Department of Public Works Data Center, to the GoldenStateNet Action Team for the Los Angeles region.

Feasibility Study for a County-Administered Municipal Broadband Service

The Chief Executive Office has selected Magellan Advisors to conduct a feasibility study for County-administered municipal broadband services in the eight communities of need as identified using the County's Equity Tool:

Community	Total households	Households w/o Internet		Households w/o computer		SVI	JENI	JESI	COVID impact
Unincorporated East LA	30,723	8,488	27.6%	4,277	13.9%	High-Highest	Moderate - Highest	Low - Highest	High-Highest
Los Angeles - Westlake	22,662	7,244	32.0%	2,498	11.0%	Moderate - Highest	Moderate - Highest	Moderate - Highest	Moderate - Highest
Los Angeles - Pico Union	12,515	3,835	30.6%	1,355	10.8%	Highest	Low - High	Low - High	Highest
City of Long Beach	11,259	3,196	28.4%	1,409	12.5%	Highest	Moderate - Highest	High - Highest	Highest
Los Angeles - Panorama City	15,191	3,142	20.7%	1,960	12.9%	High	High	Lowest	High
Los Angeles - Watts	10,512	3,088	29.4%	1,299	12.4%	Highest	Moderate - Highest	Low - Highest	Highest
Los Angeles - Crenshaw	5,570	1,501	26.9%	613	11.0%	Low - Highest	Low - Highest	Low - Highest	Low - Highest
City of Lancaster	4,248	1,457	34.3%	1,187	27.9%	High	Highest	Highest	High

Note:
SVI - Social Vulnerability Index based on 15 census variables grouped in four themes; socioeconomic status, household composition, minority status and language, housing and transportation.

JENI - Justice Equity Need Index used to assess areas most negatively impacted by criminalization and detention-first policies.

JESI - Justice Equity Service Index used to identify needs for justice-related community-based supports and services in low to highest service areas to inform where to shift investments and capacity-building supports towards equity and justice.

The feasibility analysis will include:

- Market analysis to serve as the basis for determining penetration and adoption rates, foreseeable competition, and sensible pricing for services provided;

- Service and infrastructure analysis of the incumbent Internet service providers and existing broadband infrastructure within the identified communities of need. The analysis will identify service models that could be utilized in the region. Outcomes will include geographic information system maps detailing the physical extent of fiber-optic lines, service areas, incumbency, and level of service provided;

- Site analysis to discover whether existing public assets and/or land can be used to better facilitate network construction and operation and availability of public and private fiber optic and wireless infrastructure. Includes a cost model for the network, including one-time and ongoing capital expenditures, operations, network operations, field services, staffing, billing, and customer service. The analysis will also delineate items such as customer growth rates, competitive pricing schedules, and overall financial sustainability; and

- Programming and finance evaluation of financing options that are available to the region for funding the construction, implementation, and subsequent operation of the broadband infrastructure and services.

Should you have any questions concerning this matter, please contact me or Peter Loo, Acting Chief Information Officer, at (213) 253-5627 or ploo@cio.lacounty.gov.

FAD:JMN:JFO
PL:jmn

c: Department Heads

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November 28, 2022

To: Supervisor Holly J. Mitchell, Chair
Supervisor Hilda L. Solis
Supervisor Sheila Kuehl
Supervisor Janice Hahn
Supervisor Kathryn Barger

From: Peter Loo
Acting Chief Information Officer

FIFTH REPORT BACK ON DEVELOPING THE DIGITAL DIVIDE REGIONAL STRATEGIC PLAN (ITEM NO. 11, AGENDA OF FEBRUARY 23, 2021)

On February 23, 2021, the Board of Supervisors (Board) directed the Chief Information Officer, in coordination with the County of Los Angeles (County) departments and external stakeholders, to develop and implement a County Digital Divide Internal Action Plan (Action Plan) and Regional Strategic Plan, with quarterly progress updates.

On November 16, 2021, the Board designated the Internal Services Department as the lead department responsible for ensuring the County's efforts on all community broadband infrastructure and residential service initiatives to close the Digital Divide and directed the Chief Executive Officer to hire a consultant to conduct a financial and technical feasibility study for a County-administered municipal broadband service.

This quarterly report provides an update since the last progress report issued in October 2022.

Feasibility Study for a County-Administered Municipal Broadband Service

The Chief Executive Office has selected Magellan Advisors to conduct a feasibility study for County-administered municipal broadband services in the eight communities of need as identified using the County's Equity Tool:

Community	Total households	Households w/o Internet		Households w/o computer		SVI	JENI	JESI	COVID impact
Unincorporated East LA	30,723	8,488	27.6%	4,277	13.9%	High-Highest	Moderate - Highest	Low - Highest	High-Highest
Los Angeles - Westlake	22,662	7,244	32.0%	2,498	11.0%	Moderate - Highest	Moderate - Highest	Moderate - Highest	Moderate - Highest
Los Angeles - Pico Union	12,515	3,835	30.6%	1,355	10.8%	Highest	Low - High	Low - High	Highest
City of Long Beach	11,259	3,196	28.4%	1,409	12.5%	Highest	Moderate - Highest	High - Highest	Highest
Los Angeles - Panorama City	15,191	3,142	20.7%	1,960	12.9%	High	High	Lowest	High
Los Angeles - Watts	10,512	3,088	29.4%	1,299	12.4%	Highest	Moderate - Highest	Low - Highest	Highest
Los Angeles - Crenshaw	5,570	1,501	26.9%	613	11.0%	Low - Highest	Low - Highest	Low - Highest	Low - Highest
City of Lancaster	4,248	1,457	34.3%	1,187	27.9%	High	Highest	Highest	High

Note:
SVI - Social Vulnerability Index based on 15 census variables grouped in four themes; socioeconomic status, household composition, minority status and language, housing and transportation.

JENI - Justice Equity Need Index used to assess areas most negatively impacted by criminalization and detention-first policies.

JESI - Justice Equity Service Index used to identify needs for justice-related community-based supports and services in low to highest service areas to inform where to shift investments and capacity-building supports towards equity and justice.

The feasibility analysis will include:

- Market analysis to serve as the basis for determining penetration and adoption rates, foreseeable competition, and sensible pricing for services provided;

- Service and infrastructure analysis of the incumbent internet service providers and existing broadband infrastructure within the identified communities of need. The analysis will identify service models that could be utilized in the region. Outcomes will include geographic information system maps detailing the physical extent of fiber-optic lines, service areas, incumbency, and level of service provided;

- Site analysis to discover whether existing public assets and/or land can be used to better facilitate network construction and operation and availability of public and private fiber optic and wireless infrastructure. Includes a cost model for the network, including one-time and ongoing capital expenditures, operations, network operations, field services, staffing, billing, and customer service. The analysis will also delineate items such as customer growth rates, competitive pricing schedules, and overall financial sustainability; and

- Programming and finance evaluation of financing options that are available to the region for funding the construction, implementation, and subsequent operation of the broadband infrastructure and services.

Should you have any questions concerning this matter, please contact me or Peter Loo, Acting Chief Information Officer, at (213) 253-5627 or ploo@cio.lacounty.gov.

FAD:JMN:JFO
PL:jmn

c: All Department Heads

BOARD OF SUPERVISORS | Hilda L. Solis, First District | Holly J. Mitchell, Second District | Lindsey P. Horvath, Third District | Janice Hahn, Fourth District | Kathryn Barger, Fifth District

Chief Executive Office.

COUNTY OF LOS ANGELES
Kenneth Hahn Hall of Administration
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CHIEF EXECUTIVE OFFICER
Fesia A. Davenport

February 14, 2023

To: Supervisor Janice Hahn, Chair
Supervisor Hilda L. Solis
Supervisor Holly J. Mitchell
Supervisor Lindsey P. Horvath
Supervisor Kathryn Barger

From: Peter Loo
Acting Chief Information Officer

SIXTH REPORT BACK ON DEVELOPING THE DIGITAL DIVIDE REGIONAL STRATEGIC PLAN (ITEM NO. 11, AGENDA OF FEBRUARY 23, 2021)

On February 23, 2021, the Board of Supervisors (Board) directed the Chief Information Officer, in coordination with the County of Los Angeles (County) departments and external stakeholders, to develop and implement a County Digital Divide Internal Action Plan and Regional Strategic Plan, with quarterly progress updates.

On November 16, 2021, the Board designated the Internal Services Department as the lead department responsible for ensuring the County's efforts on all community broadband infrastructure and residential service initiatives to close the Digital Divide and directed the Chief Executive Officer to hire a consultant to conduct a financial and technical feasibility study for a County-administered municipal broadband service.

This quarterly report provides an update since the last progress report issued on November 23, 2022.

Feasibility Study for a County-Administered Municipal Broadband Service

The Chief Executive Office has selected Magellan Advisors (Magellan) to conduct a feasibility study for County-administered municipal broadband services in the eight communities of need as identified using the County's Equity Tool:

Community	Total households	Households w/o Internet		Households w/o computer		SVI	JENI	JESI	COVID impact
Unincorporated East LA	30,723	8,488	27.6%	4,277	13.9%	High-Highest	Moderate - Highest	Low - Highest	High-Highest
Los Angeles - Westlake	22,662	7,244	32.0%	2,498	11.0%	Moderate - Highest	Moderate - Highest	Moderate - Highest	Moderate - Highest
Los Angeles - Pico Union	12,515	3,835	30.6%	1,355	10.8%	Highest	Low - High	Low - High	Highest
City of Long Beach	11,259	3,196	28.4%	1,409	12.5%	Highest	Moderate - Highest	High - Highest	Highest
Los Angeles - Panorama City	15,191	3,142	20.7%	1,960	12.9%	High	High	Lowest	High
Los Angeles - Watts	10,512	3,088	29.4%	1,299	12.4%	Highest	Moderate - Highest	Low - Highest	Highest
Los Angeles - Crenshaw	5,570	1,501	26.9%	613	11.0%	Low - Highest	Low - Highest	Low - Highest	Low - Highest
City of Lancaster	4,248	1,457	34.3%	1,187	27.9%	High	Highest	Highest	High

Note:
SVI - Social Vulnerability Index based on 15 census variables grouped in four themes; socioeconomic status, household composition, minority status and language, housing and transportation.

JENI - Justice Equity Need Index used to assess areas most negatively impacted by criminalization and detention-first policies.

JESI - Justice Equity Service Index used to identify needs for justice-related community-based supports and services in low to highest service areas to inform where to shift investments and capacity-building supports towards equity and justice.

Magellan is completing a market analysis that includes an assessment of the needs of each of the eight communities – from both a residential and small and at home business perspective and a gap analysis to delineate well-served, underserved and unserved areas within each of the seven designated communities. The market analysis will identify areas that have a need for broadband, but currently lack the necessary infrastructure or market competition. This market analysis is scheduled to be completed by the end of March. Concurrently, Magellan is conducting an asset inventory of the current publicly and privately owned broadband assets in the public right-of-way; including conduit, fiber, antennas, poles, towers, abandoned facilities, active facilities, and other infrastructure to determine their usefulness for expanding broadband within the region. This asset inventory will be used to develop a high-level design for broadband services in each of the eight communities. Information from the market analysis, asset inventory and high-level design will be used to evaluate various service models for deploying broadband services, as each has different funding requirements, rates of return and risk profiles.

Should you have any questions concerning this matter, please contact me at (213) 253-5627 or ploo@cio.lacounty.gov.

FAD:JMN:JFO
PKL:jmn

c: Executive Office, Board of Supervisors

BOARD OF SUPERVISORS | Hilda L. Solis, First District | Holly J. Mitchell, Second District | Lindsey P. Horvath, Third District | Janice Hahn, Fourth District | Kathryn Barger, Fifth District

Chief Executive Office.

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CHIEF EXECUTIVE OFFICER
Fesia A. Davenport

May 23, 2023

To: Supervisor Janice Hahn, Chair
Supervisor Hilda L. Solis
Supervisor Holly J. Mitchell
Supervisor Lindsey P. Horvath
Supervisor Kathryn Barger

From: Peter Loo *Peter Loo* Peter Loo (May 23, 2023 15:41 PDT)
Acting Chief Information Officer

SEVENTH REPORT BACK ON DEVELOPING THE DIGITAL DIVIDE REGIONAL STRATEGIC PLAN (ITEM NO. 11, AGENDA OF FEBRUARY 23, 2021)

On February 23, 2021, the Board of Supervisors (Board) directed the Chief Information Officer, in coordination with the Los Angeles County (County) departments and external stakeholders, to develop and implement a County Digital Divide Internal Action Plan and Regional Strategic Plan, with quarterly progress updates.

On November 16, 2021, the Board designated the Internal Services Department as the lead department responsible for ensuring the County's efforts on all community broadband infrastructure and residential service initiatives to close the Digital Divide and directed the Chief Executive Officer to hire a consultant to conduct a financial and technical feasibility study for a County-administered municipal broadband service.

This quarterly report provides an update since the last progress report issued on February 15, 2023.

Feasibility Study for a County-Administered Municipal Broadband Service

Magellan Advisors (Magellan) has completed the broadband market analysis of the 71 census tracts within the eight communities included in the feasibility study, Crenshaw, East Los Angeles, City of Lancaster, City of Long Beach, Panorama City, Pico Union, Watts, and Westlake. The population in the eight communities show substantial disparities in key demographics as compared to the California statewide average. Household median income is half of the California state average, while

poverty levels are more than double the rest of the state. Critically, the number of households without an internet connection in the communities is more than twice the statewide average. The communities' average household density is 12 units per acre, but with a wide range of 0.5 units per acre in Lancaster all the way up to 33 units per acre in Westlake. For Internet Service Providers, household density can often signal the potential return on investment – and hence, private capital's willingness to build or expand fiber networks in the neighborhoods.

In most areas of the County, the broadband market has been divided between the legacy telephone and cable TV carriers, in most cases creating duopolies of two incumbent carriers. The legacy telephone company delivers internet services over legacy telephone lines, augmented with fiber backbones (e.g., AT&T), while the legacy cable provider(s) provide connectivity over their coaxial cables similarly augmented with fiber backbones (e.g., Spectrum). Within the eight communities, Magellan found a clear broadband duopoly – with AT&T the legacy telecom company and Spectrum the legacy cable provider – and without much real competition (Long Beach, Lancaster, and Panorama City have a Frontier-Spectrum duopoly).

Wireless internet providers, providing access through 4G LTE or 5G cellular coverage, Wi-Fi, or point-to-point radio networks, are available in many urban areas. However, speeds often cannot meet the California broadband standard of 100 Mbps download and 25 Mbps upload and, thus, Magellan does not consider them a viable option for ensuring broadband access and equity.

The market analysis has identified several market forces and trends that have implications for residents and businesses living and working within the communities:

- **Spectrum has near-ubiquitous gigabit coverage through its hybrid fiber-coax network**

  This ensures that most areas have at least one gigabit provider capable of meeting the California minimum download speed of 100 Mbps; however, it is not clear that Spectrum is able to provide the minimum upload speed of 25 Mbps in all these areas. Additionally, Spectrum's gigabit service is advertised as speeds "up to" 1 Gbps; actual speeds may vary and fall well short depending on internet traffic/congestion, location, etc. While Spectrum has near universal coverage in the County, there are areas in Lancaster that do <u>not</u> have any service availability from Spectrum.

- **Most areas are de-facto broadband monopolies**

  Most areas lack adequate high-speed broadband alternatives to Spectrum. AT&T and/or Frontier's DSL service tops out at 50 or 75 Mbps, below the California minimum download speed of 100 Mbps, and far behind the gigabit speeds that many applications and technologies require. This effectively gives Spectrum a broadband monopoly in these areas, prevents consumers from having any viable options or alternatives, and limits any competitive pressures that might incentivize Spectrum to increase speeds, lower prices, or improve service levels.

- **Areas with higher poverty pay higher monthly rates with Spectrum and have few alternatives**

  Spectrum – as the only provider that serves all eight Focus Areas – has two different price points for its gigabit service: $70 or $90 per month. These price differences cannot be explained by geography or location; areas in proximity with similar urban environments and infrastructure reflected the two different price points (e.g., Crenshaw and East Los Angeles pay $70 per month for Spectrum's gigabit service, while Pico Union, Westlake, and Watts pay $90 per month for the same service).

  The difference also cannot be entirely explained by lack of competition, as Watts has a significant AT&T fiber footprint with gigabit fiber competing with Spectrum's services, yet Watts still pays the higher $90 per month rate.

  Ultimately, the difference in monthly fees correlates with poverty rates: in the four Focus Areas that pay the lower $70 per month rate with Spectrum, the average poverty rate is 18.8 percent. In the four Focus areas paying the higher $90 per month rate, the average poverty rate is 34.6 percent.

Table 1 – Correlation Between Spectrum Monthly Fee Differences & Poverty Rates

City/Area	Monthly Fee for Spectrum's 1 Gbps	Average Poverty Rate
Crenshaw East Los Angeles Long Beach Panorama City	$70	18.8%
Lancaster Pico Union Watts Westlake	$90	34.6%

Only some residents in Watts have a viable alternative or option to Spectrum;

the rest of the higher-poverty areas have no choice for internet services.

Areas with poverty rates that are nearly double their neighbors are paying 30 percent more per month for identical internet services, further exacerbating the Digital Divide and creating more challenges for households struggling to keep up with monthly finances.

- **Public investment can address equity, affordability, and competition**

  Much of the market disparities identified can be mitigated through targeted public investment. Utilizing and expanding public infrastructure to distribute competing internet services can ensure equitable and affordable access for the residents and businesses within the Focus Areas. Public-private partnerships can lower the cost of market entry for new providers, stimulate competition and put pressure on the incumbent providers to increase their bandwidth speeds and lower their prices. Investments in local programming and community-based organizations can deploy devices to households that lack computers, and digital literacy training can help others access the internet for employment, education, healthcare, and access to resources.

Magellan is completing an asset inventory of the current publicly and privately owned broadband assets in the public right-of-way; including conduit, fiber, antennas, poles, towers, abandoned facilities, active facilities, and other infrastructure to determine their usefulness for expanding broadband within the region. This asset inventory will be used to develop a high-level design for broadband services in each of the eight communities. Information from the market analysis, asset inventory and high-level design will be used to evaluate various service models for deploying broadband services, as each has different funding requirements, rates of return and risk profiles. The feasibility study comprised of a pro forma financial projection and broadband feasibility analysis for County-administered broadband services will be submitted in the next quarterly report.

The Broadband Market Analysis and Needs Assessment is attached for your reference. Should you have any questions concerning this matter, please contact me at (213) 253-5627 or ploo@cio.lacounty.gov.

JFO:PKL:jmn

Attachment

c: Executive Office, Board of Supervisors

Broadband Market Analysis & Needs Assessment

FEASIBILITY STUDY FOR COUNTY-ADMINISTERED MUNICIPAL BROADBAND SERVICES

The County of Los Angeles contracted with Magellan to study the feasibility of providing broadband internet access to eight (8) different focus areas around the county. The feasibility study's final report will include:

- Market Analysis
- Needs Assessment
- Asset Inventory & Site Analysis
- Conceptual Network Design
- Service Model Evaluation
- Program and Financial Analysis

Each focus area included in the study is comprised of groupings of specific census tracts that fall within a City, neighborhood, or unincorporated area within the County (see Figure 1):

1) Crenshaw
2) East Los Angeles
3) City of Lancaster
4) City of Long Beach
5) Panorama City
6) Pico Union
7) Watts
8) Westlake

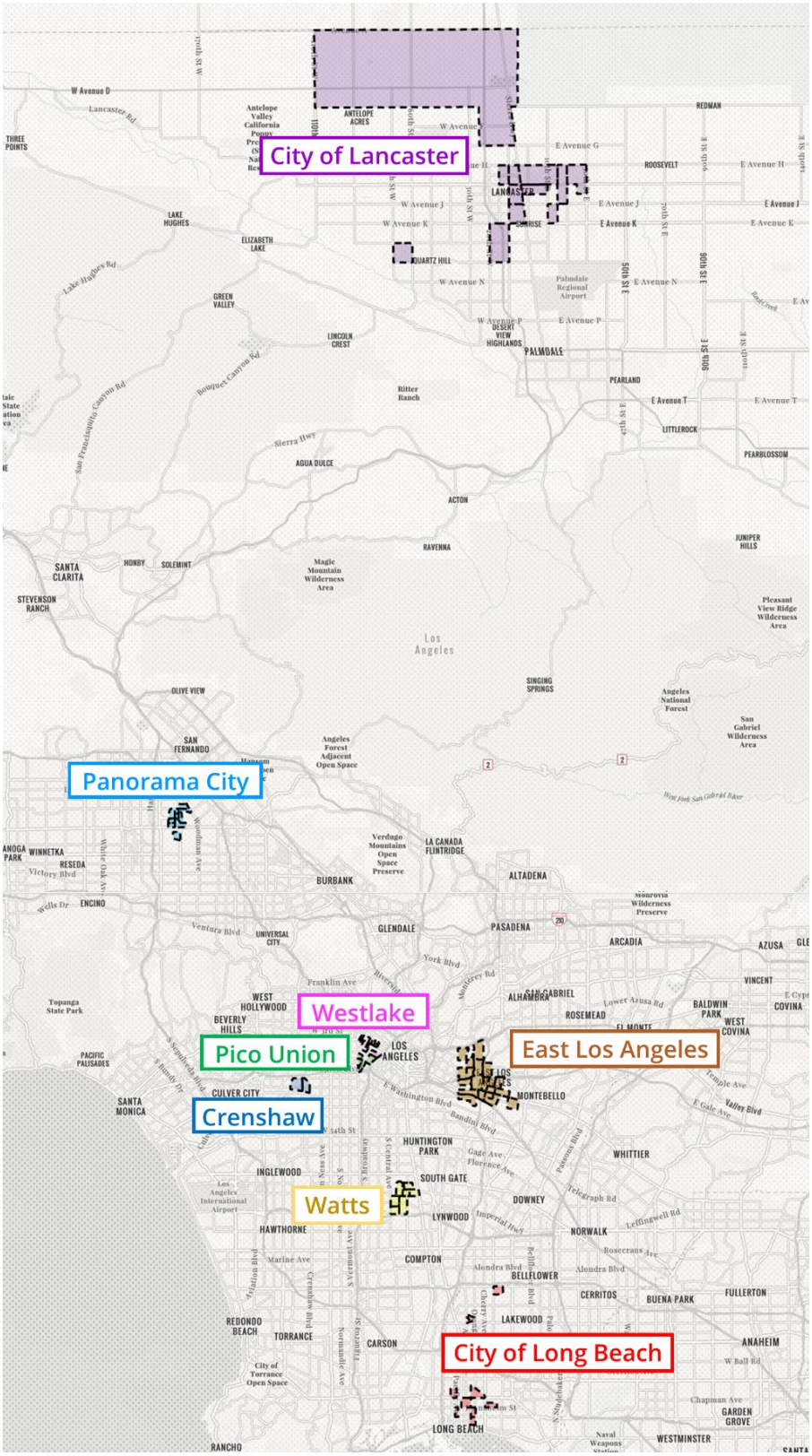

Figure 1 - Eight Focus Areas

The eight (8) focus areas cumulatively represent 71 census tracts, with a total population of 279,544 (85,272 households).

Table 1 - Focus Area Key Demographics Compared to Statewide Average

	Median Household Income	% Below the Poverty Line	Households without Internet Connection
Focus Area:			
Crenshaw	$ 51,392	21.3%	27.3%
East Los Angeles	$ 54,576	17.8%	25.0%
City of Lancaster	$ 43,291	26.8%	23.4%
City of Long Beach	$ 41,834	26.0%	24.3%
Panorama City	$ 40,710	28.8%	20.2%
Pico Union	$ 38,149	34.6%	32.7%
Watts	$ 33,323	37.2%	28.1%
Westlake	$ 35,118	39.8%	35.8%
AVERAGE (all 8 Focus Areas)	**$ 42,299**	**29%**	**27.1%**
California State Average	**$ 84,097**	**12.3%**	**11.7%**

The 8 focus areas show substantial disparities in key demographics as compared to the California statewide average. Household median income is half of the California state average, while poverty levels are more than double the rest of the state. Critically, the number of *households without an internet connection in the focus areas is more than twice the statewide average*.

The focus areas' average household density is 12 units per acre, but with a wide range of 0.5 units per acre in Lancaster all the way up to 33 units per acre in Westlake. For Internet Service Providers (ISPs), household density can often signal the potential return on investment – and hence, private capital's willingness to build or expand fiber networks in the neighborhoods.

Methodology

The census tracts within each focus area were pre-selected by the County based the County's Equity Tool, which combines five (5) socio-economic and demographic factors and indices that collectively demonstrate a need for digital equity, resources, investment, and connectivity:

- **Social Vulnerability Index (SVI)** – developed from 15 variables across six

themes: socio-economic status, household composition, minority status, language, housing, and transportation.

- **Justice Equity Need Index (JENI)** – assessment of areas most negatively impacted by criminalization and detention-first policies.
- **Justice Equity Service Index (JESI)** – identifies needs for justice-related community-based supports and services that require a shift in investments and capacity-building to support equity and justice.
- **COVID-19 Vulnerability and Recovery Index –** Identifies the communities most impacted and facing the greatest adverse economic, health, and social outcomes of the COVID-19 Pandemic.
- **Broadband & Digital Access** – U.S. Census data on households with a computer and/or access to the internet.

Magellan evaluated the designated census tracts within each focus area to document service offerings by incumbent internet service providers (ISPs), including pricing, service tiers, access, and market division utilizing public data, previous studies and reports, carriers' websites, and Magellan's extensive database and knowledge of the broadband environment.

Magellan also assessed the needs of each of the communities, future demand, and the gaps that exist (infrastructure, programming, digital literacy/training, etc.) utilizing public census and survey data, California's Public Utility Commission (CPUC) data and maps, federal National Telecommunications and Information Administration (NTIA) databases, Federal Communications Commission (FCC) data, and previous studies and reports from the Los Angeles region.

This memo and the accompanying data points will inform Magellan as it conducts the remaining tasks of the Feasibility Study, including developing a Conceptual Network Design and the Financial Analysis, and specifically in determining the retail price points that meets the needs of the communities.

Incumbent Internet Service Providers

In most areas of the country, the broadband market has been divided between the legacy telephone and cable TV carriers, in most cases creating duopolies of two incumbent carriers. The legacy telephone company delivers internet services over legacy telephone lines, augmented with fiber backbones (e.g., AT&T), while the legacy cable provider(s) provide connectivity over their coaxial cables similarly augmented with fiber backbones (e.g., Spectrum).

Although not a conventional monopoly, the broadband duopolies still exhibit many of the non-competitive outcomes: (a) internal calculations drive private capital for new infrastructure to areas with the highest rate of return, which often exacerbates the marginalization of specific neighborhoods; and (b) with only two providers, there is typically not sufficient consumer choice or options to drive competitive pricing.

Additionally, with the transition away from traditional cable TV services to streaming platforms, cable providers are attempting to recoup lost TV subscriptions with increased internet revenues, keeping retail internet subscriber pricing high. Within the cable-telecom duopoly environment, this means that legacy cable providers need to increase revenues (and thus keep consumer rates high), and telecom providers therefore have little competitive pressure or incentive to reduce retail internet pricing.

Within the 8 focus areas, Magellan found a clear broadband duopoly – with AT&T the legacy telecom provider and Spectrum the legacy cable company – and without much real competition (Long Beach, Lancaster and Panorama city have a Frontier-Spectrum duopoly).

Wireless internet providers, providing access through 4G LTE or 5G cellular coverage, Wi-Fi, or point-to-point radio networks, are available in many urban areas. However, speeds often cannot meet the California state standard of 100 Mbps download and 25 Mbps upload, and thus Magellan does not consider them a viable option for ensuring broadband access and equity.

SPECTRUM

Spectrum is the second largest cable company in the US, with revenues near $50 billion per year. They have close to 30 million residential subscribers and over 2 million small and medium business customers nationwide.

As the legacy cable company in much of Los Angeles County, Spectrum often has essentially 100% coverage of the residential market, but sparse coverage in commercial and industrial markets. Spectrum's network is based on a Hybrid Fiber-Coax (HFC) architecture (see Figure 2), which utilizes a fiber backbone that is connected to homes and businesses on a coaxial cable distribution network.

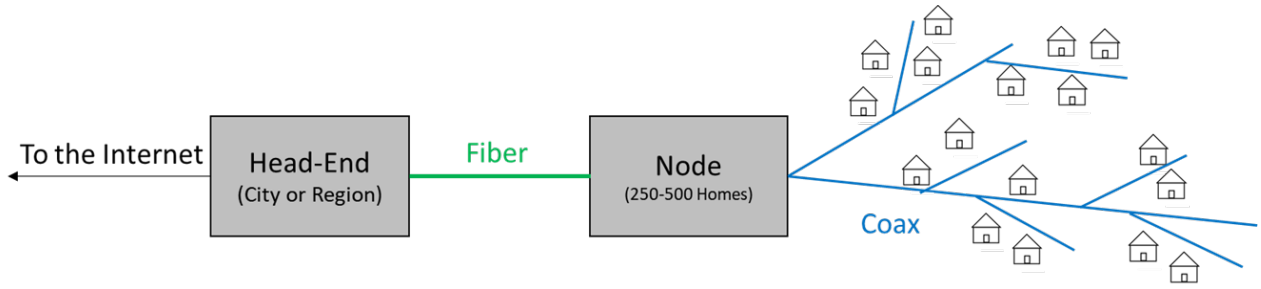

Figure 2 - Hybrid Fiber-Coax Architecture

A HFC network, depending on how close the carrier brings fiber to neighborhoods, can provide burstable speeds over one (1) gigabit per second (Gbps). However, building fiber into individual neighborhoods often depends on the carrier's projected return on investment. If the fiber back bone is too distant from the end user, speeds may lag below the California standard download rate of 100 megabits per second (Mbps), which can negatively impact common digital applications that a subscriber may need to utilize in their home.

AT&T

AT&T is the Incumbent Local Exchange Carrier (ILEC), or the legacy telephone company in many areas of Los Angeles County. Typically, ILECs have nearly 100% coverage, but primarily through aging twisted copper phone lines which cannot attain adequate speeds.

AT&T offers internet access over these copper phone lines utilizing Digital Subscriber Lines (DSL), which uses an architecture similar to HFC (but with twisted copper telephone wires instead of coaxial cable providing the last mile distribution to homes). However, the data bandwidth utilizing DSL technology is typically far below the California standard of 100 Mbps, and even below bottom-tier HFC networks. AT&T's DSL offerings start as low as 500 Kbps (0.5 Mbps) at and reaches a maximum advertised speed "up to" 75 Mbps. The price points for DSL subscriptions are the same $55/month, regardless of the actual speed provided.

AT&T is installing fiber into selected neighborhoods, but determines these neighborhoods based on an internal return on investment, which can leave out many communities most at need for digital infrastructure. Higher DSL speeds of "up to 100 Mbps" imply that AT&T has deployed significant amounts of fiber to neighborhood pedestals and cabinets, relying on copper only locally within neighborhoods for the last few hundred feet to get into the home or business. Existing fiber backbones could reduce the cost and time for them to upgrade more areas to true gigabit fiber networks.

FRONTIER

Frontier Communications is a large US-based telecommunications company that has undergone numerous acquisitions, mergers, and divestitures. Frontier Communications acquired Verizon's Incumbent Local Exchange Company (ILEC) in 2016. Verizon had been an early deployer of Fiber-to-the-Home (FTTH) in some regions of California with its Passive Optical Network (PON)-based FiOS architecture. It appears that this FTTH network exists in Long Beach and parts of Panorama City; however, in Lancaster, Frontier primarily only offers DSL service over its legacy telephone lines and does not appear to have a significant fiber footprint.

Frontier's current residential fiber network is based on Gigabit Passive Optical Network (GPON) architecture, which is limited to 2.5 Gbps downstream and 1.25 Gbps upstream. This bandwidth is shared among the number of homes on the PON segment - usually 32 for GPON.

GPON is a dated architecture. The most common technology deployed today for new builds is the 10 Gbps XGS-PON architecture (see Figure 3). Frontier will likely upgrade to XGS-PON by replacing the equipment in their central office and swapping out the devices in each subscriber's premises. This should enable Frontier to remain competitive without massive, costly, and lengthy construction projects.

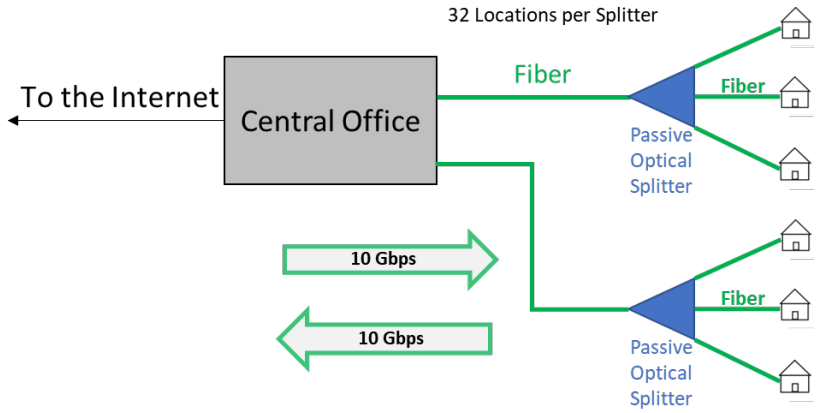

Figure 3 - XGS-PON Architecture

T-MOBILE - WIRELESS

T-Mobile provides 5G and 4G LTE fixed wireless services to households across all 50 states in the US. Its residential plans main features include contract-free services and unlimited data access. The typical download speeds it offers is between 33-182 Mbps and may vary according to location, time of the day, weather, and other factors.

Table 2 - T-Mobile Wireless Internet Packages

Package	Download Speed[1]	Monthly Rate	Cost per MB	Notes
5G Home Internet	182 Mbps	$ 50	$ 0.27	Unlimited data No annual contract

VERIZON – WIRELESS

Verizon's 5G Home internet services are an affordable solution with faster speeds than satellite and DSL type of connections. Verizon offers unlimited data and contract-free plans, but speeds may vary based on a location's distance to its network towers and real-time network traffic

Table 3 - Verizon Wireless Internet Packages

Package	Download Speed	Monthly Rate	Cost per MB	Notes
LTE Home Internet	50 Mbps	$ 25	$ 0.50	Unlimited data No annual contract
5G Home Internet	300 Mbps	$ 60	$ 0.20	Unlimited data 10-year price guarantee

[1] Download speeds for wireless carriers are advertised as maximum "up to" speeds and not guaranteed, subject to network congestion/traffic, location, etc.

Focus Areas Assessment

CRENSHAW

The County identified two (2) census tracts within the Crenshaw neighborhood to include in the feasibility study, as shown in Figure 4.

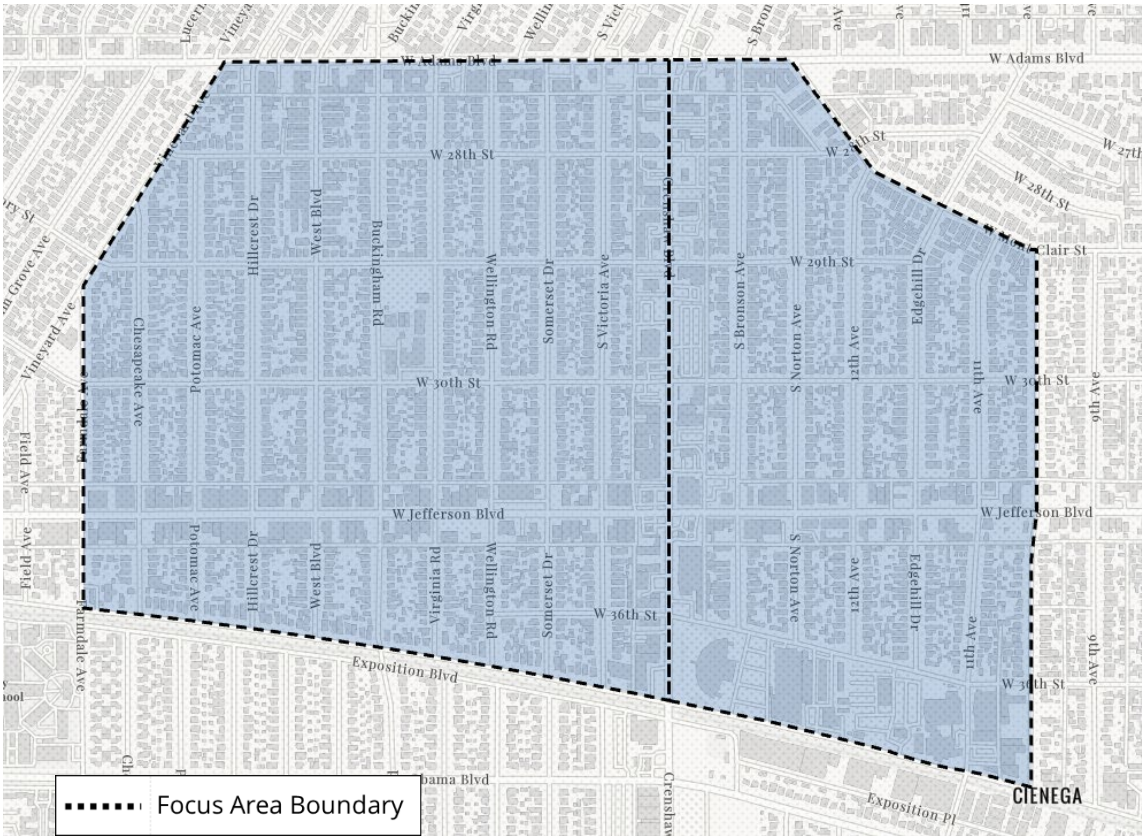

Figure 4 - Crenshaw Focus Area Census Tracts

Demographic and socio-economic data[2] for these census tracts have a range of vulnerabilities and needs, with 21% of the community below the poverty line and more than 27% of households without an internet connection, and would benefit broadband investment and resources.

[2] All demographic data included in this report was sourced from the US Census Bureau 2021 American Community Survey 5-year estimates, accessed via https://data.census.gov/.

Table 4 - Crenshaw Focus Area Key Demographics

Size	
Census Tracts	2
Area (mi²)	0.63
Population	8,298
Population Density (per mi²)	*13,237*
Total Households	3,549
Household Density (per mi²)	*5,661*
Income	
Median Household Income	$ 51,392
Median : Mean Ratio	71.6%
% of Population Below Poverty Line	21.3%
Social Indices	
Social Vulnerability (SVI)	Low - Highest
Justice Equity Needs (JENI)	Low - Highest
Justice Equity Service (JESI)	Low - Highest
COVID Impact	Low - Highest
Broadband Access	
% of Households without Internet	27.3%
% of Households without a Computer	9.8%

Magellan analyzed the current broadband market within the census tracts to better understand how service pricing, affordability, competition, and infrastructure accessibility may impact households' internet connectivity.

The Crenshaw census tracts fall under the AT&T-Spectrum duopoly, with residents and businesses having a choice between one of the two major providers.

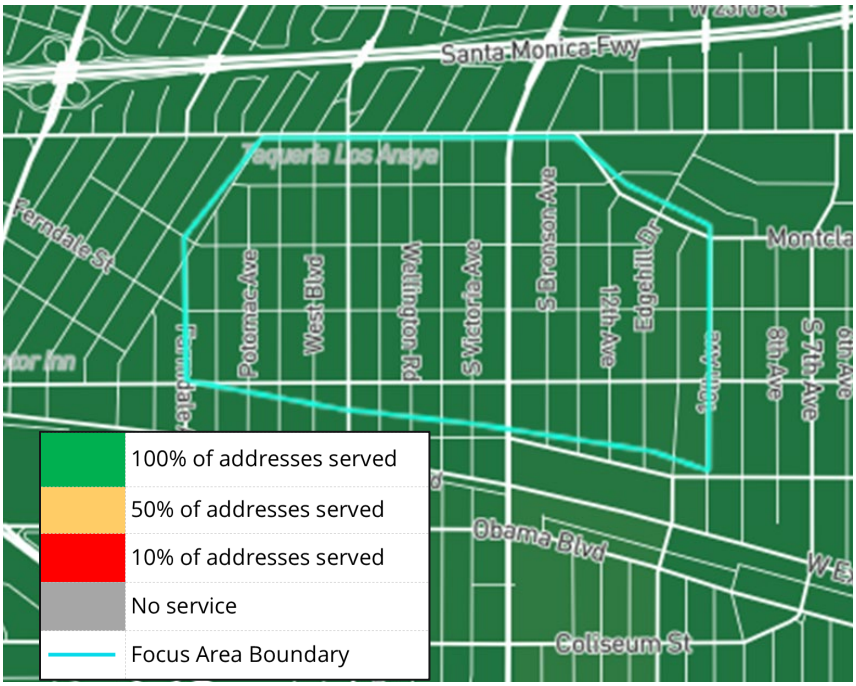

Figure 5 - Spectrum Coverage in Crenshaw Focus Area[3]

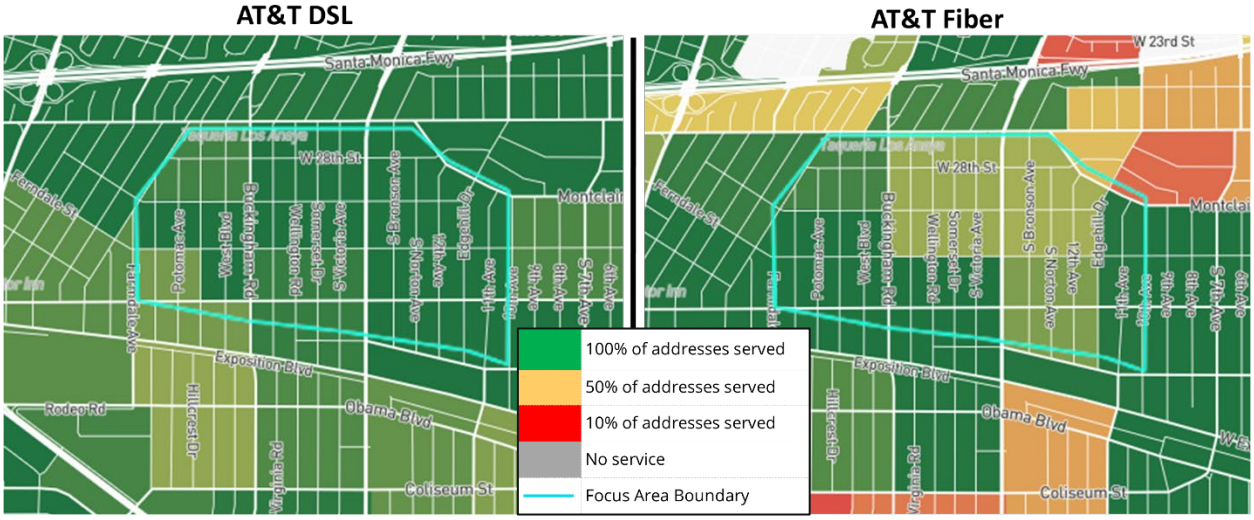

Figure 6 - AT&T Coverage Map in Crenshaw Focus Area[4]

Mapping indicates that AT&T offers fiber-to-the-premises internet service across the area, with availability to mor e than 50% of addresses.

[3] Source: https://bestneighborhood.org/tv-and-internet-california#availability
[4] Source: https://bestneighborhood.org/tv-and-internet-california#availability

Magellan randomly tested four addresses[5] within the Focus Area to verify and confirm service offerings and pricing.

Table 5 – Sample of Service Offerings in Crenshaw Focus Area

Address	Spectrum	AT&T
South Victoria Avenue	Cable	Fiber
South Muirfield Road	Cable	Fiber
Potomac Avenue	Cable	Fiber
12th Avenue	Cable	Fiber

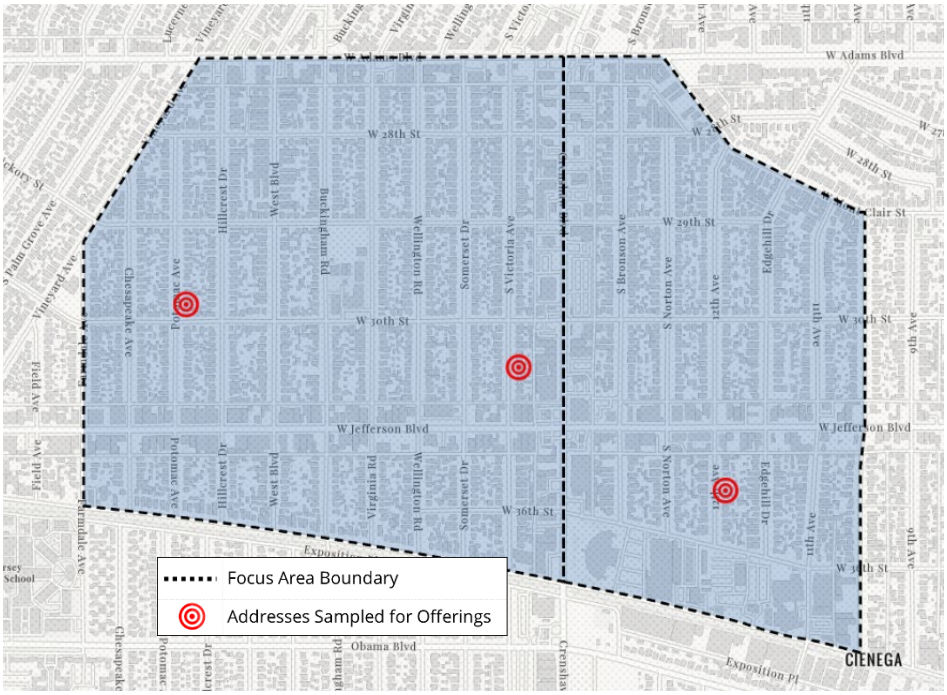

Figure 7 - Sites Sampled for Service Offerings in Crenshaw Focus Area

The price and service tier offerings within the Crenshaw Focus Area were consistent with neighboring jurisdictions for similar services. The availability of AT&T fiber with speeds up to 5 Gbps demonstrates that, in some cases, distribution fiber extends all the way into the residential neighborhoods.

[5] All testing of addresses for pricing & service offerings was done directly through carriers' websites.

Table 6 - Service Offerings & Pricing for Crenshaw Focus Area

Carrier	Service Tier[6]	Monthly Rate	Contract Term	Extras
Spectrum (Cable/HFC)	500 Mbps	$ 50	2 years	No data cap Free Modem
	1 Gbps	$ 70	2 years	
AT&T (DSL)	500 Kbps to 50 Mbps	$ 55	1 year	1.5 TB data cap; $10 per 50 GB of excess
AT&T (Fiber)	300 Mbps	$ 55	1 year	No data cap Free Modem
	500 Mbps	$ 65	1 Year	
	1 Gbps	$ 80	1 Year	
	2 Gbps	$ 110	1 Year	
	5 Gbps	$ 180	1 Year	

However, at addresses without an AT&T fiber option, AT&T's DSL offerings of below-standard speeds of 500 Kbps to 50 Mbps for $55 per month are not competitive, which creates a de facto Spectrum monopoly. Residents would benefit from having at least two service providers offering ubiquitous 1 Gbps service.

[6] Speeds across all carriers were advertised as "up to" maximum speeds; actual speeds delivered vary on time of day, network congestion, distance from the fiber node, etc. Service offerings noted throughout the report are advertised "up to" maximum speeds, unless otherwise noted.

EAST LOS ANGELES

The County identified 20 census tracts within the East Los Angeles neighborhood to include in the feasibility study, as shown in Figure 8.

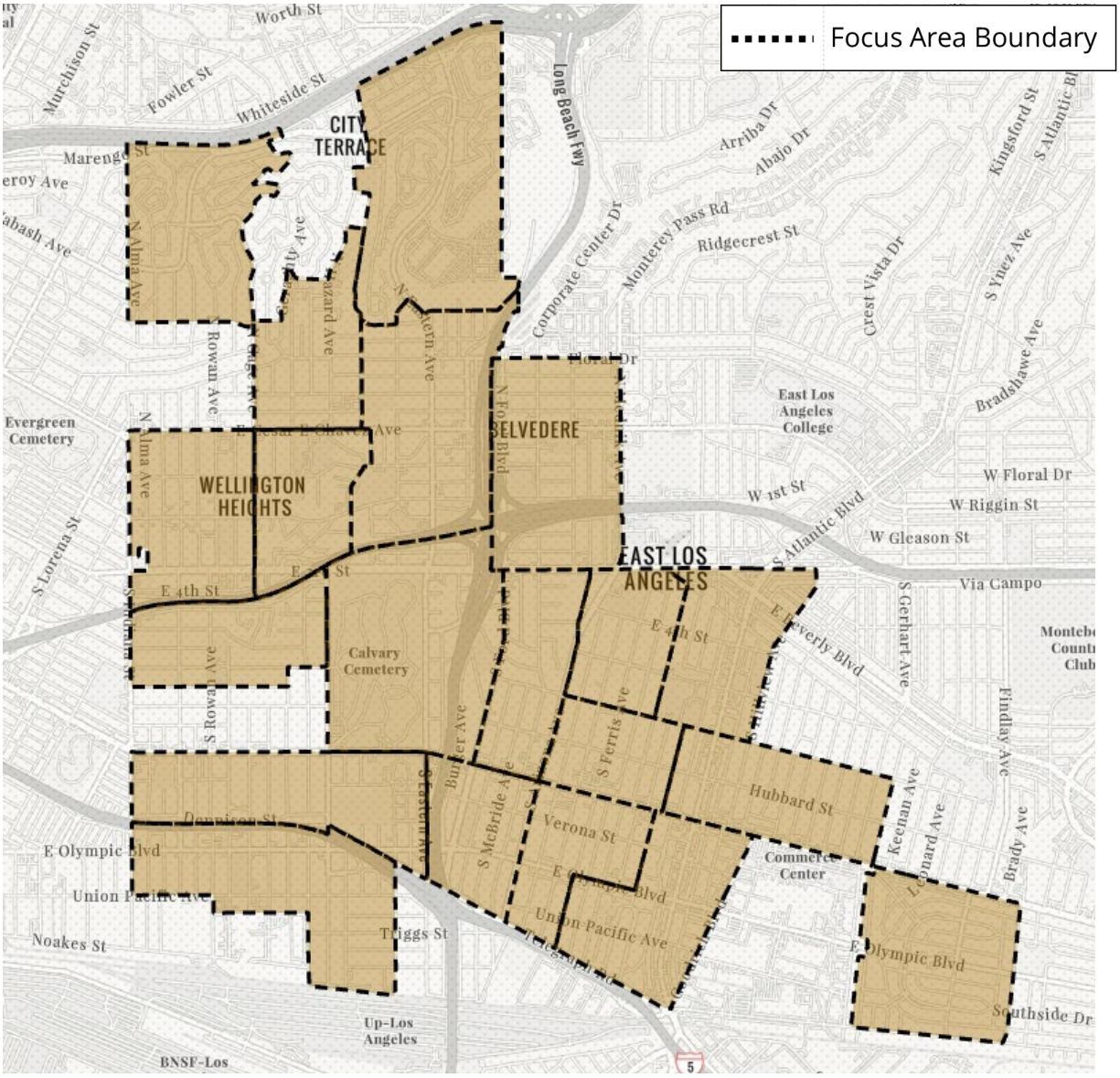

Figure 8 - East Los Angeles Focus Area Census Tracts

Demographic and socio-economic data for these census tracts demonstrate a high vulnerability and high COVID impacts, creating a need for broadband investment to stimulate competition and increase access.

Table 7 – East Los Angeles Focus Area Key Demographics

Size	
Census Tracts	20
Area (mi²)	5.36
Population	87,253
Population Density (per mi²)	*16,275*
Total Households	22,545
Household Density (per mi²)	*4,205*
Income	
Median Household Income	$ 54,576
Median : Mean Ratio	81.%
% of Population Below Poverty Line	17.8%
Social Indices	
Social Vulnerability (SVI)	High – Highest
Justice Equity Needs (JENI)	Moderate – Highest
Justice Equity Service (JESI)	Low – Highest
COVID Impact	High - Highest
Broadband Access	
% of Households without Internet	25.0%
% of Households without a Computer	13.1%

The East Los Angeles census tracts fall under the AT&T-Spectrum duopoly, with residents and businesses having a choice between one of the two major providers. AT&T has a fairly significant fiber footprint in the focus area (see Figure ##) which ensures at least some competition with Spectrum for gigabit speeds.

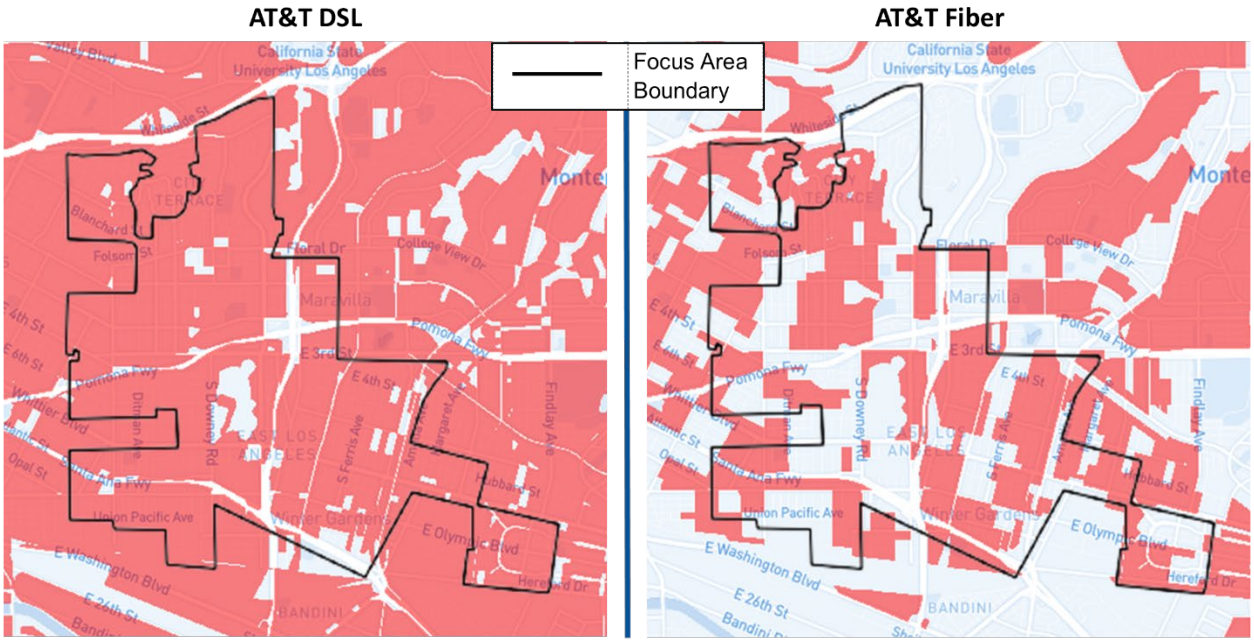

Figure 9 - AT&T Coverage Map in East L.A. Focus Area[7]

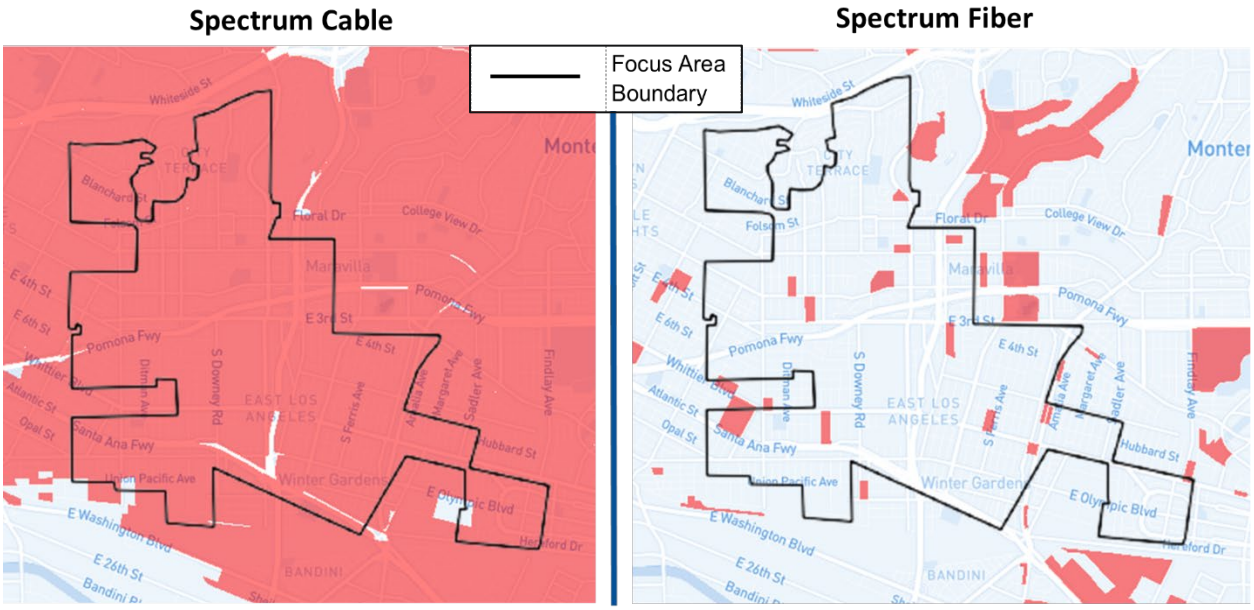

Figure 10 - Spectrum Coverage Map in East L.A. Focus Area[8]

Magellan randomly tested nine (9) addresses within the Focus Area to verify and

[7] Source: https://broadbandnow.com/
[8] Source: https://broadbandnow.com/

confirm service offerings and pricing (see Figure 16).

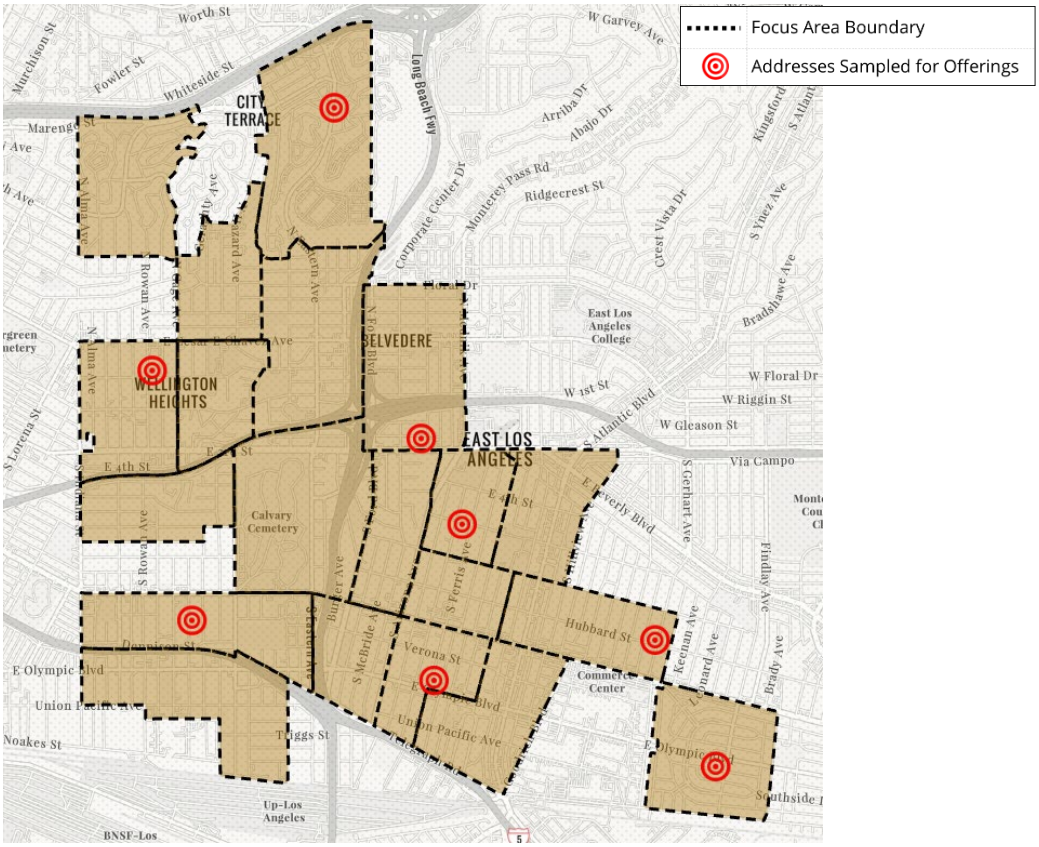

Figure 11 - Sites Sampled for Service Offerings in East L.A. Focus Area

Spectrum appears to offer ubiquitous 1 Gbps service over their HFC network; AT&T did offer fiber-to-the-home at several locations. However, one location on North Eastern Street had only a single fixed provider (Spectrum) at their location.

Table 8 – Sample of Service Offerings in East L.A. Focus Area

Address	Spectrum	AT&T
South Herbert Avenue	Cable	Fiber
South Ferris Avenue	Cable	DSL
North Rowan Avenue	Cable	Fiber
North Herbert Avenue	Cable	Fiber
South Gerhart Avenue	Cable	DSL
Fairfield Street	Cable	Fiber
East 2nd Street	Cable	Fiber
North Eastern Street	Cable	--
4812 Eagle Street	Cable	DSL

The price and service tier offerings within the East Los Angeles Focus Area were consistent with neighboring jurisdictions for similar services. The availability of AT&T fiber with speeds up to 5 Gbps demonstrates that, in some cases, distribution fiber extends all the way into the residential neighborhoods.

Table 9 - Service Offerings & Pricing for East L.A. Focus Area

Carrier	Service Tier	Monthly Rate	Contract Term	Extras
Spectrum (Cable/HFC)	30 Mbps	$ 20	None	No data cap Free Modem
	100 Mbps	$ 30	2 years	
	300 Mbps	$ 50	1 year	
	500 Mbps	$ 50	2 years	
	1 Gbps	$ 70	2 years	
AT&T (DSL)	768 Kbps to 75 Mbps	$ 55	1 year	1.5 TB data cap; $10 per 50 GB of excess
AT&T (Fiber)	300 Mbps	$ 55	1 year	No data cap Free Modem
	500 Mbps	$ 65	1 Year	
	1 Gbps	$ 80	1 Year	
	2 Gbps	$ 110	1 Year	
	5 Gbps	$ 180	1 Year	

However, in areas without an AT&T fiber option, AT&T's DSL offerings of sub-standard speeds of 768 Kbps to 75 Mbps for $55 per month are not competitive, which creates a de facto Spectrum monopoly within those areas. Residents would benefit from having at least two service providers offering ubiquitous 1 Gbps service.

CITY OF LANCASTER

The County identified 12 census tracts within the City of Lancaster to include in the feasibility study, as shown in Figure 13.

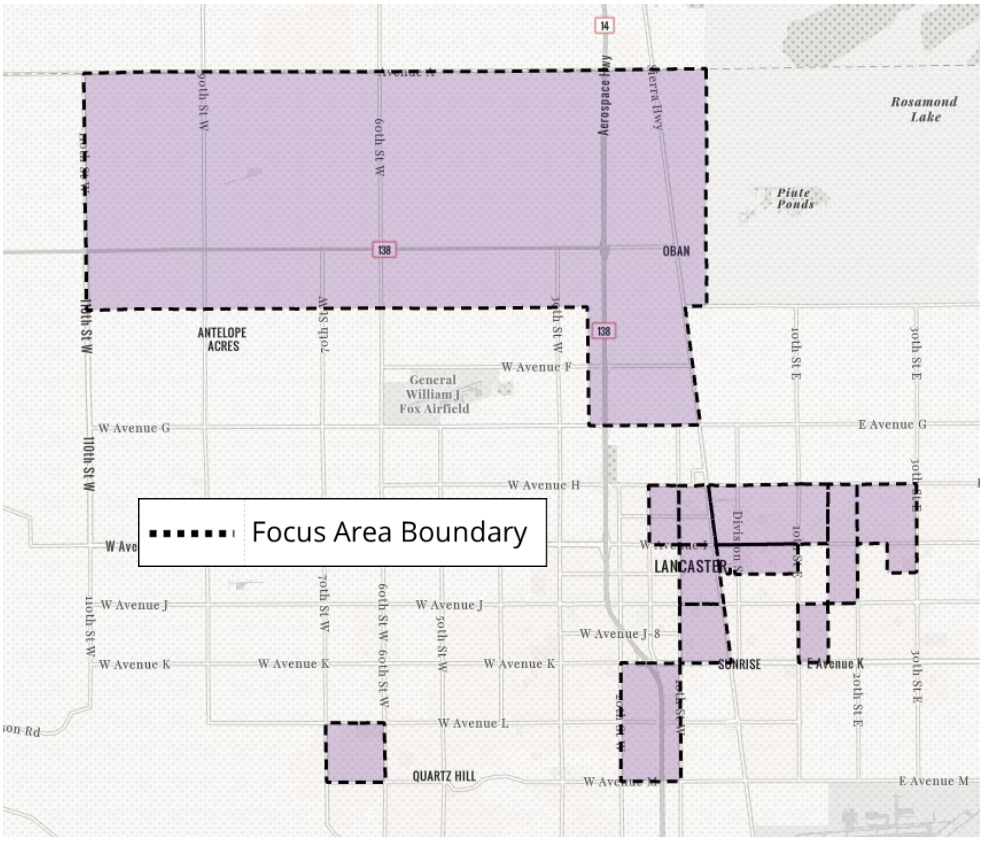

Figure 12 - Lancaster Focus Area Census Tracts

Demographic and socio-economic data for these census tracts indicates a suburban-rural density with a high poverty rate (26.8%) and high vulnerability.

Table 10 – City of Lancaster Focus Area Key Demographics

Size	
Census Tracts	12
Area (mi²)	57.0
Population	48,427
Population Density (per mi²)	*850*
Total Households	16,829

Household Density (per mi²)	*295*
Income	
Median Household Income	$ 43,291
Median: Mean Ratio	78.0%
% of Population Below Poverty Line	26.8%
Social Indices	
Social Vulnerability (SVI)	High
Justice Equity Needs (JENI)	Highest
Justice Equity Service (JESI)	Highest
COVID Impact	High
Broadband Access	
% of Households without Internet	23.4%
% of Households without a Computer	15.0%

The City of Lancaster fall under the Frontier-Spectrum duopoly, with residents and businesses having a choice between one of the two major providers.

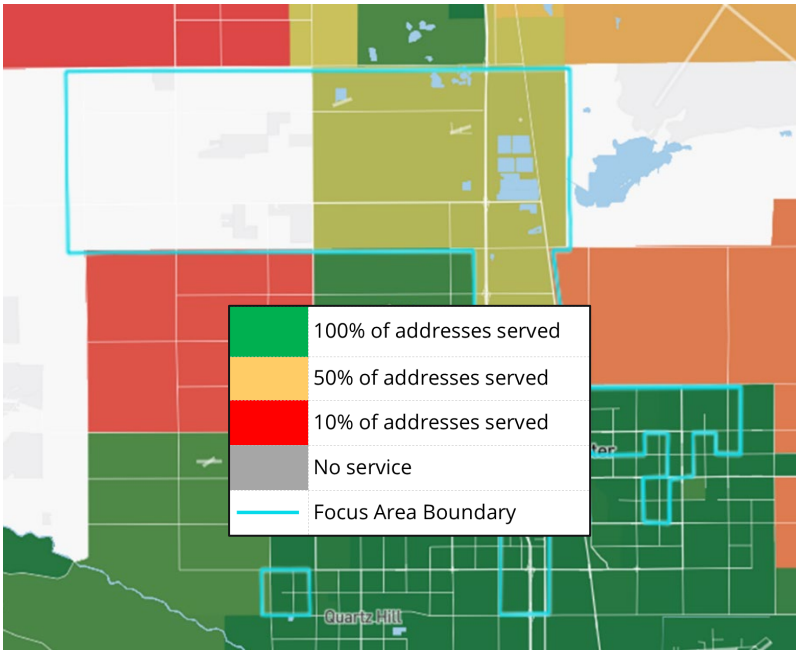

Figure 13 – Spectrum Coverage in Lancaster Focus Area[9]

[9] Source: https://bestneighborhood.org/tv-and-internet-california#availability

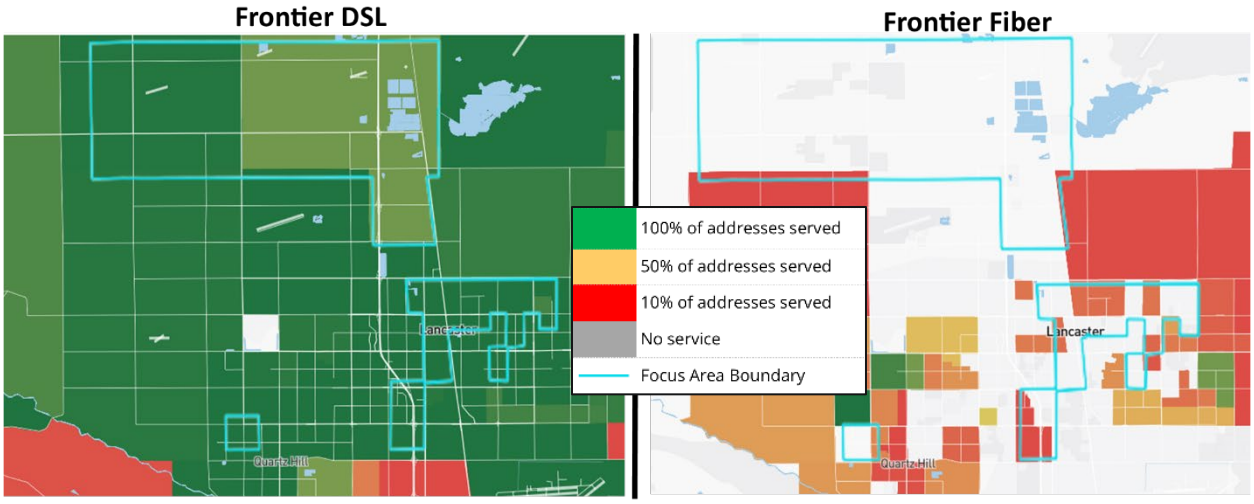

Figure 14 - Frontier Coverage in Lancaster Focus Area[10]

Neither carrier had 100% coverage, especially in the northern part of the focus area, leaving many addresses unserved with no options for fixed internet service.

The City of Lancaster is currently working closely with Race Communications, a facilities-based ISP that is building out a new fiber optic network in the City.

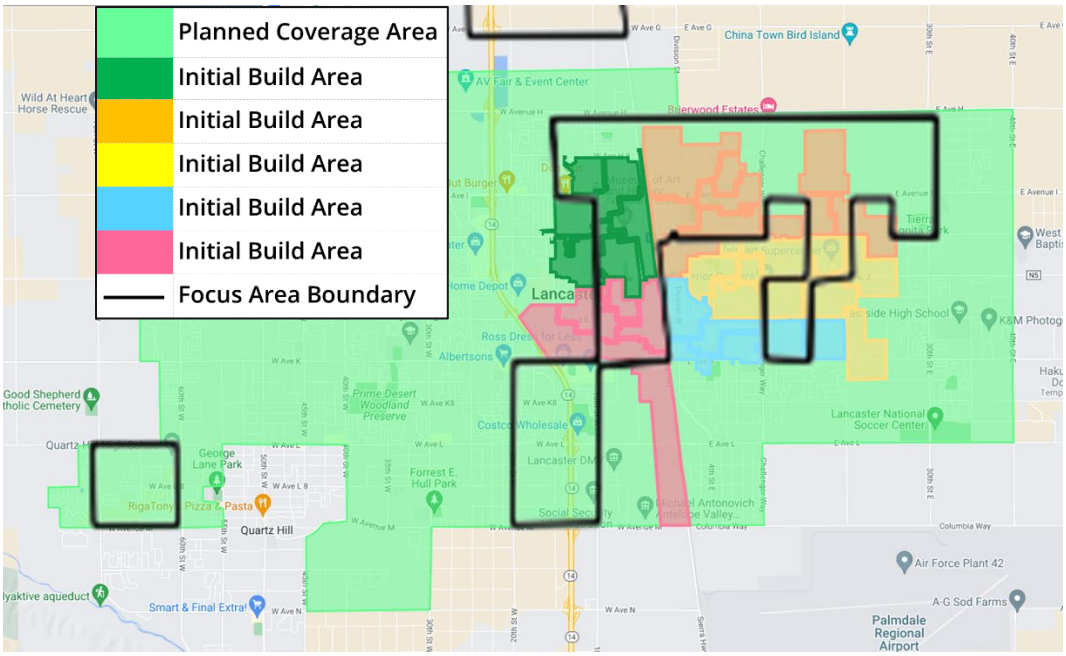

Figure 15 - Race Communications Planned Fiber Build in the City of Lancaster[11]

[10] Source: https://bestneighborhood.org/tv-and-internet-california#availability

[11] Source: https://race.com/service-area/lancaster/

The coverage area in Lancaster that Race is building (light green in Figure 11) covers most of the identified census tracts, with the first phases of construction centered in the downtown area east of California Route 14. Construction is ongoing, with Race completing fiber routes passing 2,000 households per month, and is expected to increase construction in July to 5,000 per month.

In neighboring markets, Race Communications has a competitive rate of $60/month for a 1 Gbps service, and a “basic” package of $25/month for 25 Mbps connection. However, Magellan was not able to identify specific addresses within the City of Lancaster that already have service from Race. Magellan is seeking more information from Race to document the specifics of their planned buildout and timing for retail services.

Magellan randomly tested seven (7) addresses within the Focus Area to verify and confirm service offerings and pricing (see Figure 16).

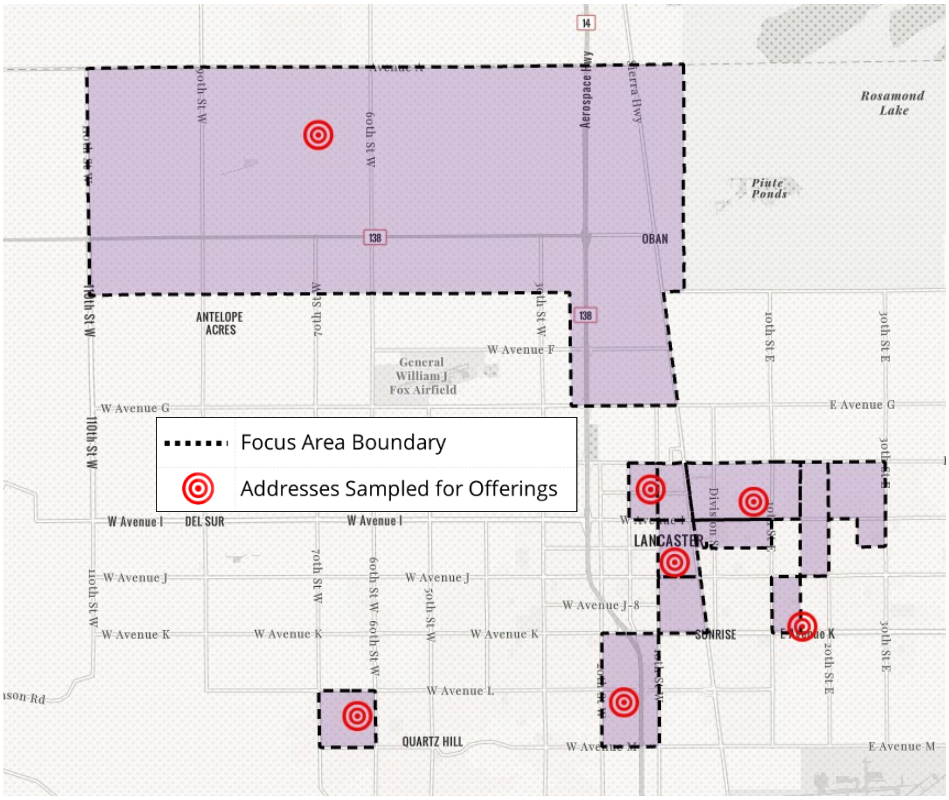

Figure 16 - Sites Sampled for Service Offerings in Lancaster Focus Area

Spectrum appears to offer 1 Gbps service over their HFC network but does not appear ubiquitous; Frontier offers DSL and advertise fiber-to-the-home in limited locations.

Table 11 – Sample of Service Offerings in City of Lancaster Focus Area

Address	Spectrum	Frontier
6321 Granite Court	Cable	--
Fig Avenue	Cable	--
Holguin Street	Cable	Fiber
Andale Avenue	Cable	Fiber
70th Street West	--	--
Granicy Drive	Cable	--
West Avenue L4	Cable	DSL

However, it does not appear that Frontier has significant assets – fiber or copper – in most areas. There were 3 locations that had no Frontier service offerings, effectively giving Spectrum a monopoly in these areas, leaving residents and businesses without any options or alternatives for competing services. Moreover, there was at least one location (70th Street West) that was unserved and had no service offerings from any provider.

The price and service tier offerings within the City of Lancaster were largely consistent with neighboring jurisdictions for similar services.

Table 12 - Service Offerings & Pricing for City of Lancaster Focus Area

Carrier	Service Tier	Monthly Rate	Contract Term	Extras
Spectrum (Cable/HFC)	30 Mbps	$ 20	None	No data cap Free modem
	100 Mbps	$ 30	2 years	
	300 Mbps	$ 50	1 Year	
	500 Mbps	$ 70	1 year	
	1 Gbps	$ 90	1 year	
Frontier (DSL)	768 Kbps to 50 Mbps	$ 50	None	No data cap Free modem
Frontier (Fiber)	500 Mbps	$ 50	None	No data cap Free modem
	1 Gbps	$ 70	None	
	2 Gbps	$ 100	None	

Spectrum's advertised costs for 500 Mbps and 1 Gbps services are 29% higher than services from Spectrum in other more urban/dense areas of Los Angeles County.

CITY OF LONG BEACH

The County identified nine (9) census tracts within the City of Long Beach to include in the feasibility study as show in Figure 17.

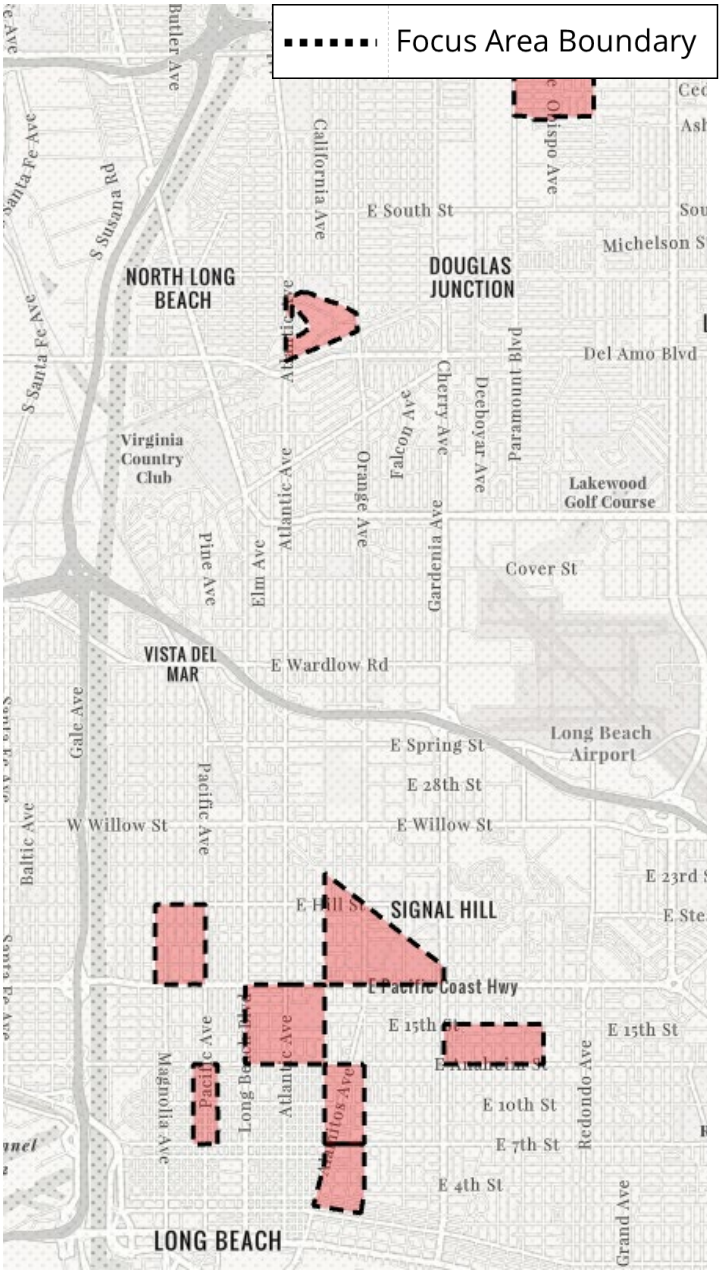

Figure 17 - Long Beach Focus Area Census Tracts

The census tracts in Long Beach are largely non-contiguous, yet the demographic and socio-economic data unique to the identified tracts demonstrates a high level of

households without an internet connection, higher levels of poverty, and a need for additional broadband investment and resources to ensure equity.

Table 13 – City of Long Beach Focus Area Key Demographics

Size	
Census Tracts	9
Area (mi²)	1.51
Population	35,714
Population Density (per mi²)	*23,699*
Total Households	11,566
Household Density (per mi²)	*7,675*
Income	
Median Household Income	$ 41,834
Median : Mean Ratio	74.1%
% of Population Below Poverty Line	26.0%
Social Indices	
Social Vulnerability (SVI)	Highest
Justice Equity Needs (JENI)	Moderate – Highest
Justice Equity Service (JESI)	High – Highest
COVID Impact	Highest
Broadband Access	
% of Households without Internet	24.3%
% of Households without a Computer	9.5%

The Long Beach census tracts fall under the Frontier-Spectrum duopoly, with residents and businesses having a choice between one of the two major providers. There also appears to be fair availability of fiber-to-the-home services through Frontier, offering some residents the choice of at least two gigabit providers.

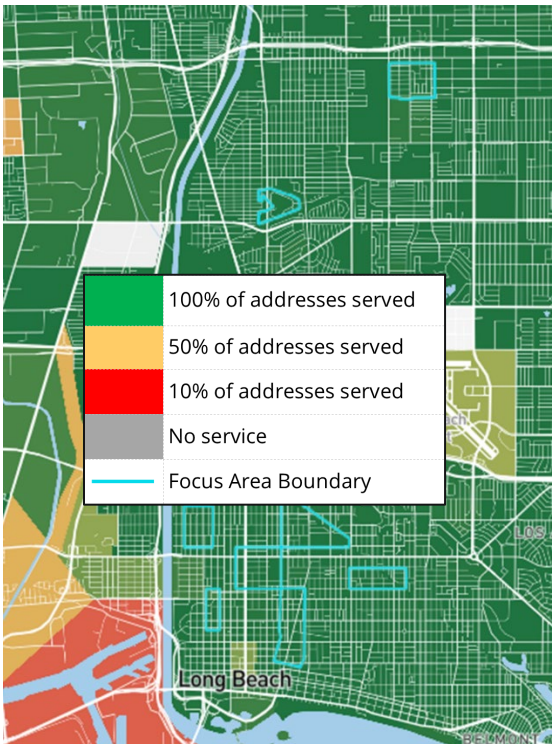

Figure 18 - Spectrum Coverage in Long Beach Focus Area[12]

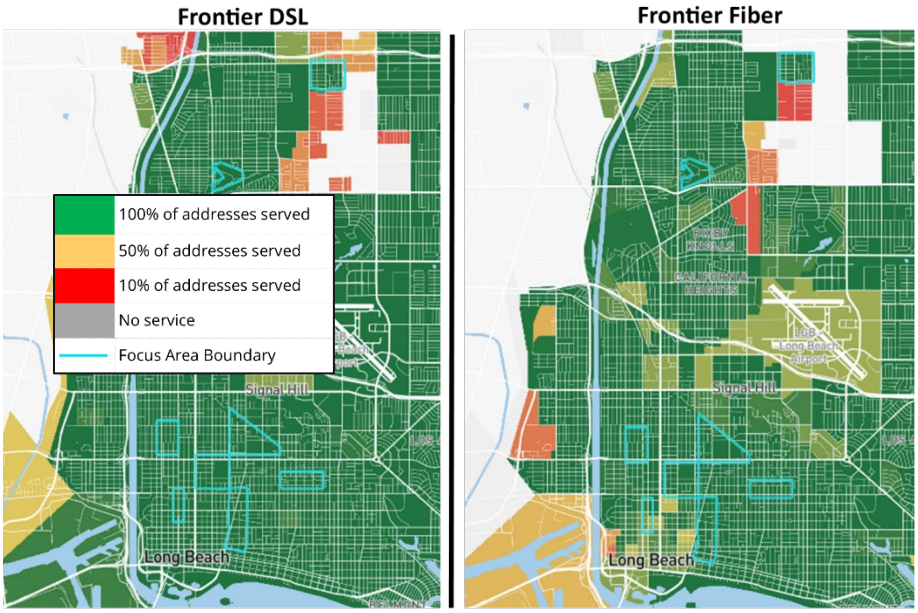

Figure 19 - Frontier Coverage in Long Beach Focus Area[13]

[12] Source: https://bestneighborhood.org/tv-and-internet-california#availability
[13] Source: https://bestneighborhood.org/tv-and-internet-california#availability

Magellan randomly tested 10 addresses across all the census tracts within the Focus Area to verify and confirm service offerings and pricing (see Figure 20).

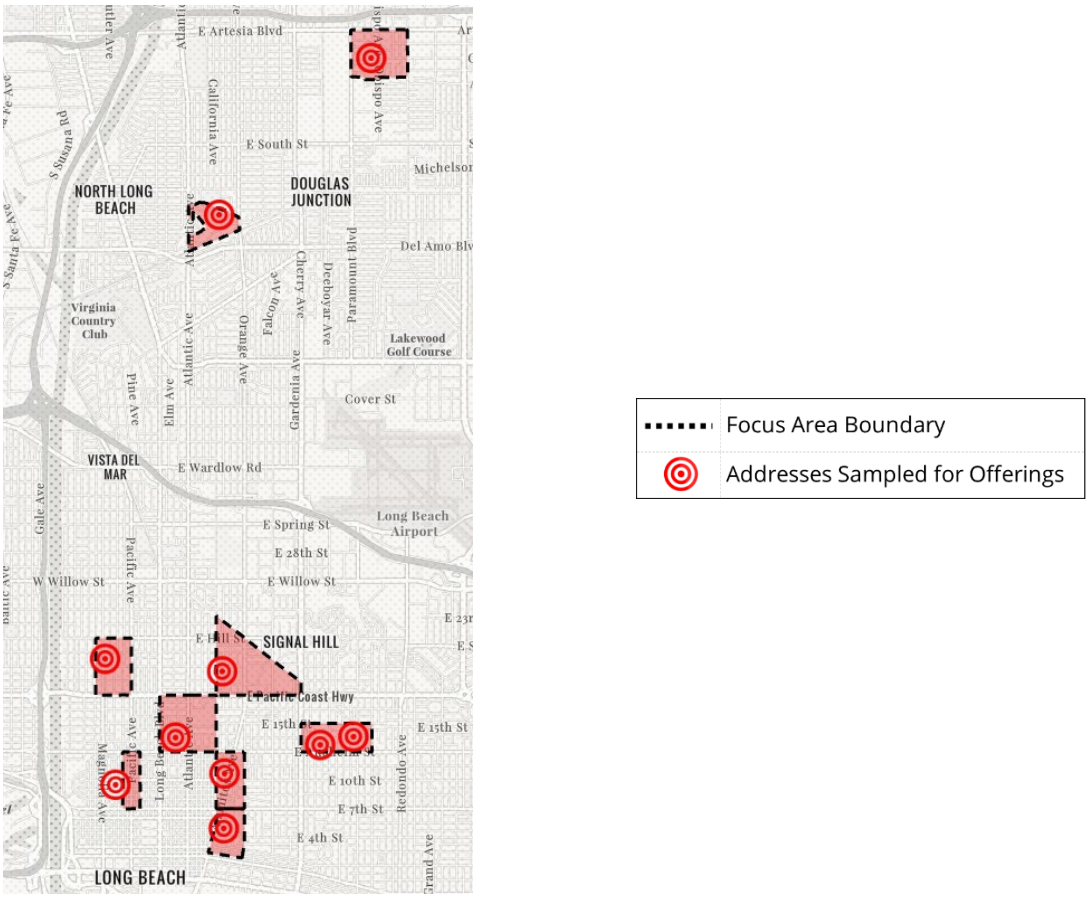

Figure 20 - Sites Sampled for Service Offerings in Long Beach Focus Area

Table 14 – Sample of Service Offerings in Long Beach Focus Area

Address	Spectrum	Frontier
Lewis Avenue	Cable	Fiber
Bonito Avenue	Cable	DSL
Linden Avenue	Cable	Fiber
East Rhea Street	Cable	Fiber
Magnolia Avenue	Cable	--
Raymond Avenue	Cable	Fiber
Chestnut Avenue	Cable	Fiber
East 14th Street	Cable	Fiber
East 64th Street	Cable	Fiber
Est Via Wanda	Cable	DSL

However, it appears not all addresses within the Long Beach focus area have options for gigabit providers: one location (Magnolia Avenue) has only a single provider (Spectrum) offering any service; at two other locations, Frontier offers only DSL service with sub-standard speeds.

The price and service tier offerings within the Long Beach Focus Area were consistent with neighboring jurisdictions for similar services.

Table 15 - Service Offerings & Pricing for Long Beach Focus Area

Carrier	Service Tier	Monthly Rate	Contract Term	Extras
Spectrum (Cable/HFC)	500 Mbps 1 Gbps	$ 50 $ 70	2 years 2 years	No data cap Free modem
Frontier (DSL)	768 Kbps to 50 Mbps	$ 50	None	No data cap Free modem
Frontier (Fiber)	500 Mbps 1 Gbps 2 Gbps	$ 45 $ 70 $ 100	1 Year 3 Years 3 Year	No data cap Free modem

PANORAMA CITY

The County identified nine (9) census tracts within the Panorama City neighborhood to include in the feasibility study, as shown in Figure 21.

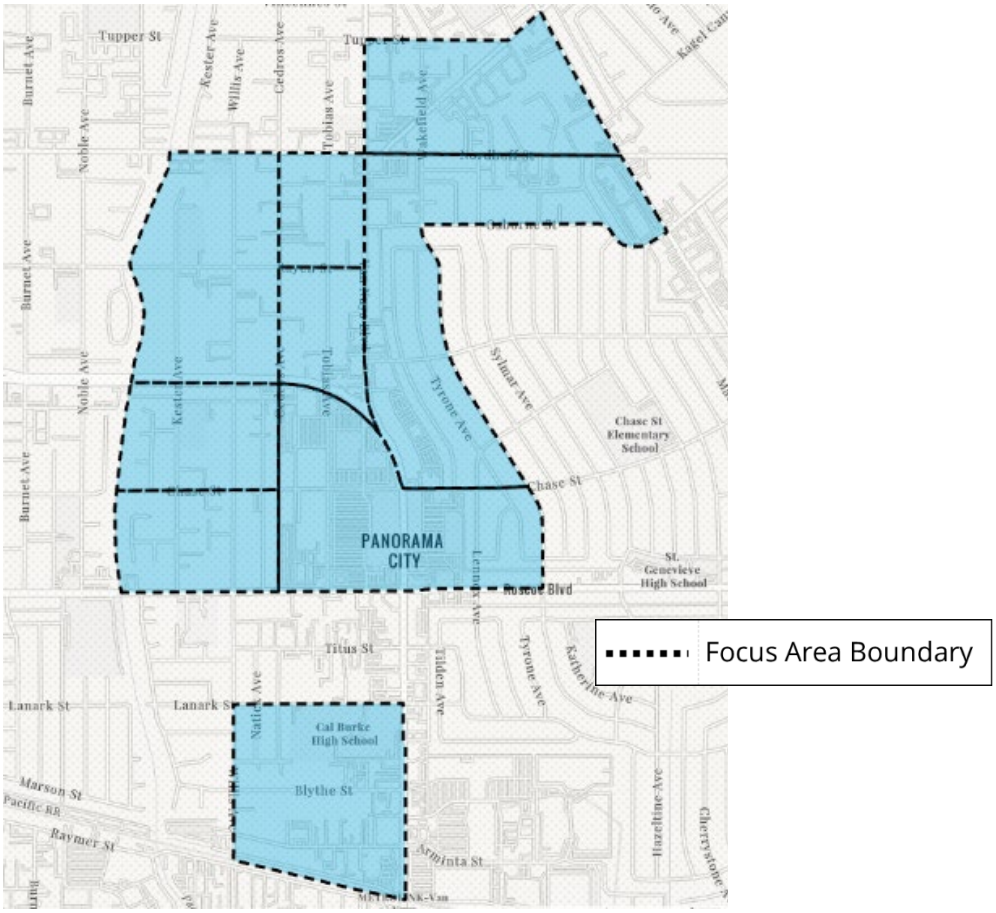

Figure 21 - Panorama City Focus Area Census Tracts

Demographic and socio-economic data for the Panorama City census tracts indicates nearly one-third of the population is below the poverty threshold, and requires additional investment and resources to increase broadband access and mitigate COVID impacts.

Table 16 – Panorama City Focus Area Key Demographics

Size	
Census Tracts	9
Area (mi²)	1.07
Population	30,363

Population Density (per mi²)	*28,392*
Total Households	8,913
Household Density (per mi²)	*8,334*
Income	
Median Household Income	$ 40,710
Median : Mean Ratio	75.1%
% of Population Below Poverty Line	28.8%
Social Indices	
Social Vulnerability (SVI)	High
Justice Equity Needs (JENI)	High
Justice Equity Service (JESI)	Lowest
COVID Impact	High
Broadband Access	
% of Households without Internet	20.2%
% of Households without a Computer	15.9%

The Panorama census tracts showed three carriers – Spectrum, Frontier, and AT&T – although AT&T appears only to offer DSL service at sub-standard speeds in a handful of locations where Frontier offers no services. Thus, Panorama City appears to similarly fall under a typical telecom duopoly, with residents and businesses having a choice between one of two providers.

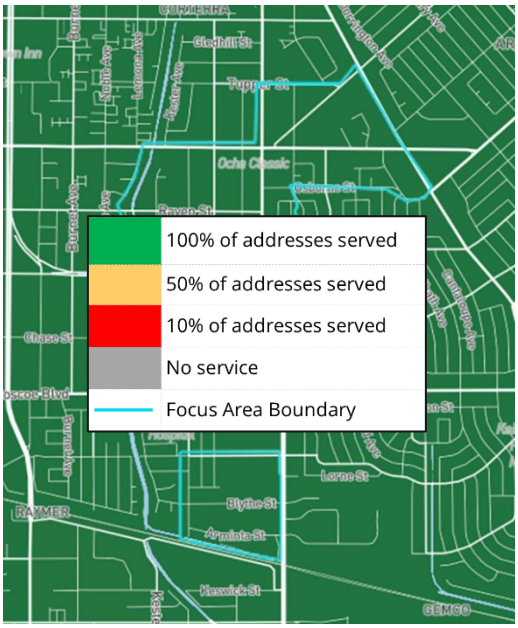

Figure 22 - Spectrum Coverage in Panorama City Focus Area[14]

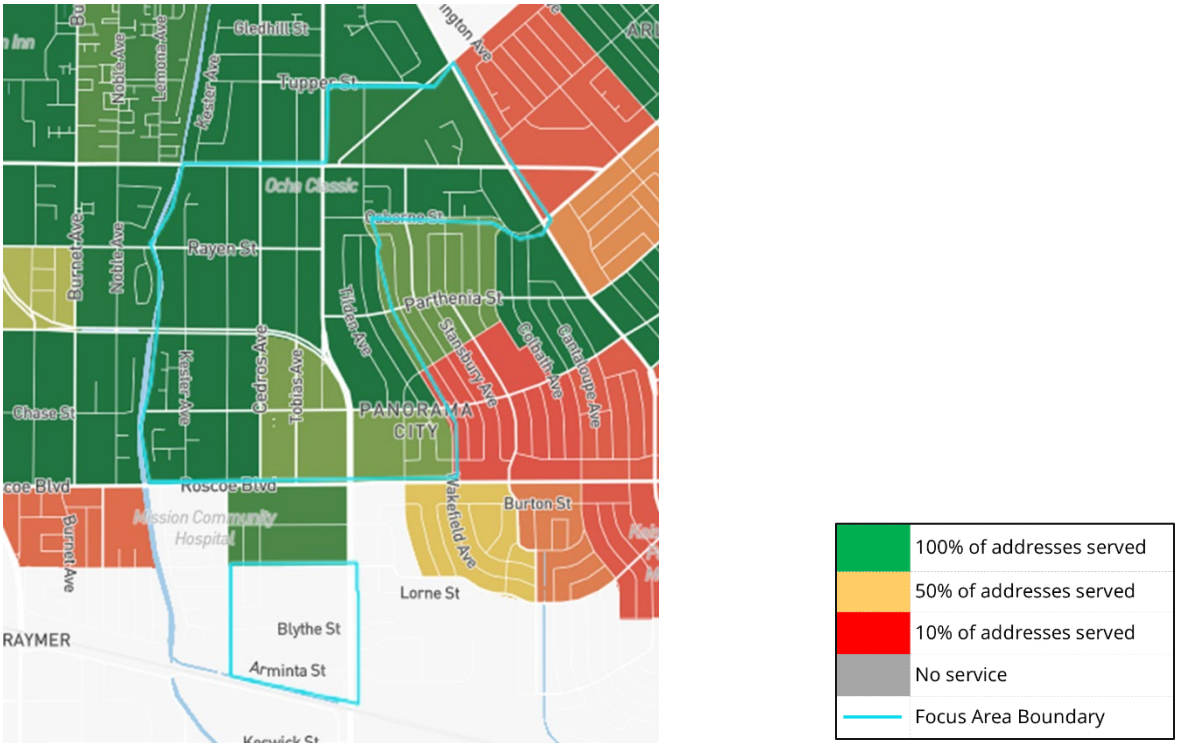

Figure 23 Frontier Fiber Coverage in Panorama City Focus Area[15]

[14] Source: https://bestneighborhood.org/tv-and-internet-california#availability
[15] Source: https://bestneighborhood.org/tv-and-internet-california#availability

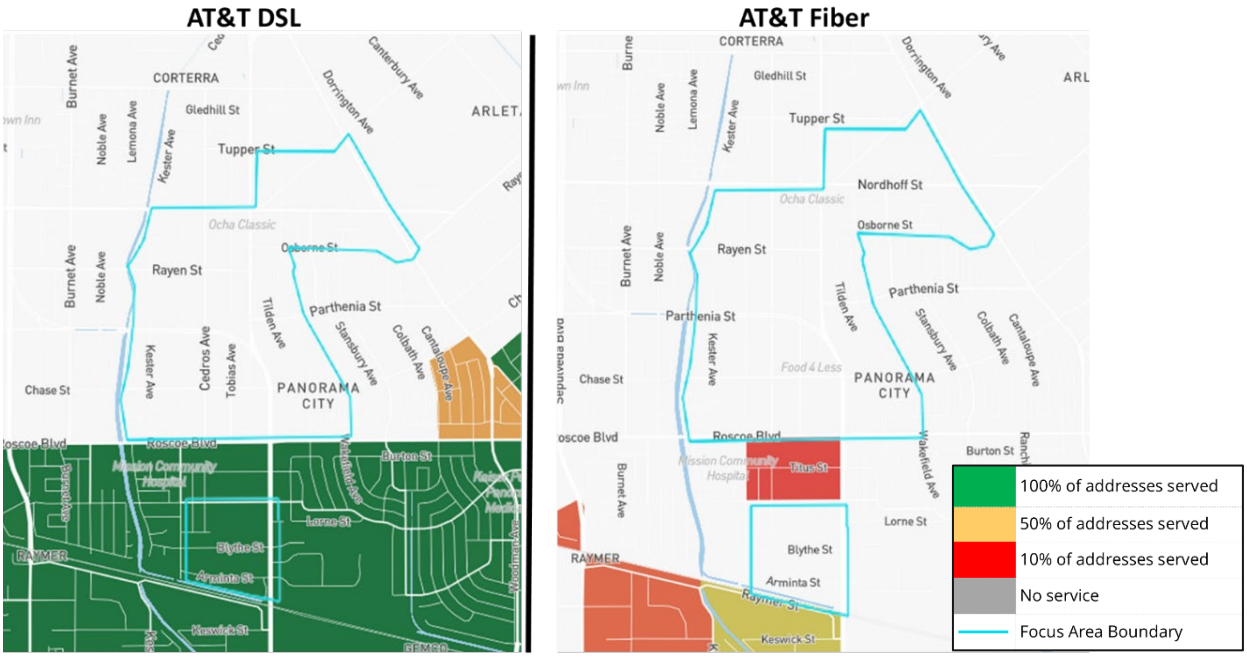

Figure 24 - AT&T Coverage in Panorama City Focus Area[16]

Magellan randomly tested six addresses within the Focus Area to verify and confirm service offerings and pricing (see Figure 25).

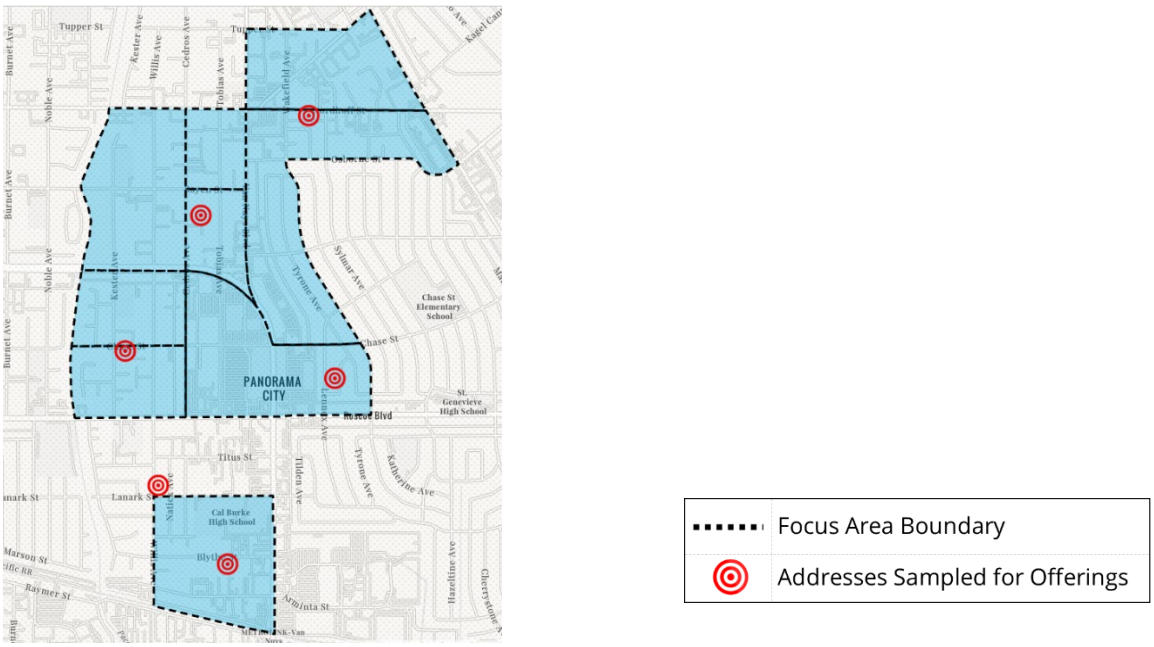

Figure 25 - Sites Sampled for Service Offerings in Panorama City Focus Area

[16] Source: https://bestneighborhood.org/tv-and-internet-california#availability

Table 17 – Sample of Service Offerings in Panorama City Focus Area

Address	Spectrum	Frontier	AT&T
Cedros Avenue	Cable	Fiber	--
Nordhoff Street	Cable	Fiber	--
Lullaby Lane	Cable	Fiber	--
Blythe Street	Cable	--	DSL
Chase Street	Cable	Fiber	--
Willis Avenue	Cable	--	DSL

The price and service tier offerings within the Panorama Focus Area were consistent with neighboring jurisdictions for similar services.

Table 18 - Service Offerings & Pricing for Panorama City Focus Area

Carrier	Service Tier	Monthly Rate	Contract Term	Extras
Spectrum (Cable/HFC)	500 Mbps 1 Gbps	$ 50 $ 70	2 years 2 years	No data cap Free Modem
AT&T (DSL)	500 Kbps to 50 Mbps	$ 55	1 year	1.5 TB data cap; $10 per 50 GB of excess
Frontier (Fiber)	500 Mbps 1 Gbps 2 Gbps	$ 40 $ 75 $ 150	1 year 3 years 3 years	No data cap Free Modem

AT&T's DSL offerings of 500 Kbps to 50 Mbps for $55 per month are not competitive. In areas where Frontier does not offer fiber-to-the-home, this creates a de facto monopoly and leaves those residents with no viable alternative or option to Spectrum.

PICO UNION

The County identified four (4) census tracts within the Pico Union neighborhood to include in the feasibility study, as shown in Figure 26.

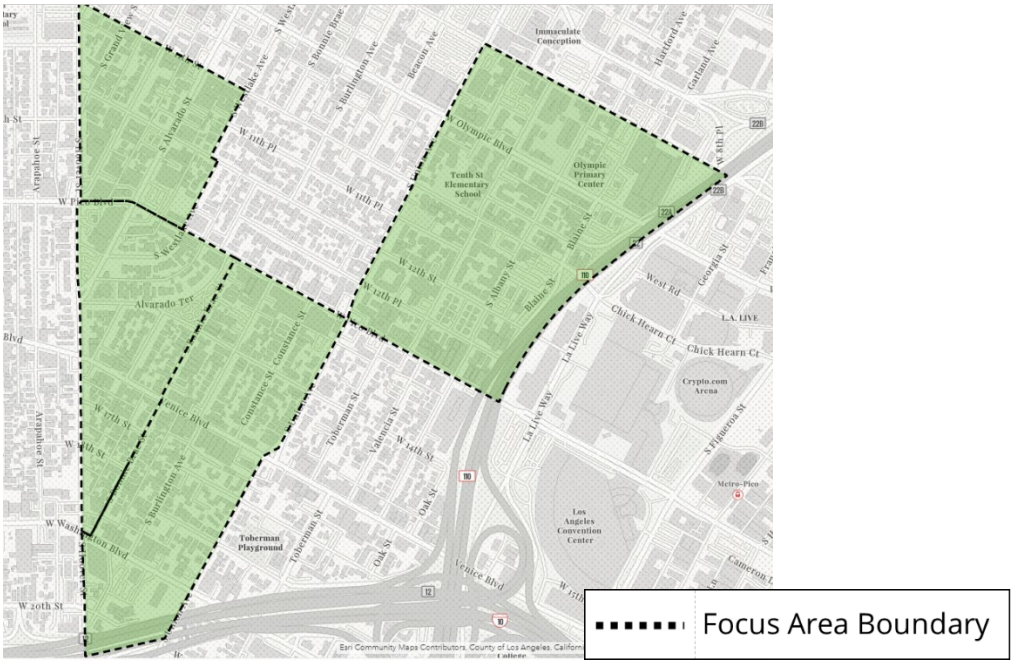

Figure 26 – Pico Union Focus Area Census Tracts

Demographic and socio-economic data for these census tracts demonstrate a community need for additional resources, programming, infrastructure, and investment.

Table 19 - Pico Union Focus Area Key Demographics

Size	
Census Tracts	4
Area (mi²)	0.40
Population	11,290
Population Density (per mi²)	*28,379*
Total Households	3,698
Household Density (per mi²)	*9,296*
Income	
Median Household Income	$ 38,149

Median : Mean Ratio	79.3%
% of Population Below Poverty Line	34.6%
Social Indices	
Social Vulnerability (SVI)	Highest
Justice Equity Needs (JENI)	Low - High
Justice Equity Service (JESI)	Low - High
COVID Impact	Highest
Broadband Access	
% of Households without Internet	32.7%
% of Households without a Computer	16.7%

Most notably, one-third of all households in the Pico Union census tracts *do not have an internet connection*. The data sources did not specify the reason that a particular household does not have an internet connection.

The Pico Union census tracts fall under the AT&T-Spectrum duopoly, with residents and businesses having a choice between one of the two major providers: Spectrum and AT&T. Neither carrier offers fiber-to-the-home services at more than a handful of homes, relying almost entirely on their legacy copper and HFC networks (see Figure 27 and Figure 28) which are limited in bandwidth speeds and capacity.

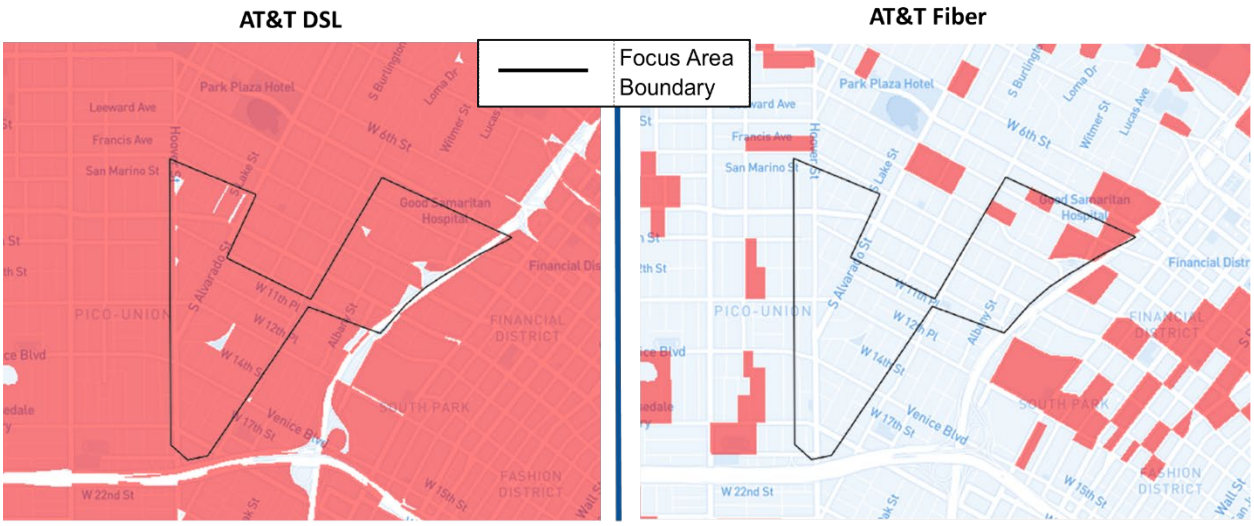

Figure 27 - AT&T Coverage Map in Pico Union Focus Area[17]

[17] Source: https://broadbandnow.com/

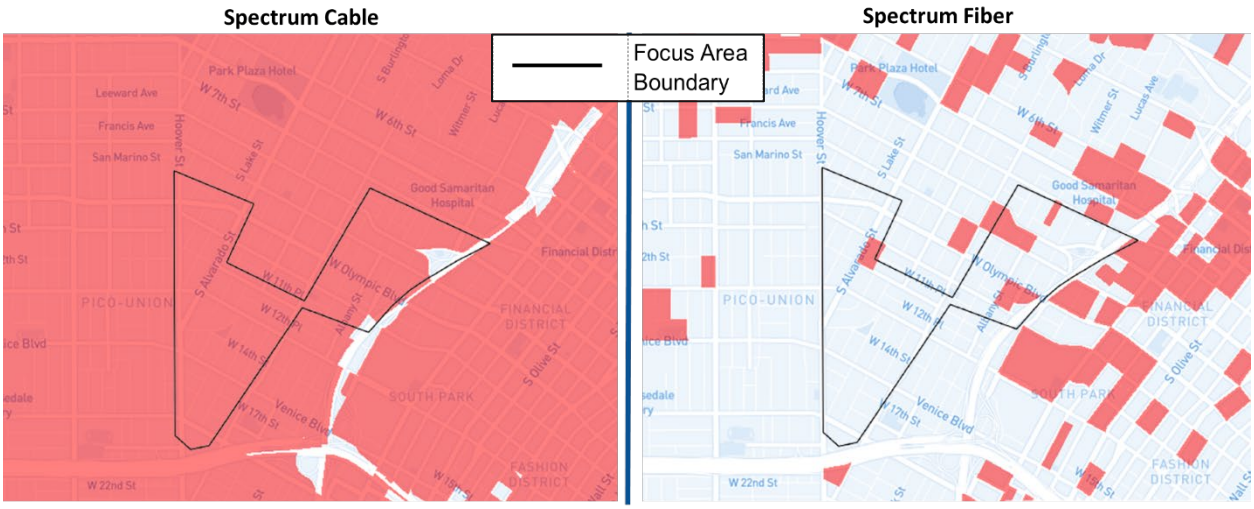

Figure 28 - Spectrum Coverage Map in Pico Union Focus Area[18]

Magellan randomly tested four addresses within the Focus Area to verify and confirm service offerings and pricing (see Figure 29).

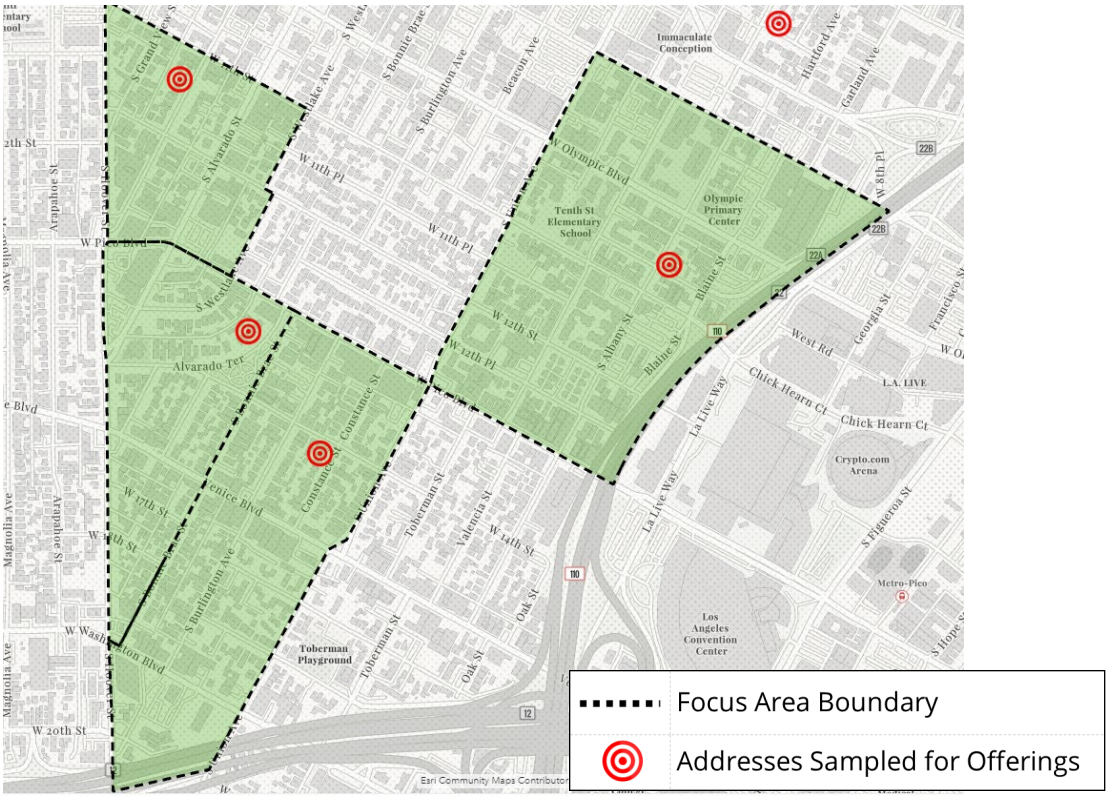

Figure 29 - Sites Sampled for Service Offerings in Pico Union Focus Area

[18] Source: https://broadbandnow.com/

However, Magellan was not able to locate any offers from Spectrum or AT&T for fiber-to-the-home services – only cable/HFC or DSL connectivity. One location on South Lake Street did report a third DSL provider (Sonic) that is providing services over AT&T copper.

Table 20 – Sample of Service Offerings in Pico Union Focus Area

Address	Spectrum	AT&T	Sonic
South Lake Street	Cable	--	DSL
Alvarado Terrace	Cable	DSL	--
Constance Street	Cable	DSL	--
Albany Street	Cable	DSL	--

The price and service tier offerings within the Pico Union Focus Area were consistent with neighboring jurisdictions for similar services.

Table 21 - Service Offerings & Pricing for Pico Union Focus Area

Carrier	Service Tier	Monthly Rate	Contract Term	Extras
Spectrum (Cable/HFC)	30 Mbps	$ 20	None	No data cap Free Modem
	100 Mbps	$ 30	2 years	
	300 Mbps	$ 50	1 year	
	500 Mbps	$ 70	1 year	
	1 Gbps	$ 90	2 years	
AT&T (DSL)	500 Kbps to 50 Mbps	$ 55	1 year	1.5 TB data cap; $10 per 50 GB of excess

Spectrum's advertised costs for 500 Mbps and 1 Gbps services are 29% higher than services from Spectrum in other more urban/dense areas of Los Angeles County.

Moreover, AT&T's DSL offerings of 500 Kbps to 50 Mbps for $55 per month are not competitive, which creates a de facto monopoly and leaves most Pico Union residents with no viable alternative or option to Spectrum.

WATTS

The County identified seven (7) census tracts within the Watts neighborhood to include in the feasibility study, as shown in Figure 30.

Figure 30 - Watts Focus Area Census Tracts

Demographic and socio-economic data for these census tracts indicates a high level of poverty and a lack of broadband access, demonstrating a community need for additional resources and investment to ensure equity and mitigate COVID impacts.

Table 22 - Watts Focus Area Key Demographics

Size	
Census Tracts	7
Area (mi²)	1.56
Population	28,778
Population Density (per mi²)	*18,445*
Total Households	7,527
Household Density (per mi²)	*4,824*
Income	
Median Household Income	$ 33,323

Median : Mean Ratio	66.4%
% of Population Below Poverty Line	37.2%
Social Indices	
Social Vulnerability (SVI)	Highest
Justice Equity Needs (JENI)	Moderate – Highest
Justice Equity Service (JESI)	Low – Highest
COVID Impact	Highest
Broadband Access	
% of Households without Internet	28.1%
% of Households without a Computer	11.9%

The Watts census tracts fall under the AT&T-Spectrum duopoly, with residents and businesses having a choice between one of the two major providers. AT&T has a footprint of fiber-to-the-home offerings in about half of the census tracts areas, providing consumers with a competitive choice of gigabit providers (see Figure 31). However, in the other areas where AT&T only offers sub-standard DSL service, Spectrum has a de facto monopoly.

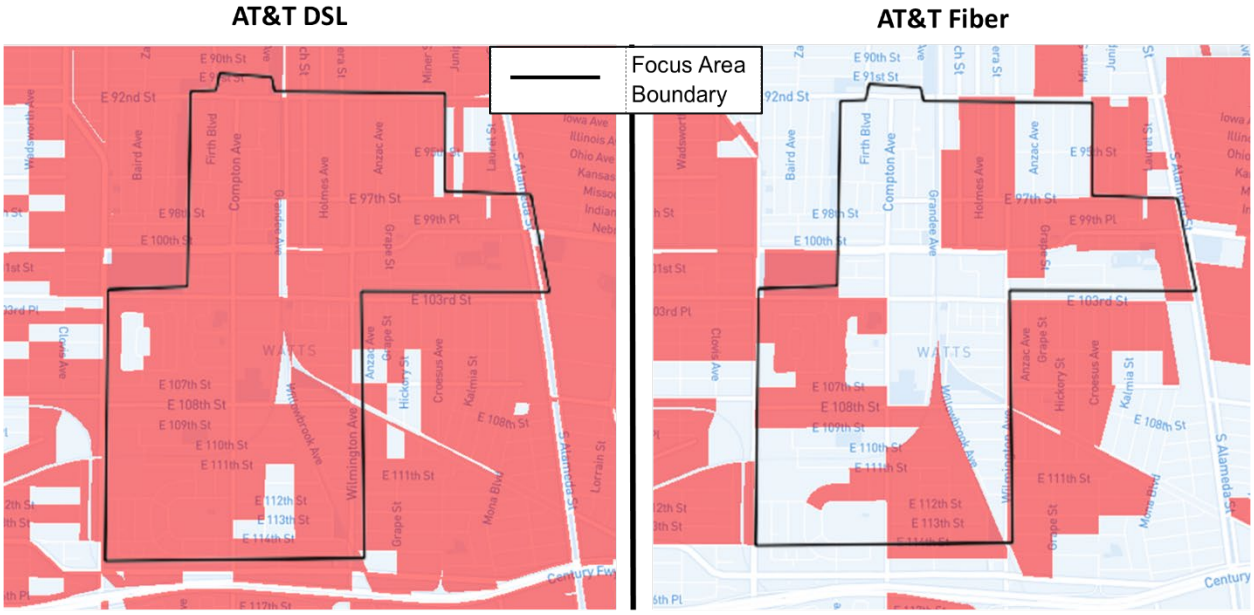

Figure 31 - AT&T Coverage Map in Watts Focus Area[19]

[19] Source: https://broadbandnow.com/

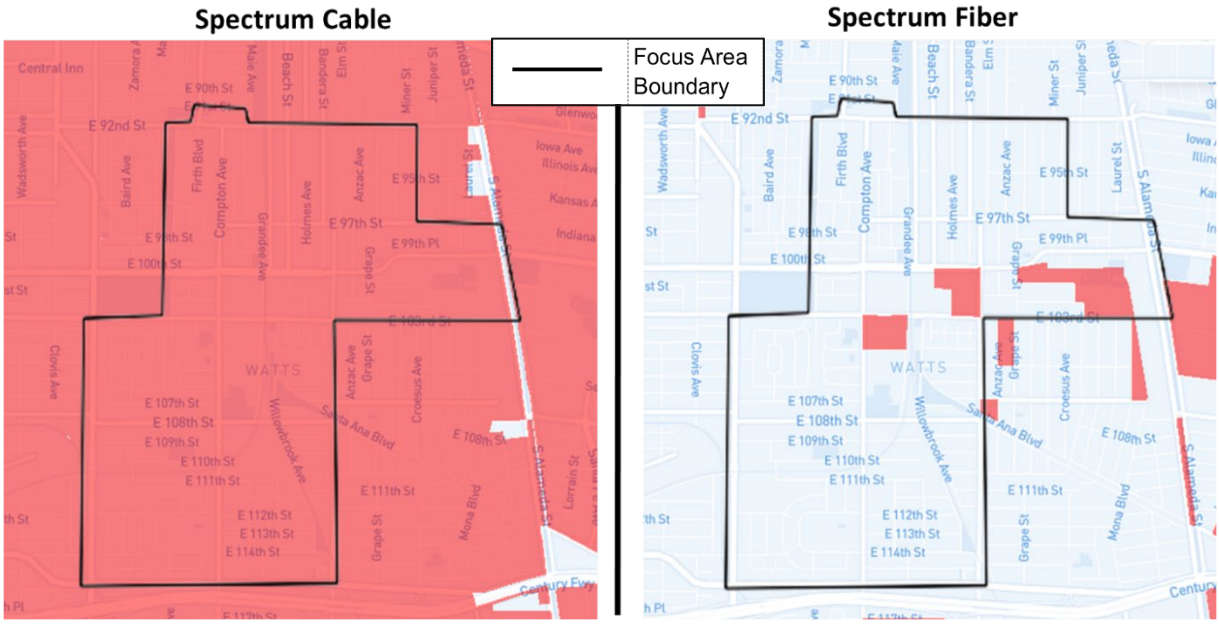

Figure 32 - Spectrum Coverage Map in Watts Focus Area[20]

Magellan randomly tested five addresses within the Focus Area to verify and confirm service offerings and pricing (see Figure 33).

Figure 33 - Sites Sampled for Service Offerings in Watts Focus Area

[20] Source: https://broadbandnow.com/

Table 23 – Sample of Service Offerings in Watts Focus Area

Address	Spectrum	AT&T
Grape Street	Cable	DSL
Compton Avenue	Cable	DSL
East 113th Street	Cable	Fiber
East 106th Street	Cable	Fiber
Holmes Avenue	Cable	DSL

The price and service tier offerings within the Watts Focus Area showed some inconsistencies in Spectrum's gigabit pricing with neighboring jurisdictions for similar services.

Table 24 - Service Offerings & Pricing for Watts Focus Area

Carrier	Service Tier	Monthly Rate	Contract Term	Extras
Spectrum (Cable/HFC)	30 Mbps	$ 20	None	No data cap Free Modem
	100 Mbps	$ 30	2 years	
	300 Mbps	$ 50	1 year	
	500 Mbps	$ 70	1 year	
	1 Gbps	$ 90	1 year	
AT&T (DSL)	500 Kbps to 50 Mbps	$ 55	1 year	1.5 TB data cap; $10 per 50 GB of excess
AT&T (Fiber)	300 Mbps	$ 55	None	No data cap Free Modem
	500 Mbps	$ 65	None	
	1 Gbps	$ 80	None	
	2 Gbps	$ 110	None	
	5 Gbps	$ 180	None	

Spectrum's advertised costs for 500 Mbps and 1 Gbps services are 29% higher than services from Spectrum in neighboring areas of Los Angeles County.

Moreover, AT&T's DSL offerings of 500 Kbps to 50 Mbps for $55 per month are not competitive, which creates a de facto monopoly and leaves those Watts residents outside of AT&T's fiber footprint with no viable alternative or option to Spectrum.

WESTLAKE

The County identified eight (8) census tracts within the Westlake neighborhood to include in the feasibility study, as shown in Figure 34.

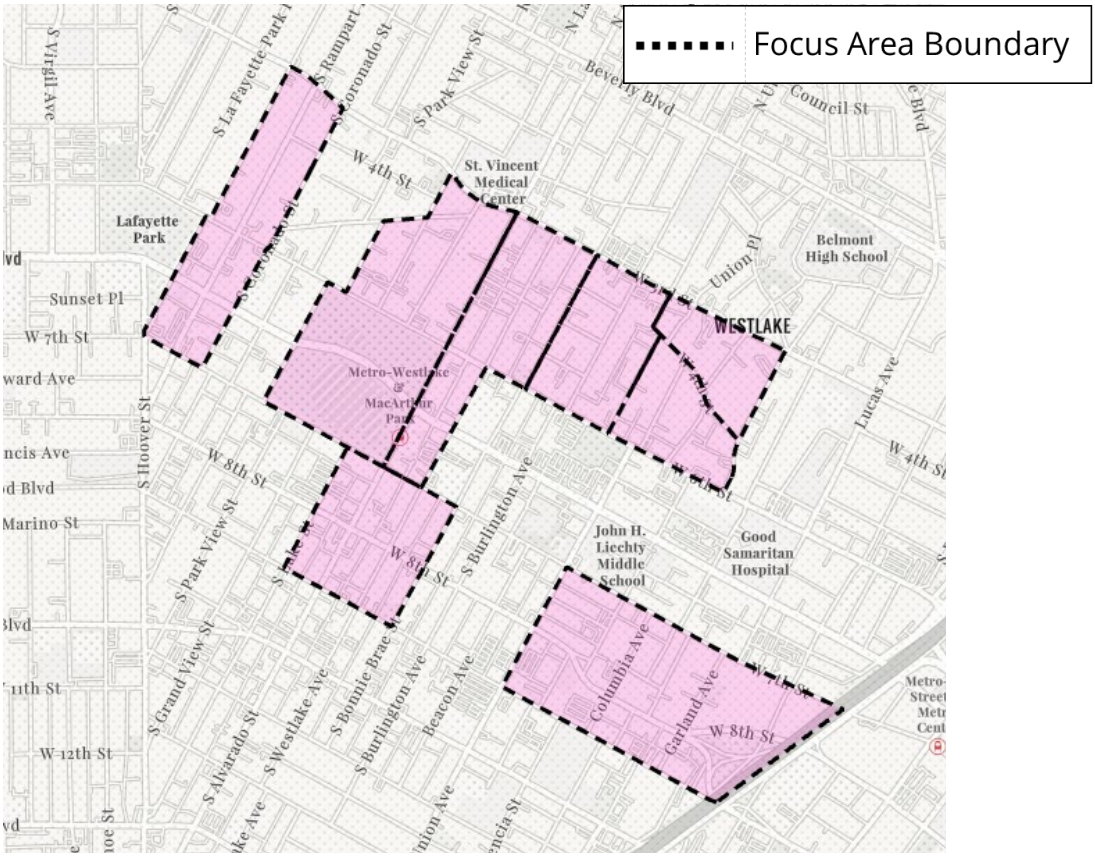

Figure 34 - Westlake Focus Area Census Tracts

Demographic and socio-economic data for these census tracts indicates an extremely high level of poverty and a lack of broadband access, demonstrating a clear need for resources and investment to foster greater equity and outcomes.

Table 25 - Westlake Focus Area Key Demographics

Size	
Census Tracts	8
Area (mi²)	0.50
Population	29,421
Population Density (per mi²)	*58,602*
Total Households	10,645

Household Density (per mi²)	*21,203*
Income	
Median Household Income	$ 35,118
Median : Mean Ratio	75.1%
% of Population Below Poverty Line	39.8%
Social Indices	
Social Vulnerability (SVI)	Moderate – Highest
Justice Equity Needs (JENI)	Moderate – Highest
Justice Equity Service (JESI)	Moderate – Highest
COVID Impact	Moderate – Highest
Broadband Access	
% of Households without Internet	35.8%
% of Households without a Computer	13.2%

The Westlake census tracts fall under the AT&T-Spectrum duopoly, with residents and businesses having a choice between one of the two major providers. Neither carrier offers fiber-to-the-home services, relying almost entirely on their legacy copper and/or HFC networks (see Figure 35 and Figure 36) which are limited in bandwidth speeds and capacity.

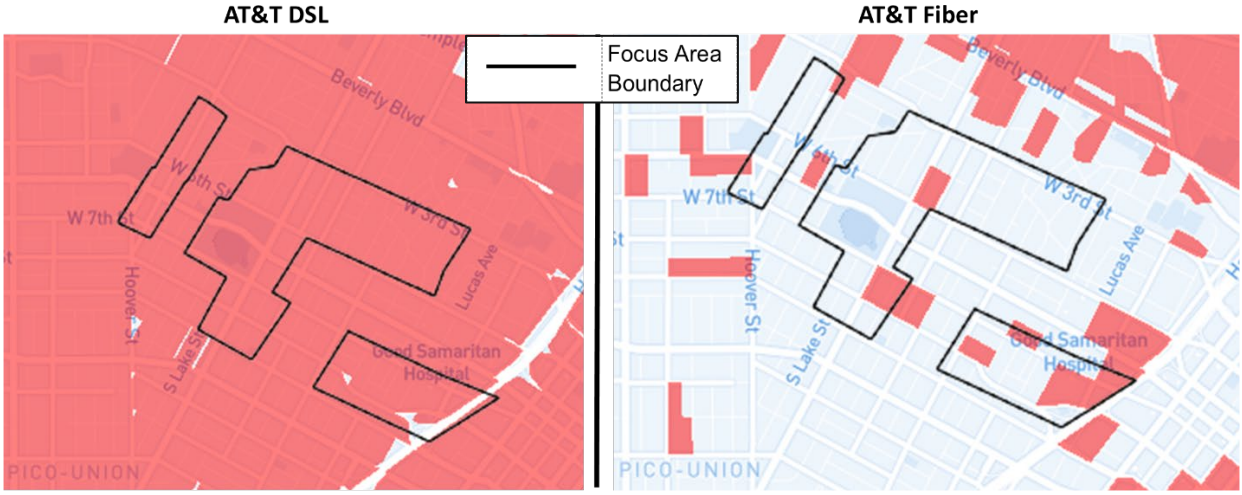

Figure 35 - AT&T Coverage Map in Westlake Focus Area[21]

[21] Source: https://broadbandnow.com/

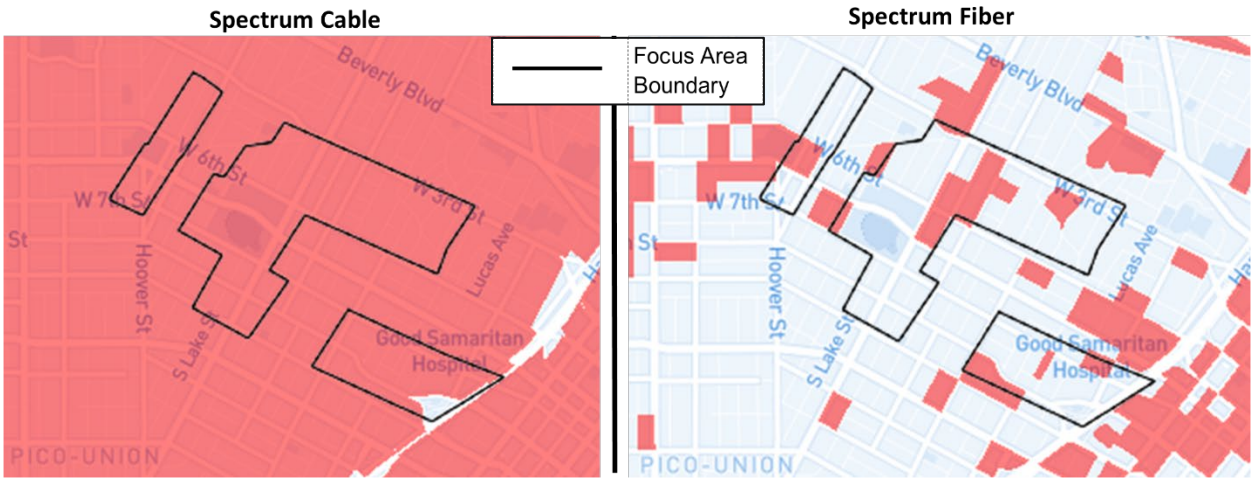

Figure 36 - Spectrum Coverage Map in Westlake Focus Area[22]

Magellan randomly tested five addresses within the Focus Area to verify and confirm service offerings and pricing (see Figure 37).

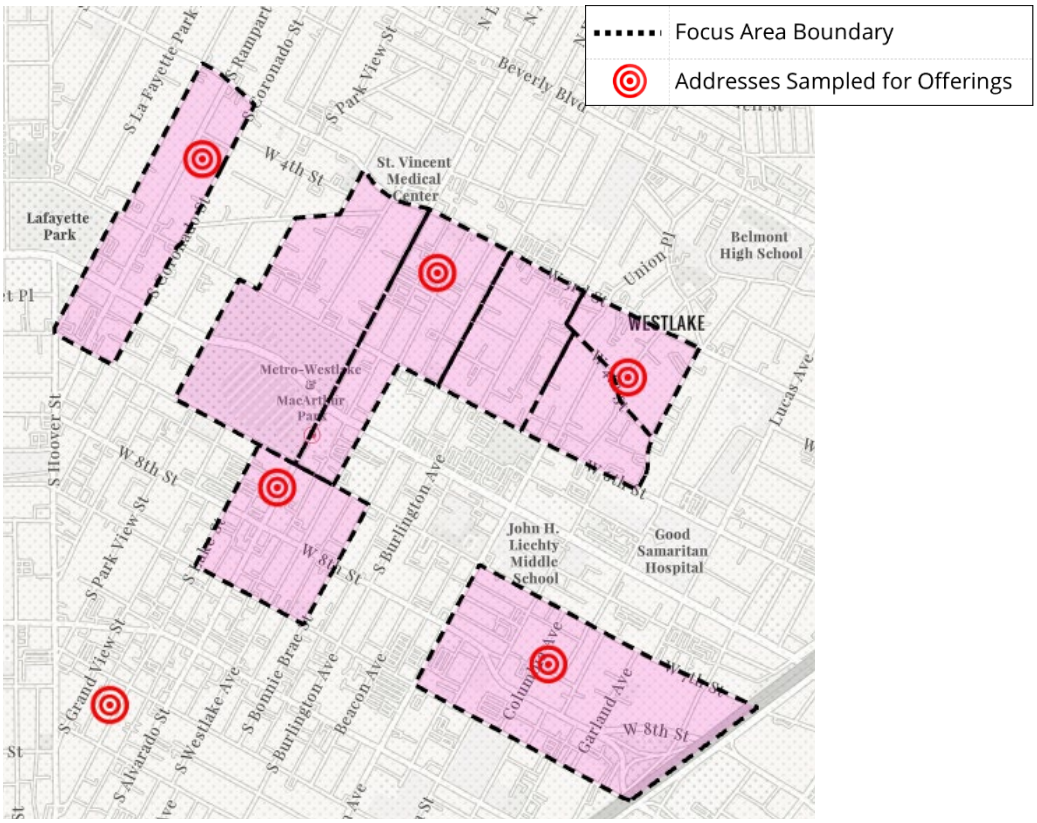

Figure 37 - Sites Sampled for Service Offerings in Westlake Focus Area

[22] Source: https://broadbandnow.com/

Table 26 – Sample of Service Offerings in Westlake Focus Area

Address	Spectrum	AT&T
Linwood Avenue	Cable	DSL
South Alvarado	Cable	DSL
South Westlake Avenue	Cable	DSL
Loma Drive	Cable	DSL
South Rampart Blvd.	Cable	DSL

The price and service tier offerings within the Westlake Focus Area showed some inconsistencies in Spectrum's gigabit pricing with neighboring jurisdictions for similar services.

Table 27 - Service Offerings & Pricing for Westlake Focus Area

Carrier	Service Tier	Monthly Rate	Contract Term	Extras
Spectrum (Cable/HFC)	30 Mbps	$ 20	None	No data cap Free Modem
	100 Mbps	$ 30	2 years	
	300 Mbps	$ 50	1 year	
	500 Mbps	$ 70	1 year	
	1 Gbps	$ 90	1 year	
AT&T (DSL)	500 Kbps to 50 Mbps	$ 55	1 year	1.5 TB data cap; $10 per 50 GB of excess

Spectrum's advertised costs for 500 Mbps and 1 Gbps services are 29% higher than services from Spectrum in neighboring areas of Los Angeles County.

Moreover, AT&T's sub-standard DSL offerings of 500 Kbps to 50 Mbps for $55 per month are not competitive nor adequate, which creates a de facto monopoly and leaves Westlake residents with no viable alternative or option to Spectrum.

Conclusions & Implications

The census tracts within the eight Focus Areas have similar socioeconomic factors that have historically challenged digital equity and deterred private investment. Yet, the areas are not identical and thus require unique solutions designed to address their individual needs and resource constraints.

However, Magellan identified several market forces and trends that have implications for residents and businesses living and working within the focus areas:

- **Spectrum has near-ubiquitous gigabit coverage through its hybrid fiber-coax network**.

  This ensures that most areas have at least one gigabit provider capable of meeting the California minimum download speed of 100 Mbps; however it's not clear that Spectrum is able to provide the minimum upload speed of 25 Mbps in all of these areas. Additionally, Spectrum's gigabit service is advertised as speeds "up to" 1 Gbps; actual speeds may vary and fall well short depending on internet traffic/congestion, location, etc. And while Spectrum has near universal coverage in the County, there are areas in Lancaster that do not have any service availability from Spectrum.

- **Most areas are de-facto broadband monopolies**.

  Most areas lack adequate high-speed broadband alternatives to Spectrum. AT&T and/or Frontier's DSL service tops out at 50 or 75 Mbps, below the California minimum download speed of 100 Mbps, and far behind the gigabit speeds that many applications and technologies require. This effectively gives Spectrum a broadband monopoly in these areas, prevents consumers from having any viable options or alternatives, and limits any competitive pressures that might incentivize Spectrum to increase speeds, lower prices, or improve service levels.

- **Areas with higher poverty pay higher monthly rates with Spectrum and have fewer alternatives**.

  Spectrum – as the only provider that serves all eight Focus Areas – has two different price points for its gigabit service: $70/month or $90/month. These prices differences cannot be explained by geography or location; areas in close proximity with similar urban environments and infrastructure reflected the two different price points (e.g., Crenshaw and East Los Angeles pay $70/month for Spectrum's gigabit service, while Pico Union, Westlake and Watts pay $90/month for the same service).

The difference also cannot be entirely explained by lack of competition, as Watts has a significant AT&T fiber footprint with gigabit fiber competing with Spectrum's services, yet Watts still pays the higher $90 rate.

Ultimately, the difference in monthly fees correlates with poverty rates: In the four Focus Areas that pay the lower $70/month rate with Spectrum, the average poverty rate is 18.8%. In the four Focus areas paying the higher $90/month rate, the average poverty rate is 34.6%.

Table 28 – Correlation Between Spectrum Monthly Fee Differences & Poverty Rates

	Monthly Fee for Spectrum's 1 Gbps	Average Poverty Rate
Crenshaw East L.A. Long Beach Panorama City	$ 70	18.8%
Lancaster Pico Union Watts Westlake	$ 90	34.6%

Only some residents in Watts have a viable alternative/option to Spectrum; the rest of the higher-poverty areas have no choice for internet services.

The result is that *areas with poverty rates nearly double their neighbors are paying 30% more per month for identical internet services*, further exacerbating the Digital Divide and creating more challenges for households struggling to keep up with monthly finances.

- **Public investment can address equity, affordability, and competition.**

  Much of the market disparities identified can be mitigated through targeted public investment. Utilizing and expanding public infrastructure to distribute competing internet services can ensure equitable and affordable access for the residents and businesses within the Focus Areas. Public-private partnerships can lower the cost of market entry for new providers, stimulate competition and put pressure on the incumbent providers to increase their bandwidth speeds and lower their prices. Investments in local programming and community-based organizations can deploy devices to households that lack computers, and digital literacy training can help others access the internet for employment, education, healthcare, and access to resources.

BOARD OF SUPERVISORS | Hilda L. Solis, First District | Holly J. Mitchell, Second District | Lindsey P. Horvath, Third District | Janice Hahn, Fourth District | Kathryn Barger, Fifth District

Chief Executive Office.

COUNTY OF LOS ANGELES
Kenneth Hahn Hall of Administration
500 West Temple Street, Room 713, Los Angeles, CA 90012
(213) 974-1101 ceo.lacounty.gov

CHIEF EXECUTIVE OFFICER
Fesia A. Davenport

November 28, 2023

To: Supervisor Janice Hahn, Chair
Supervisor Hilda L. Solis
Supervisor Holly J. Mitchell
Supervisor Lindsey P. Horvath
Supervisor Kathryn Barger

From: Peter Loo
Peter Loo (Nov 28, 2023 11:38 PST)
Acting Chief Information Officer

EIGHTH REPORT BACK ON DEVELOPING THE DIGITAL DIVIDE REGIONAL STRATEGIC PLAN (ITEM NO. 11, AGENDA OF FEBRUARY 23, 2021)

On February 23, 2021, the Board of Supervisors (Board) directed the Chief Information Officer, in coordination with the Los Angeles County (County) departments and external stakeholders, to develop and implement a County Digital Divide Internal Action Plan and Regional Strategic Plan, with quarterly progress updates.

On November 16, 2021, the Board designated the Internal Services Department (ISD) as the lead department responsible for ensuring the County's efforts on all community broadband infrastructure and residential service initiatives to close the Digital Divide and directed the Chief Executive Officer to hire a consultant to conduct a financial and technical feasibility study for a County-administered municipal broadband service.

This quarterly report provides a final update with the completion of the Feasibility Study for a County-Administered Municipal Broadband Service study.

Feasibility Study for a County-Administered Municipal Broadband Service

The Chief Executive Office selected Magellan Advisors (Magellan) to conduct a feasibility study for County-administered municipal broadband services in eight representative communities of need, Crenshaw, East Los Angeles, City of Lancaster, City of Long Beach, Panorama City, Pico Union, Watts, and Westlake, as identified using the County's Equity Tool. Household median income in these communities is half of the California state average, while poverty levels are more than double the

rest of the state. Critically, the number of households without an internet connection in the communities is more than twice the statewide average. The communities' average household density is 12 units per acre, but with a wide range of 0.5 units per acre in Lancaster all the way up to 33 units per acre in Westlake. This digital divide more negatively impacts some parts of the County than others, and while the areas selected for the feasibility study are in great need, they are not necessarily the areas in the County of highest need.

A market analysis of these communities found a clear broadband duopoly of two incumbent carriers; a legacy telephone carrier predominantly delivering internet services over legacy telephone lines augmented with fiber backbones, and a legacy cable service provider providing connectivity over their hybrid fiber coax networks. Wireless internet providers are now offering home internet through their fixed wireless/5G network, however, availability throughout the communities is not widespread and tends to be smaller localized pockets. The broadband duopolies in these communities limit any competitive pressures that might incentivize the broadband service providers to increase speeds, lower prices, or improve service levels. The market disparities identified can be mitigated through targeted public investment. Utilizing and expanding public infrastructure to distribute competing internet services can ensure equitable and affordable access for the residents and businesses within the communities. Public-private partnerships can lower the cost of market entry for new providers, stimulate competition and put pressure on the incumbent providers to increase their bandwidth speeds and lower their prices.

Magellan assessed the region and communities for existing public and private broadband assets and infrastructure that could be used, leased, shared, or otherwise leveraged to develop and construct a functional, yet cost-effective broadband network. This included public infrastructure, such as street light poles and the public rights-of-way along streets, as well as publicly owned communications networks, such as towers, antennas, traffic control networks, conduit, and/or fiber optic cable. Magellan also assessed planned California state-owned networks, such as the middle-mile fiber network, or Golden State Network, that could be leveraged to develop last-mile broadband infrastructure. Based on the asset inventory, Magellan estimated an up-front capital cost of $195-325 million to deploy fiber optic cable to each address within the communities. The high up-front capital costs for fiber-to-home are prohibitive and Magellan evaluated an alternative design – the fastest and least expensive to construct, connect and operate – utilizing a fixed wireless connection using Citizen Band Radio Service (CBRS). This design requires base stations to be installed on towers, water tanks, light poles, or other tall assets, and utilizes a wireless signal and antenna to connect a home or structure to the internet. This approach supports the ISD's Community Broadband Network Initiative.

Based on the 85,000 households within the communities identified for the feasibility study, the County could construct a fixed wireless distribution network that would make 100/25 Mbps broadband service for a one-time subsidy of $106 per household. This estimate can be used for planning and grant application purposes to support the number of households in identified project areas.

The feasibility study also included a 20-year financial analysis for operating a CBRS with a public-private partnership. The model does not calculate or include any internal rate of return that private equity might seek in exchange for providing the significant start-up capital required (new service drops, customer equipment, access network electronics, etc., necessary to begin offering service to paying subscribers). While the models project breakeven in year four and a positive revenue stream by year 20, that estimate may be reduced once a private partner begins to account for their own investment returns.

The feasibility study provides a model that is both economically viable and can be replicated in other areas of the County. The key components include a cost matrix, assesses sustainability through operational costs and expenses, and provides a guide for the general planning process. The key components and cost metrics of this feasibility study can be used to inform budgetary estimates and operational requirements for a full design engineering plan of targeted communities. Additional efforts to support broadband capabilities should be driven by data based on need and target under-resourced communities. Further, they should build upon and bolster existing State and local efforts that are underway.

The Broadband Feasibility Study Summary Report is attached for your reference. Should you have any questions concerning this matter, please contact me at (213) 253-5627 or ploo@cio.lacounty.gov.

CDM:PKL:jmn

Attachment

c: Executive Office, Board of Supervisors

County of Los Angeles, California

Broadband Feasibility Study

SUMMARY REPORT

October 31, 2023

Magellan
An ENTRUST Solutions Group Company

www.MagellanBroadband.com

Summary Report

I. OVERVIEW

The transition to a digital world has accelerated, spurred by the shift to online learning, remote work, e-commerce, the increase in the automation of services, and advances in technology. The foundation enabling this transformation are fiber optic networks that can provide the high-speed, low latency connectivity required for advanced applications and uses. However, access to affordable broadband is not equal, with pockets of both rural and urban communities facing challenges related to broadband access, affordability, language, and technical knowledge that exacerbates socio-economic disparities – what is commonly referred to as the Digital Divide.

The County of Los Angeles contracted with Magellan to study the feasibility of publicly subsidized broadband internet access. The feasibility study included:

- Market Analysis
- Needs Assessment
- Asset Inventory & Site Analysis
- Conceptual Network Design
- Service Model Evaluation
- Program and Financial Analysis

The feasibility study provides a model that is both economically viable *and which can be replicated in other areas of the County.* The study identifies key components, provides a cost matrix, assesses sustainability through operational costs and expenses, and provides a guide for the general planning process. The key components and cost metrics of this feasibility study can be used to inform budgetary estimates and operational requirements for a full design engineering plan of targeted communities.

The study assessed feasibility using eight (8) different focus areas that represented the geographic, socio-economic, and environmental diversity of the County. Each focus area included in the study is comprised of groupings of specific census tracts that fall within a city, neighborhood, or unincorporated area within the County (see *Figure 1*):

1) Crenshaw
2) East Los Angeles
3) City of Lancaster
4) City of Long Beach
5) Panorama City
6) Pico Union
7) Watts
8) Westlake

While the study assessed deployment within the eight areas, it does not assume or

presuppose that these eight areas are necessarily the first pilot areas.

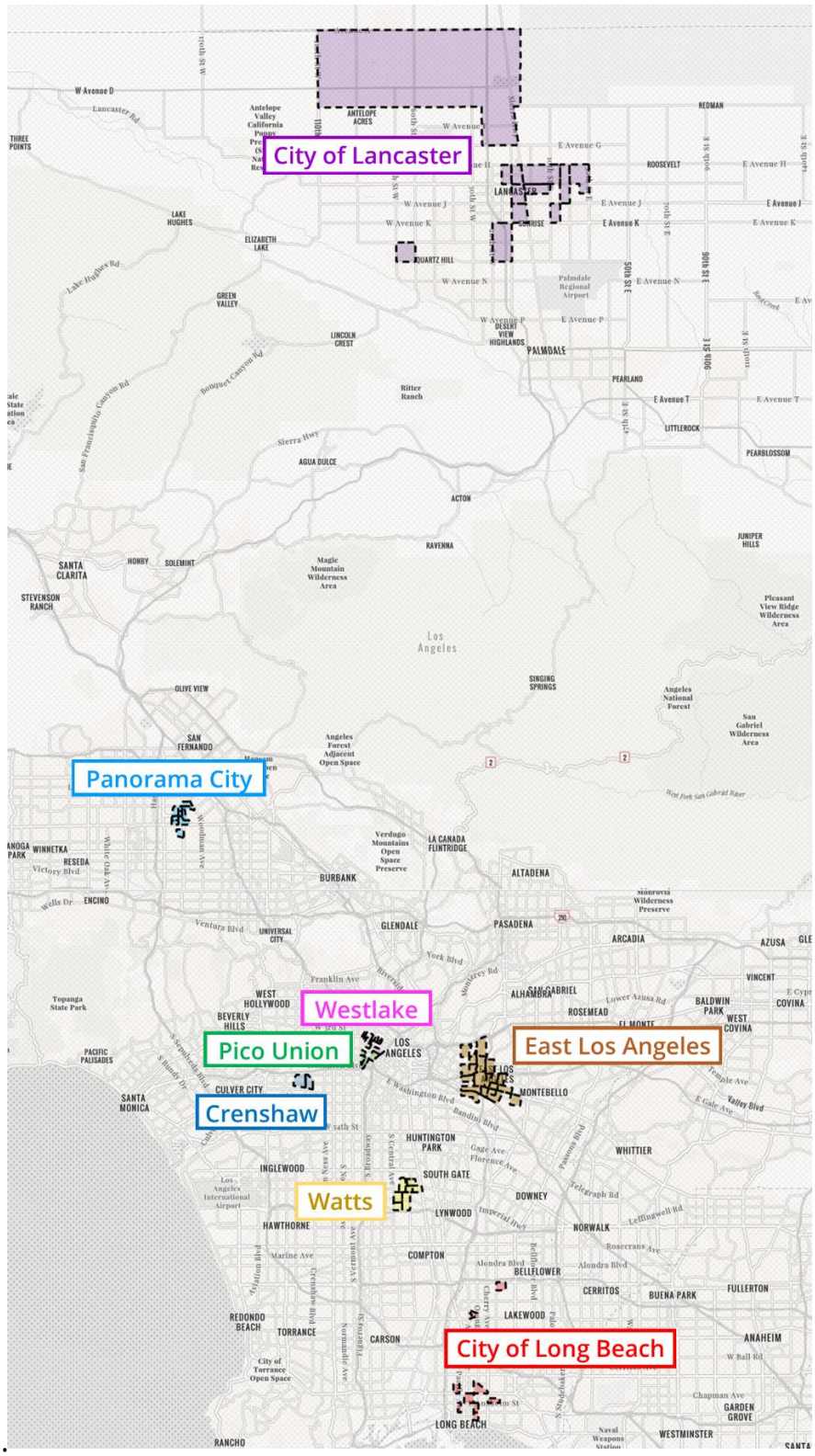

Figure 1 - Eight Focus Areas

The eight (8) focus areas cumulatively represent 71 census tracts, with a total population of 279,544 (85,272 households). The 8 focus areas show substantial disparities in key demographics as compared to the California statewide average. Household median income is half of the California state average, while poverty levels are more than double the rest of the state. ***Critically, the number of households without an internet connection in the focus areas is more than twice the statewide average***.

Table 1 - Focus Area Key Demographics Compared to Statewide Average

	Median Household Income	% Below Poverty Line	Households without Internet Connection
Focus Area:			
Crenshaw	$ 51,392	21.3%	27.3%
East Los Angeles	$ 54,576	17.8%	25.0%
City of Lancaster	$ 43,291	26.8%	23.4%
City of Long Beach	$ 41,834	26.0%	24.3%
Panorama City	$ 40,710	28.8%	20.2%
Pico Union	$ 38,149	34.6%	32.7%
Watts	$ 33,323	37.2%	28.1%
Westlake	$ 35,118	39.8%	35.8%
AVERAGE (all 8 Focus Areas)	**$ 42,299**	**29%**	**27.1%**
California State Average	***$ 84,097***	***12.3%***	***11.7%***

II. METHODOLOGY

The census tracts within each focus area were pre-selected by the County based the County's Equity Tool, which combines five (5) socio-economic and demographic factors and indices that collectively demonstrate a need for digital equity, resources, investment, and connectivity:

- **Social Vulnerability Index (SVI)** – developed from 15 variables across six themes: socio-economic status, household composition, minority status, language, housing, and transportation.
- **Justice Equity Need Index (JENI)** – assessment of areas most negatively impacted by criminalization and detention-first policies.
- **Justice Equity Service Index (JESI)** – identifies needs for justice-related community-based supports and services that require a shift in investments and capacity-building to support equity and justice.

- **COVID-19 Vulnerability and Recovery Index –** Identifies the communities most impacted and facing the greatest adverse economic, health, and social outcomes of the COVID-19 Pandemic.
- **Broadband & Digital Access** – U.S. Census data on households with a computer and/or access to the internet.

Magellan evaluated the designated census tracts within each focus area to document publicly-advertised service offerings by incumbent internet service providers (ISPs), including pricing, service tiers, access, and market division utilizing public data, previous studies and reports, carriers' websites, and Magellan's extensive database and knowledge of the broadband environment.

Magellan also assessed the needs of each of the communities, future demand, and the gaps that exist (infrastructure, programming, digital literacy/training, etc.) utilizing public census and survey data, California's Public Utility Commission (CPUC) data and maps, federal National Telecommunications and Information Administration (NTIA) databases, Federal Communications Commission (FCC) data, and previous studies and reports from the Los Angeles region.

Magellan's broadband design team then identified the most cost-effective strategy to roll-out low-cost or free broadband service within the designated Focus Areas, and developed estimates for construction, start-up and operational expenses utilizing its proprietary tools and financial models. Finally Magellan identified eligible state and federal grant opportunities that could help fund the project.

III. SUMMARY OF FINDINGS

A. Asset Inventory

Magellan assessed the region and local Focus Areas for existing public and private broadband assets and infrastructure that could be used, leased, shared or otherwise leveraged to develop and construct a functional, yet cost-effective broadband network. This included public infrastructure, such as street light poles and the public rights-of-way (ROW) along streets, as well as publicly-owned communications networks, such as towers, antennas, traffic control networks, conduit, and/or fiber optic cable. Magellan also assessed planned California state-owned networks, such as the middle-mile fiber network, or Golden State Network (GSN), that could be used to complete a county-wide loop and backhaul data transport from downtown L.A., San Jose, and other metro data centers.

Although the County does not appear to own any significant fiber or conduit assets within the Focus Areas, Magellan identified *City*-owned traffic and/or fiber optic communications

networks in the City of Long Beach and the City of Lancaster, as well as several key planned GSN routes across the region (see Figure 2).

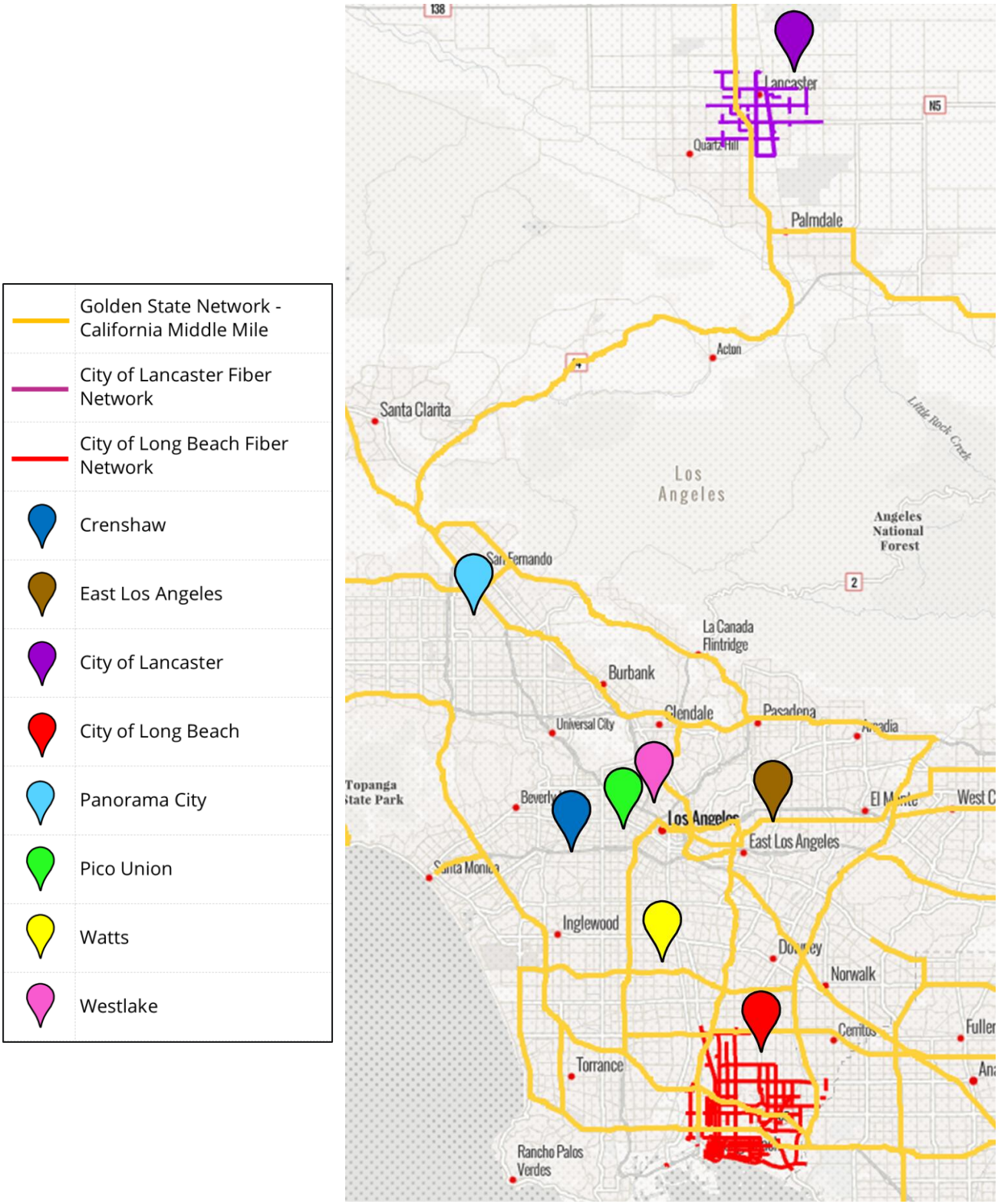

Figure 2 - Existing or Planned Public Fiber Networks

In addition to the publicly-owned fiber infrastructure, Magellan identified both County-owned streetlights as well as the City of Los Angeles Bureau of Street Lighting (BSL) light poles within the designated Focus Areas. There are more than 11,000 streetlights across all 8 Focus Areas, broken down by managing jurisdiction below in *Table 2*.

Table 2 - Streetlights within the 8 Focus Areas

Focus Area	County of L.A.	City of L.A. BSL	City of Long Beach	City of Lancaster
Crenshaw		600		
East L.A.	4,730			
City of Lancaster	227			*unknown*
City of Long Beach			1,470	
Panorama City		607		
Pico Union		1,084		
Watts		1,252		
Westlake		1,108		
TOTAL	**4,957**	**4,649**	**1,470**	*unknown*

Streetlight poles can be used as vertical distribution points, locations for siting radio or small cell antennas, leveraged as in-kind contributions or in trade with cellular providers, or for locating other smart city devices and applications that can improve public services within the Focus Areas.

Magellan was not able to secure information or data from the City of Lancaster on the number or locations of City-owned streetlights within their Focus Area; however, they undoubtedly have city-owned infrastructure that could be contributed. Additionally, the L.A. Department of Water & Power (DWP) owns and leases a significant fiber network across the region; however, these assets and location maps were not made available for this study but should be examined and analyzed for potential use in this and similar projects.

In addition to public broadband infrastructure, Magellan identified privately-owned fiber assets that could be leveraged through fiber leases to construct the County network at minimal cost (see Figure 3).

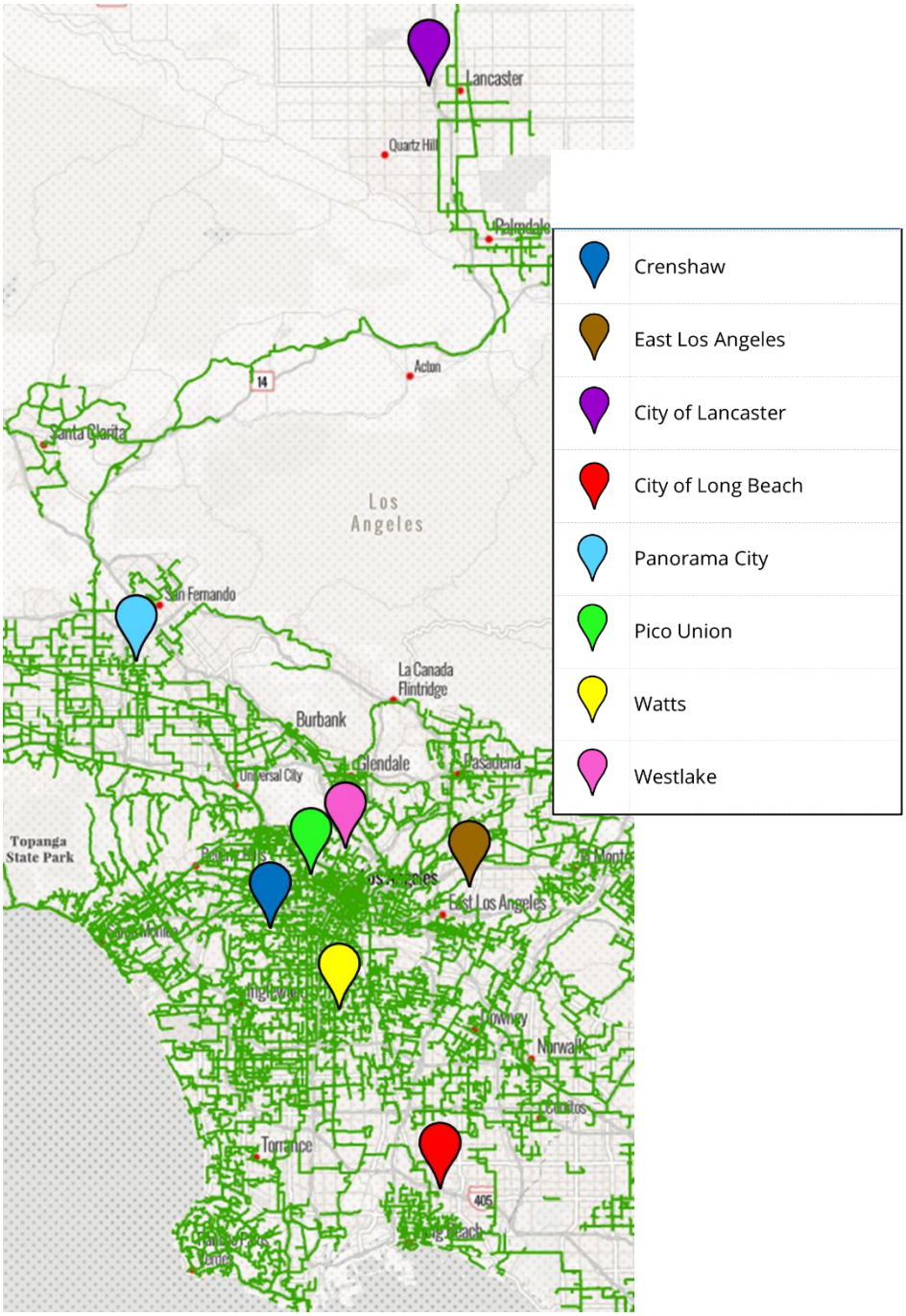

Figure 3 – Sample Private Fiber Network

B.Market Analysis

In most areas of the County, the broadband market has been divided between the legacy telephone (AT&T) and cable TV carrier (Spectrum). AT&T predominantly delivers internet services over legacy telephone lines, augmented with fiber backbones, while the Spectrum provides connectivity over their hybrid fiber coax (HFC) networks. In some areas (Panorama City and parts of Lancaster), Frontier is the legacy telephone carrier.

Nearly all of the Focus Areas are within the Spectrum cable footprint (some outlying areas of Lancaster did not show eligibility for Spectrum), and can receive gigabit coverage through Spectrum's HFC network (maximum download speeds of 1+ Gbps and upload speeds as high as 35 Mbps). However, in five of the Focus Areas, AT&T's services are only available over Digital Subscriber Lines (DSL) which have download speed range of 500 Kbps to 75 Mbps and cannot meet California's minimum standard of 100 Mbps.[1]

Table 3 - Advertised Broadband Speeds & Monthly Rates[2]

Provider	Crenshaw	East L.A.	Lancaster	Long Beach	Panorama City	Pico Union	Watts	Westlake
Spectrum *(Cable)*								
30 Mbps	--	$ 20	$ 20	--	--	$ 20	$ 20	$ 20
100 Mbps	--	$ 30	$ 30	--	--	$ 30	$ 30	$ 30
300 Mbps	--	$ 50	$ 50	--	--	$ 50	$ 50	$ 50
500 Mbps	$ 50	$ 50	$ 70	$ 50	$ 50	$ 70	$ 70	$ 70
1 Gbps	$ 70	$ 70	$ 90	$ 70	$ 70	$ 90	$ 90	$ 90
AT&T *(DSL)*								
500 Kbps - 50 Mbps	$ 55	$ 55	$ 50	--	$ 55	$ 55	$ 55	$ 55
AT&T *(Fiber)*								
300 Mbps	$ 55	$ 55	--	--	--	--	$ 55	--
500 Mbps	$ 65	$ 65	--	--	--	--	$ 65	--
1 Gbps	$ 80	$ 80	--	--	--	--	$ 80	--
2 Gbps	$ 110	$ 110	--	--	--	--	$ 110	--
5 Gbps	$ 180	$ 180	--	--	--	--	$ 180	--
Frontier *(DSL)*								
768 Kbps - 50 Mbps	--	--	$ 50	$ 50	--	--	--	--
Frontier *(Fiber)*								
500 Mbps	--	--	$ 50	$ 45	$ 40	--	--	--
1 Gbps	--	--	$ 70	$ 70	$ 75	--	--	--
2 Gbps	--	--	$ 100	$ 100	$ 150	--	--	--

[1] Due to their extremely low speeds, locations with only DSL services have been identified by the California Public Utilities Commission (CPUC) as "unserved," and thus eligible for SB 156 Broadband grant funding.

[2] Speeds are "up to" or best effort maximum speeds as advertised by ISP, dependent upon network traffic, specific geography, or other factors. Pricing was gathered from public ISP websites in Spring 2023 using randomized addresses within each Focus Area.

With AT&T's DSL services as the only competitor in many markets, most of the Focus Areas are de-facto broadband monopolies. AT&T and/or Frontier's DSL service tops out at 50 or 75 Mbps, below the California minimum download speed of 100 Mbps, and far behind the gigabit speeds that many modern applications and technologies require. This effectively gives Spectrum a broadband monopoly in these areas, prevents consumers from having any viable options or alternatives, and limits any competitive pressures that might incentivize Spectrum to increase speeds, lower prices, or improve service levels.

T-Mobile and Verizon are now offering home internet through their fixed wireless/5G network, and speeds can reach 180-300 Mbps. However, availability throughout the Focus Areas is not widespread and tends to be smaller localized pockets.

The lack of market competition for gigabit services has wider implications for the community. The difference in monthly rates for gigabit speeds illustrates an important correlation with poverty rates: ***Focus Areas with higher poverty pay higher monthly rates for gigabit services with Spectrum.***

Spectrum – as the only provider that serves all eight Focus Areas – has two different price points for its gigabit service: $70/month or $90/month[3]. In the four Focus Areas that pay the lower $70/month rate with Spectrum, the average poverty rate is 18.8%. In the four Focus areas paying the higher $90/month rate, the average poverty rate is 34.6%.

Table 4 – Correlation Between Spectrum Monthly Fee Differences & Poverty Rates

	Monthly Fee for Spectrum's 1 Gbps	Average Poverty Rate
Crenshaw East L.A. Long Beach Panorama City	$ 70	18.8%
Lancaster Pico Union Watts Westlake	$ 90	34.6%

The result is that ***areas with poverty rates nearly double their neighbors are paying 30% more per month for identical gigabit services***, further exacerbating the Digital Divide and creating more challenges for households struggling to keep up with monthly finances.

[3] Rates were documented by Magellan during a randomized market study in February and March 2023.

C. Needs Assessment

The County's initial selection of the census tracts that comprised the eight Focus Areas already included a preliminary assessment of need; each census tract was selected because of its high score on various socio-economic and justice indices.

Magellan examined other census data in order to better understand the unique needs within each of the Focus Areas: geography, population density, median income, poverty levels, and access to computers and internet (Table 5).

Table 5 – Focus Areas - Indicators of Need[4]

Provider	Crenshaw	East L.A.	Lancaster	Long Beach	Panorama City	Pico Union	Watts	Westlake
Area (mi2)	0.6	5.4	57.0	1.5	1.1	0.4	1.6	0.5
Population	8,298	87,253	48,427	35,714	30,363	11,290	28,778	29,421
Density per mi²	*13,237*	*16,275*	*850*	*23,699*	*28,392*	*28,379*	*18,445*	*58,602*
Households	3,549	22,545	16,829	11,566	8,913	3,698	7,527	10,645
Density per mi²	*5,661*	*4,205*	*295*	*7,675*	*8,334*	*9,296*	*4,824*	*21,203*
Median Household Income	$51,392	$54,576	$43,291	$41,834	$40,710	$38,149	$33,323	$35,118
% below Poverty Line	21.3%	17.8%	26.8%	26.0%	28.8%	34.6%	37.2%	39.8%
Household without Internet	27.3%	25.0%	23.4%	24.3%	20.2%	32.7%	28.1%	35.8%
Household without a Computer	9.8%	13.1%	15.0%	9.5%	15.9%	16.7%	11.9%	13.2%

Most of the Focus areas had high population density; Lancaster had several tracts that were rural and semi-rural in nature, but still contained similar challenges related to income and poverty.

In Spring 2023, the CPUC released new maps identifying "unserved"[5] locations throughout the state that are a key indicator of both need and eligibility for state broadband grants, including the SB 156 Last Mile Federal Funding Account and the annual California Advanced

[4] Source: American Family Census data, 2020

[5] The CPUC defines "unserved" as households or businesses where maximum broadband speeds are less than 25 Mbps download / 3 Mbps upload, or locations where DSL service is the only option.

Services Fund (CASF) grant accounts (see Section: H. Funding Options) for more information on grants).

Figure 4 shows the general location of these CPUC-designated unserved households across the eight Focus Areas.

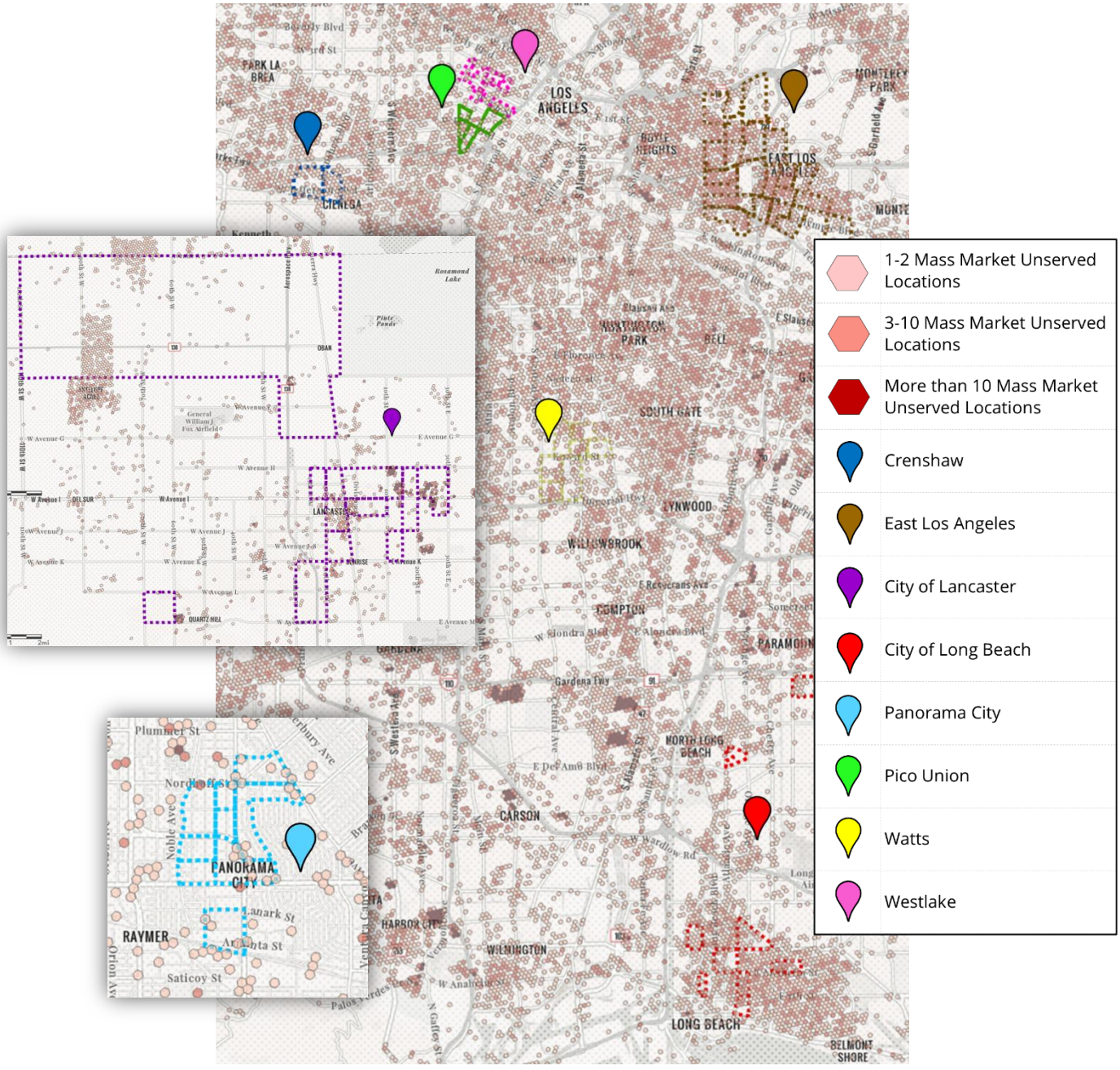

Figure 4 – CPUC-Designated "Unserved" Locations[6]

[6] Source: California Public Utilities Commission Last Mile Federal Funding Account, https://federalfundingaccountmap.vetro.io/map#5.65/37.393/-116.87

D. Conceptual Network Design

After concluding the Asset Inventory, Magellan assessed the estimated capital costs of constructing a Fiber-to-the-Premises (FTTP) network that would run fiber optic cable to each address, based on the total number of road miles within the eight Focus Areas that would need a fiber cable.

Table 6 - Estimated FTTP Fiber Construction Costs

Focus Area	Total Road Miles	Low-End Estimate (Aerial deployment)	High-End Estimate (Underground boring/excavation)
Crenshaw	13.6	$ 6,462,720	$ 10,771,200
East Los Angeles	114.2	$ 54,267,840	$ 90,446,400
Lancaster	183.7	$ 87,289,488	$ 45,482,480
Long Beach	29.4	$ 13,989,888	$ 23,316,480
Panorama City	17.3	$ 8,197,200	$ 13,662,000
Pico-Union	7.9	$ 3,744,576	$ 6,240,960
Watts	33.3	$ 15,800,400	$ 26,334,000
Westlake	10.7	$ 5,103,648	$ 8,506,080
TOTAL	**410.1**	**$ 194,865,264**	**$ 324,775,440**

Table 6 only accounts for fiber within the neighborhoods and does not include the necessary middle-mile routes necessary to interconnect the Focus Areas to data centers and to each other to ensure redundant, uninterrupted service.

The high up-front capital costs of $195-325 million appear prohibitive; when considering the geographic dispersion of the eight Focus Areas, Magellan concluded that the most viable design – the quickest and least expensive to construct, connect and operate – would utilize a fixed wireless connection using Citizen Band Radio Service (CBRS). This design requires base stations to be installed on towers, water tanks, light poles or other tall assets, and utilizes a wireless signal to and antenna to connect a home or structure to the internet.

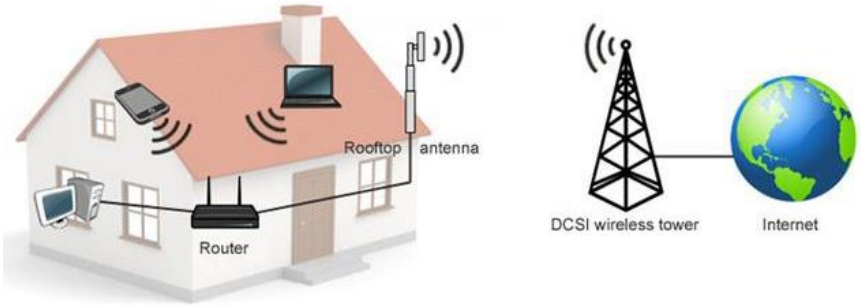

Figure 5 - Functionality of a CBRS Fixed Wireless Network

The base station locations will require fiber to connect to the internet. The connections should be at least 1 Gbps to each tower to support the throughput from 4 base stations with 90-degree antenna to provide 360-degree coverage.

A conceptual fiber design was also completed in order to link all the CBRS site locations in both a local (within the Focus Area) and regional (County-wide) redundant loop architecture, ensuring that no single point of vulnerability exists.[7] Because few existing County or public fiber assets exist, Magellan engaged private enterprise carriers that could construct and interconnect all of the necessary CBRS poles through dark fiber leases. Dark fiber leases can significantly reduce the capital cost by eliminating construction of key backbone routes.

The Conceptual Design includes constructing 31 CBRS distribution towers, utilizing 216,000 feet of existing public fiber (City of Lancaster & Long Beach) and installing an additional 19,000 feet of new public conduit/fiber, and constructing another 41,000 feet of new private fiber that can be leased back to the County to connect the towers.

		Crenshaw Pico Union Westlake	East L.A.	Lancaster	Long Beach	Panorama City	Watts	TOTALS
Public Asset CAPEX	Tower/Pole Construction	$ 342,700	$ 1,035,000	$ 940,000	$ 607,200	$ 230,000	$ 230,000	**$ 3,384,900**
	Existing Public Fiber Upgrades (LF)	-	-	48,038	168,071	-	-	**216,109**
	Estimated Upgrade Cost	$ -	$ -	$ 240,190	$ 840,355	$ -	$ -	**$ 1,080,545**
	Upgrade Cost $/LF			*$ 5*	*$ 5*			
	New Public Fiber (LF)	-	-	15,010	4,134	-	-	**19,144**
	Estimated Construction Cost	$ -	$ -	$ 1,801,200	$ 620,100	$ -	$ -	**$ 2,421,300**
	Construction Cost $/LF			*$ 120*	*$ 150*			
Private Asset CAPEX	New Private Fiber (LF)	3,674	29,314	-	-	2,510	5,769	**41,267**
	Estimated Construction Cost	$ 265,167	$ 1,362,521	$ -	$ -	$ 165,026	$ 399,836	**$ 2,192,550**
	Consruction Cost $/LF	*$ 72*	*$ 46*			*$ 66*	*$ 69*	
Annual Fiber Lease	Dark Fiber Lease	$ 28,860	$ 49,380	$ -	$ -	$ 16,296	$ 17,688	**$ 112,224**
CONSTRUCTION COSTS		**$ 607,867**	**$ 2,397,521**	**$ 2,981,390**	**$ 2,067,655**	**$ 395,026**	**$ 629,836**	**$ 9,079,295**
ANNUAL FIBER LEASE		**$ 28,860**	**$ 49,380**	**$ -**	**$ -**	**$ 16,296**	**$ 17,688**	**$ 112,224**

Table 7 – Summary of Network Construction Options & Estimated Costs[8]

[7] A redundant loop or ring architecture provides data transport from two directions, so that any single cut in a fiber line does not interrupt service.

[8] Capital cost projections assume that the project is categorically exempt under the California Environmental Quality Act (CEQA). Anticipated permitting and associated costs are included within the average construction cost per square foot but would be determined during the design engineering process.

Based on the 85,000 households within the eight (8) Focus Areas, the County could construct a fixed wireless distribution network that would make 100/25 Mbps broadband service available sfor a ***one-time subsidy of $106 per household.***

Most privately-owned fiber networks are not open access; Spectrum, and AT&T are closed networks. Southern California Edison (SCE) has limited fiber strands and in January 2023 began withdrawing from the dark fiber market. A private fiber leasing entity was utilized for this study as a reference point due to both their substantial fiber presence, as well as their willingness to act as a wholesale provider and enable open access.

The Conceptual Design and specific CBRS tower locations provide a level of detail necessary for the County to engage directly and begin discussions over utilizing existing Los Angeles Department of Water & Power (DWP) fiber to interconnect distribution towers. It is possible that DWP may be able to provide fiber connectivity (and construct new fiber) at equal or lower costs than the private fiber option, which could reduce the total estimated capital for the project. The County should explore this option and exhaust all avenues before soliciting for competitive bids and/or contracting with private fiber providers.

The private dark fiber lease could be considered an "interim" (5-10 years) solution, providing underserved homes and businesses quick access to California minimum broadband speeds of 100 Mbps download and 25 Mbps upload. For a long-term strategy that works toward deploying more publicly owned fiber and could incrementally construct the framework for a true Fiber-to-the-Premises (FTTP) network, the County should explore a partnership with the City of Los Angeles's Bureau of Street Lighting (BSL), who have access to the public ROW and can construct and install fiber and conduit at an estimated cost of $85 per linear foot – far less than the $135-150/foot cost expected in competitive bids. In particular, BSL has already identified routes within the Westlake Focus Area where it has its own need for fiber connectivity, which could be a pilot project to test and evaluate the effectiveness of a public-public partnership.

E. Network Operations

The day-to-day operations of a fixed wireless network entail considerable resources, staff, and experience to effectively market, manage, and serve retail subscribers. If the wireless network is constructed, the County would be well-positioned to solicit a public-private partnership (P3) that can operate the network – including marketing, sales, customer service, technical support, installation, maintenance, and day to day operations.

The various business models involve different levels of investment and control that come with varying risks and rewards. The County has numerous options – from a lassie-faire, public policy-only approach all the way across the spectrum to a full retail internet business.

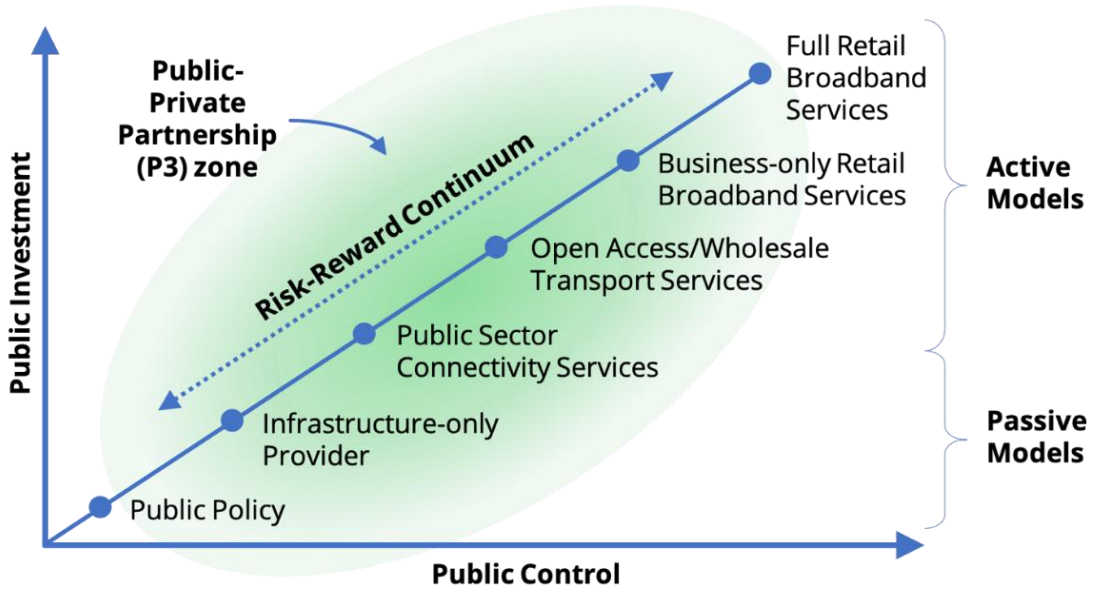

Figure 6 - Broadband Business Models Differing Levels of Control and Investment

The key factors that define a public-private partnership, as opposed to simply a customer-vendor relationship, is that: (a) all parties contribute, (b) each parties' benefits are based on their contributions, and (c) one partner does not pay another; there are few or limited transactions between partners. The essence of such a partnership is that for-profit and for-people entities collaborate to achieve complementary, if not common, objectives.

In the case of the conceptual County network, the incentive for a private WISP is that they would not have to underwrite the capital necessary to construct the towers and network, thus reducing their sunk costs into the project and minimizing their need for a high margin. At the same time, they can build an operational business model in which they would manage and operate the network for the County in exchange for a portion of the $30/month fees from network subscribers.

The advantage for the County is that it will own public infrastructure and could ensure a public benefit to the community, but it would not have to take on the staffing, start-up costs, initial cash flow, and risk of undertaking a new business enterprise.

Whether the County elects to operate a retail data network itself or enters a public-public partnership with a private ISP to operate on its behalf, the proposed network will necessarily need to demonstrate financial viability and, by extension, consider rough revenues and expenses if operated as a retail subscriber network.

Given the number of dependencies and uncertainties that come with projecting expenses and revenues based on a Conceptual Design (as opposed to a fully engineered & designed network), the best approach may be to provide a conservative estimate of expenses and revenues. The model in *Table 8* uses the following critical assumptions:

- Excludes the construction costs because it is assumed to be constructed using County general funds and/or state and federal infrastructure grant funds
- Assumes a single private vendor providing services to all locations
- $30 per month Residential subscription rate for 100/25 service
    - The $30/month price point would be fully subsidized under the FCC's Affordable Connectivity Program (ACP) for income-qualified households, assuming the program is re-funded before existing federal allocations are exhausted (estimated in Summer 2024).
- 30% take rate over the first three years of units falling within the eight (8) designated Focus Areas
    - The eight (8) Focus Areas includes 85,272 total households; the 30% take rate in 3 years equates to 25,582 residential subscribers by Year 3 and assumes no subscriber growth thereafter.
    - Excludes cost assumptions for customer churn in future years
- Estimated cost per new service/subscriber drop of $500 to be incurred by the network provider/owner (not grant funds)
    - Cost recovery for service drops through a one-time installation fee of $30
- Includes anticipated costs for equipment (customer & network), edge and core routing, dark fiber leases, 10 Gbps redundant data transport, and full retail model staffing.
- Includes annual network maintenance (8% of hardware & equipment assets)
- Includes annual operational reserves (5% of gross revenues)
- Includes equipment refresh & replacement costs (equal to annual depreciation and amortization)
- Includes annual capital budget (2% of EBITDA)
- Includes 3.5% CPI annual increases for staffing and equipment costs
- Excludes any potential interest or rate of return for start-up capital requirements. Excludes any applicable taxes or potential franchise fees.

Table 8 – LA County Focus Area CBRS Wireless Network: Projected Operational Revenues & Expenses[9]

	Year 1	Year 2	Year 3	Year 4	Year 20
REVENUES					
Retail Subscribers	$3,069,792	$6,139,584	$9,209,376	$9,209,376	$9,209,376
Installation Fees	$255,816	$255,816	$255,816	-	-
TOTAL ANNUAL REVENUES	$3,325,608	$6,395,400	$9,465,192	$9,209,376	$9,209,376
EXPENSES					
Direct Costs of Services	$876,224	$1,217,985	$1,354,168	$1,384,924	$2,132,358
Administrative Costs	$982,552	$2,089,036	$2,861,276	$2,939,506	$4,748,021
Reserves	$166,280	$823,698	$977,188	$964,397	$964,397
TOTAL ANNUAL EXPENSES	$2,025,056	$4,130,719	$5,192,632	$5,288,827	$7,844,776
CASH FLOW					
Beginning of Year	-	$(4,171,774)	$(5,035,669)	$(3,915,753)	$51,631,110
ADD: Net Income	$942,904	$2,564,451	$4,725,820	$4,361,018	$1,805,069
ADD: Depreciation	$523,928	$523,928	$523,928	$523,928	$523,928
LESS: CAPEX	$(5,638,606)	$(3,952,274)	$(4,129,832)	$(301,768)	$(374,108)
END OF YEAR	**$(4,171,774)**	**$(5,035,669)**	**$(3,915,753)**	**$ 667,426**	**$53,585,999**

The model does not calculate or include any internal rate of return that private equity might seek in exchange for providing the significant start-up capital required (new service drops, customer equipment, access network electronics, etc. necessary to begin offering service to paying subscribers). While the models project breakeven in Year 4 and a positive revenue stream by Year 20, that figure will be reduced once a private partner begins to account for their own investment returns.

The initial start-up capital required to maintain a positive cash flow demonstrates the County need for a private partner to not only bring operational experience, but also private capital.

[9] This projection is intended only as a tool to assist the County as a starting point in negotiations with a private partner, and is not a definitive accounting of income, expenses, or guaranteed market share.

H. Funding Options

The state and federal broadband policy environment strongly supports expansion of local public broadband infrastructure in California and the US. State and national policy is squarely focused on eliminating the Digital Divide by funding a coordinated, shared approach to deploy broadband infrastructure for broadband access available to all citizens and communities. The State of California, recognizing the importance of internet access, leveraged federal funds for broadband development in Senate Bill 156 by using federal American Rescue Plan Act (ARPA) funds. The State of California is also expanding broadband infrastructure funding under the existing California Advanced Services Fund (CASF) and is planning to distribute sub-grants for broadband infrastructure under the NTIA's Broadband Equity, Access, and Deployment (BEAD) program.

ARPA

The major elements of the SB 156 broadband budget are:

1. $3.25 billion in funding (all from ARPA) for construction of a state-owned open-access middle mile network (GSN) designed to provide connectivity for rural and urban areas to achieve the greatest reductions in the number of households unserved by broadband service under state and federal standards.
2. $2 billion in funding ($1.072 billion from ARPA) for "last mile" projects, funded through the Broadband Infrastructure Grant Account program, divided between rural and urban counties.[10]
3. $750 million (general funds) to assist local governments and non-profit organizations in financing broadband projects.

Other major provisions of SB 156 include:

1. Establishment of the Office of Broadband and Digital Literacy at the Department of Technology, with duties including oversight of the acquisition and management of the statewide open-access middle-mile network.
2. Requirement for California Public Utilities Commission (CPUC) to identify and prioritize statewide open-access middle-mile locations according to specified priorities, including:
    a. Locations where there is no known open-access affordable middle-mile networking, that would enable last mile connections.

[10] Although the Last Mile Federal Funding Account (FFA) grants earmarked $104 million specifically for Los Angeles County, the FFA guidelines do not allow for projects that utilize wireless distribution, such as CBRS.

   b. Areas unserved or unserved by open-access middle-mile networks where such networking can be built expeditiously.
   c. Locations that would enable last mile connections to unserved residences and community anchor institutions and tribal lands.
3. Requirement for CPUC to prioritize state highway rights-of-way for open-access middle mile network construction.
4. Stipulates that the open-access middle-mile network is for a public purpose and can be leased for less than fair market value.
5. Exempts certain broadband projects from CEQA requirements.
6. Removes limitations on local governments receiving grant funding.

California Advanced Services Fund (CASF)

The California Advanced Services Fund was created in 2007 to bridge the Digital Divide. CASF is administered by the CPUC and has been modified progressively over the past 15 years. The latest modification under SB 156 increased funding, modified programs, and created new subaccounts.

Broadband Infrastructure Account

The infrastructure account is used to subsidize the cost of middle-mile and last-mile infrastructure to expand the state's broadband network. The CPUC gives preference to programs and projects in communities with demonstrated low broadband access and in communities facing socioeconomic barriers to broadband access. SB 156 modified infrastructure account requirements to define "unserved area" as those without internet access service of at least 25 Mbps download and 3 Mbps upload, and to require CASF funded projects to provide speeds of at least 100 Mbps download and 20 Mbps upload. The CPUC has further modified Broadband Infrastructure Account provisions to recognize new federal funding from the BEAD Program under the Infrastructure Investment & Jobs Act (IIJA).

Notably, the CASF Broadband Infrastructure Account does allow for projects that utilize wireless distribution, such as the CBRS design for the eight Focus Areas.

Eligibility of the eight Focus Areas for the CASF Broadband Infrastructure Account grant is based on the same CPUC dataset and maps for "unserved" eligible locations as shown in *Figure 4* above.

Public Housing Account

SB 156 expanded eligibility for grants and loans to include publicly supported housing developments, and other housing developments or mobile-home parks with low-income

residents, and to make funding available to low-income communities to finance projects to connect broadband networks that offer free broadband service that meets or exceeds state standards, if the low-income community does not have access to any broadband service provider that offers free broadband service that meets or exceeds state standards. This will support up to 100 percent of the costs to install inside wiring and broadband network equipment in eligible public housing.[11]

Broadband Adoption Account

Local governments and other eligible organizations with programs to increase publicly available or after school broadband access and digital inclusion, such as digital literacy training programs are eligible to apply for grants. Digital inclusion projects may include digital literacy training programs and public education to communities with limited broadband adoption, including low-income communities, senior citizen communities, and communities facing socioeconomic barriers to broadband adoption. Publicly available or after-school broadband access projects may include free broadband access in community training rooms or other public spaces, such as local government centers, senior citizen centers, schools, public libraries, nonprofit organizations, and community-based organizations.[12]

Infrastructure Investment and Jobs Act

The most recent Federal broadband funding programs arise from the Infrastructure Investment and Jobs Act (IIJA). The IIJA will provide generational funding for broadband deployment and be available beginning this year and next from the IIJA.

The IIJA contains the Broadband Equity, Access & Deployment program (BEAD). The BEAD program provides grant funding for broadband planning and deployment, mapping, digital equity, and adoption projects and activities. A total of $42.45 billion is funded nationally for this program to be administered by the National Telecommunications and Information Administration (NTIA) and allocated among the states in block grants. The allocation to each eligible state will be based on the proportion of unserved locations in each state, as determined by the Federal Communications Commission's (FCC) Broadband DATA maps. In late June 2023, the NTIA announced state allocations of BEAD funds based on the FCC broadband mapping, with the State of California receiving an allocation of $1.8 billion.

[11] https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-advanced-services-fund/casf-adoption-account

[12] https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-advanced-services-fund/casf-adoption-account

The California Public Utilities Commission (CPUC) is administering the sub-grants in the state and has an open rulemaking proceeding[13] to determine the rules for CPUC sub-grants under federal rules administered by the NTIA. Per the IIJA, a state may award BEAD fund sub-grants competitively for eligible uses to include:

- Projects deploying or upgrading broadband facilities in unserved or underserved areas;
- Projects deploying or upgrading broadband facilities to connect an eligible community anchor institution;
- data collection, broadband mapping, and planning (beyond the planning fund allocation);
- installing internet and Wi-Fi or providing reduced cost broadband in multifamily residential buildings with priority to those with unserved households or where the percentage of households at or below 150% of the poverty line exceeds the national average;
- broadband adoption programs including provision of devices;
- training and workforce development; and,
- other uses including Digital Equity programs.

- Priorities and specific allowed uses of funds:
  - First, infrastructure for areas without 25/3 Mbps service.
  - Then infrastructure for areas without 100/20 Mbps service. Then eligible community anchor institutions.
  - Multi-Dwelling Units (MDUs): Installing internet and Wi-Fi infrastructure or providing reduced-cost broadband within a multi-family residential building, prioritizing those with a substantial share of qualified low-income households.
  - Programs for broadband adoption including provision of affordable internet-capable devices.
  - Broadband data collection, broadband mapping and planning.
- Project requirements for funding:
  - Speeds of at least 100/20 Mbps with low latency. Higher speeds will receive priority.
  - 25% match required from non-federal sources, such as in-kind contributions, unspent COVID relief funds or provider investment.

[13] Order Instituting Rulemaking Proceeding to Consider Rules to Implement the Broadband Equity, Access, and Deployment Program; Rulemaking 23-02-016; before the California Public Utilities Commission, filed February 23, 2023.

IV. KEY RECOMMENDATIONS & NEXT STEPS

1) Engage directly with L.A. Department of Water & Power to identify potential dark fiber leases and additional cost savings.

The Conceptual Design and specific CBRS tower locations provide a level of detail necessary for the County to engage directly and begin discussions over utilizing existing DWP fiber to interconnect distribution towers. It is possible that DWP may be able to provide fiber connectivity (and construct new fiber) at equal or lower costs than the private fiber leasing option, which could reduce the total estimated capital for the project. The County should explore this option and exhaust all avenues before design engineering the project and/or soliciting for competitive bids.

2) Initiate discussions with the cities of Long Beach and Lancaster about the use of existing city fiber assets.

The Conceptual Design proposes utilizing existing City of Long Beach and City of Lancaster fiber in order to connect the CBRS towers and provide data backhaul. The County should engage with both of these cities to mutually identify the potential public benefit to such a "public-public" partnership. The parties should work to specifically identify the routes, fiber capacity, upgrade/splicing needs, potential lease fees, and formal agreements and structures necessary to ensure the shared use of public assets.

3) Complete final design engineering for the project.

The Conceptual Design, at an estimated $106 per household in construction costs for the 31 towers and associated fiber loops and connectivity, would reach into all eight of the Focus Areas and provide affordable, high-speed broadband connectivity to more than 85,000 households. The estimate can be used for planning and grant application purposes to support the number of households in identified project areas.

Completing the final design engineering for the project would include field surveying and verification, identifying additional usable assets that may not be recorded in County or City maps, value engineering to reduce the overall cost, confirming the final routing and design, and compiling a Bill of Materials. This work will not only verify the final construction costs, but will also enhance any County grant application by demonstrating that the County is "shovel ready" to begin construction.

4) Solicit and negotiate a public-private partnership.

The County could leverage a publicly-owned, fixed wireless distribution network with a looped fiber backbone network through a public-private partnership, which could secure: (a) a qualified network operator(s), (b) match funding or in-kind contributions for grant applications, and (c) initial cash flow required to launch operations.

The County should publicly solicit wireless ISPs for a partnership through a transparent RFP process, select a qualified partner, and negotiate a partnership agreement in concert with a a CASF grant application.

5) Pursue competitive CASF broadband infrastructure and public housing grant opportunities.

The State of California and the CPUC have designated more than $150 million annually for broadband infrastructure grants, as well as funding to connect public housing to high-speed broadband. The County is eligible for both of these funding sources and should pursue these grants to provide for construction of the fixed wireless network, specifically by targeting the unserved households within each of the Focus Areas. Other municipalities *and private telecom providers* will be competing for these grant funds, which will require the County to demonstrate commitment, completed planning, and readiness for implementation in order to secure a grant award.

6) Leverage existing public street lights to encourage more wireless providers and options in the community.

The existing inventory of more than 11,000 streetlights within the eight Focus Areas – owned by County, the City of LA's BSL, or the City of Long Beach and Lancaster – can be leveraged and utilized for the project. Streetlight poles can be used as vertical distribution points, locations for siting radio or small cell antennas, leveraged as in-kind contributions or in trade with cellular providers, or for locating other smart city devices and applications that can improve public services within the Focus Areas. These street light poles could even be leveraged in negotiations as an in-kind contribution with the private company that leases/builds the fiber loops for the County in order to reduce dark fiber lease or construction costs.

The County can entice more private investment and deployment of additional antennas from wireless carriers by streamlining permitting, negotiating master license agreements, and prioritizing underserved areas for new deployment. This should enhance the competitive environment within the Focus Areas, creating more broadband options for residents and businesses, and generating competitive market pressures on subscriber rates.

7) Explore a partnership with the City of L.A. Bureau of Street Lighting for long-term public fiber solutions.

The Bureau of Street Lighting (BSL) has access to the public ROW within the Westlake, Pico Union, Crenshaw, Watts, and Panorama City Focus Areas, and can construct and install fiber and conduit in these areas an estimated cost of $85 per linear foot. This estimated cost is far less than typically seen in public bidding contracts, and offers the County a cost-effective method of adding new public fiber to eventually replace dark fiber leases. In particular, BSL has already identified routes within the Westlake Focus Area where it has its own need for fiber connectivity, which could be a pilot project to test and evaluate the effectiveness of a public-public partnership.

8) Pursue CASF Broadband Adoption Account grant funding to close the Digital Divide.

The County is already working to break down barriers for disadvantaged or vulnerable populations – including through this project that identified some of the most vulnerable census tracts within the County. However, building the fixed wireless infrastructure alone will not be enough; the County will need to work with local non-profit and community-based organizations to deploy digital navigators, implement job training programs, distribute refurbished devices, ensure remote learning skills, navigate language barriers, and provide technical training for residents to be able to effectively access and use technology.

These programs are directly related to closing the Digital Divide, and are eligible for grant funding – particularly the CASF Broadband Adoption Account. Coordinating between the County, neighboring cities, and local community-based organizations to secure resources and funding will ensure that the physical broadband infrastructure the County constructs can truly benefit all residents and achieve digital equity.

Table 9 provides a sample high-level timeline for project implementation utilizing the eight Focus Areas within this study. A similar approach could work for other areas within the County, once initial identification and preliminary conceptual design is complete.

Table 9: Sample Project Action Plan