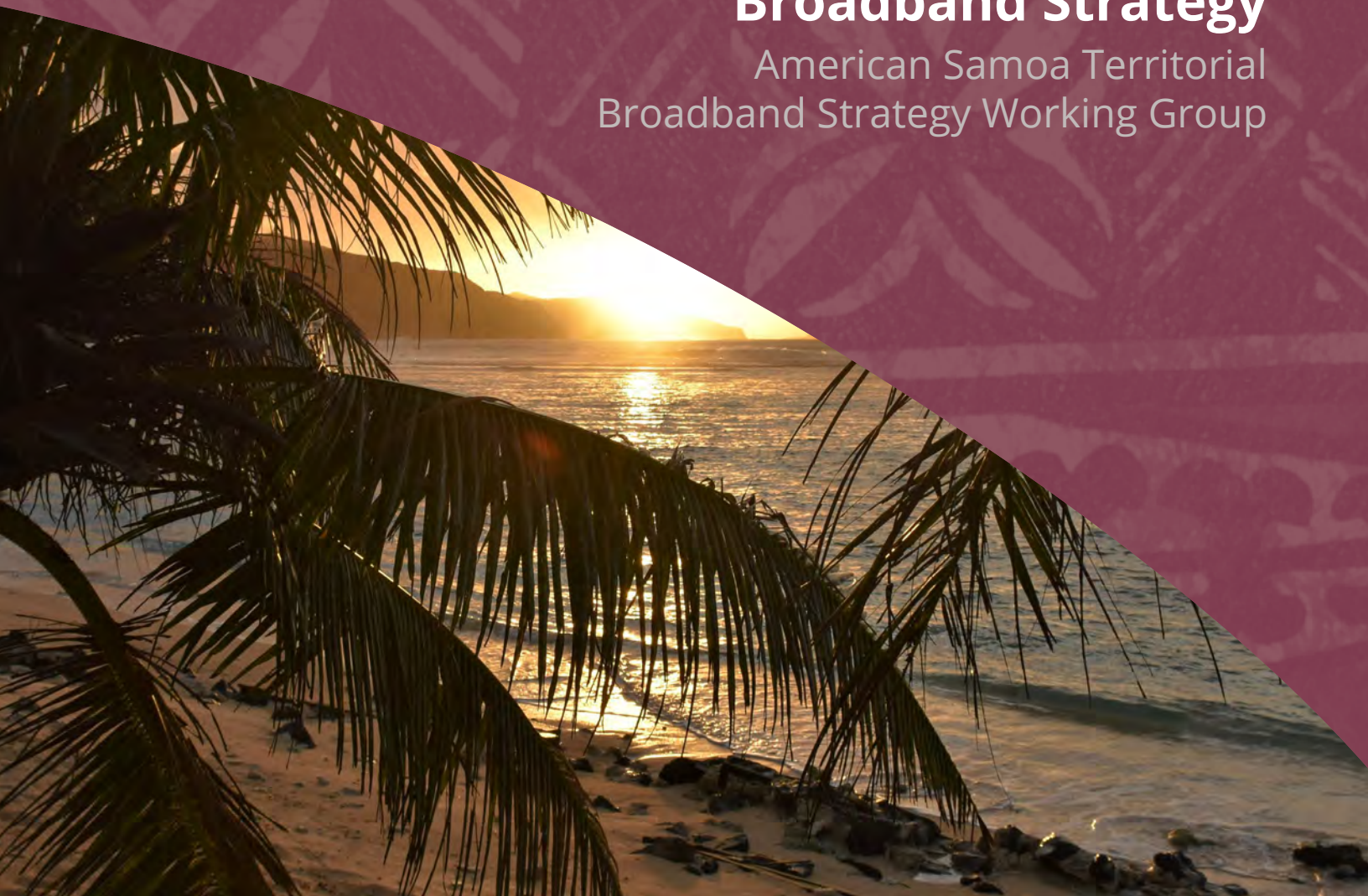
The 2021-2026 Territorial Broadband Strategy

American Samoa Territorial Broadband Strategy Working Group



Building American Samoa's e-Resilience: the 2021-2026 Territorial Broadband Strategy

Interdisciplinary perspectives define resilience as a process to harness resources to sustain the well-being of communities and its people. American Samoa's e-Resilience is defined as a process to harness our resources and investments to sustain the well-being and competitiveness of our island territory in local, regional, global and digital markets.

EDA
U.S. ECONOMIC DEVELOPMENT ADMINISTRATION

ASTBS
AMERICAN SAMOA TERRITORIAL BROADBAND STRATEGY

She
Resource Development, LLC

Cover: The ocean is a source of sustenance and an important part of the *Fa'asamoa*, Samoan culture. We embrace its power to heal, protect, provide and cleanse us. Each year, the people of American Samoa compete in the *fautasi* or long canoe race, providing their knowledge and respect of the ocean and courage and leadership within our society. Credit: Aoelua Solomona

Opposite page: *"E le sua se lolo i se popo e tasi."* – It takes more than one coconut to produce a considerable amount of coconut milk. Coconut milk is a substantial part of the Samoan diet and an adequate amount is needed to provide for a delicious meal. This document is the result of many efforts, discussions, engagements and a collective thought process. Credit: Helenia Wiletta Porter

Note

This document is a reflection of discussions, community engagement and the collective input of the American Samoa Territorial Broadband Strategy (ASTBS) Working Group (ASTBS Working Group), inclusive of members from the public and private sectors, civil society, non-profit organizations and the community-at-large. The strategies and actions documented in this plan creates a pathway to expand American Samoa's digital footprint through broadband-related resources and initiatives.

The ASTBS Working Group extends our *faafetai tele lava* to the US Economic Development Administration (EDA) for funding this project. The ASTBS Working Group also extends our appreciation to the American Samoa Government (ASG) and the Department of Commerce (DOC) for recognizing the value of broadband in building and moving American Samoa towards e-Resilience. The ASTBS plan would not have been possible without the advocacy, support and leadership of former DOC Director Mr. Fuiavailili Keniseli Lafaele and current Director Ms. Petti Matila.

American Samoa Territorial Broadband Strategy Working Group

CO-CHAIRS

H. Gingerlei Porter	University of Hawaii (UH) / SH3 Resource Development, LLC
Michael McDonald	Department of Commerce (DOC)

MEMBERS

Edgar Apulu	Environmental Protection Agency (EPA)
Sal Faasala Augafa	American Samoa Telecommunications Authority (ASTCA)
David Betham	Department of Commerce (DOC)
Jason Betham	Small Business Development Center (SBDC)
Henry Cha	Department of Port Administration (DPA)
Kenny Dalle	Department of Legal Affairs (DLA)
Randall Fitisone	Department of Homeland Security (DHS)
Doug Jessop	American Samoa Power Authority (ASPA)
William Ledoux	American Samoa Telecommunications Authority (ASTCA)
Katie Leilua	American Samoa Telecommunications Authority (ASTCA)
Sonny Leomiti	American Samoa Community College (ASCC)
Erica Magalei	Office of Disaster Assistance and Petroleum Management (ODAPM)
Chester Manaea	Department of Port Administration (DPA)
Jeriecho Martinez	American Samoa Community College (ASCC)
Tufanua Mase	Department of Commerce (DOC)
Patrick Nomura	Department of Public Works (DPW)
Peter Nomura	Department of Homeland Security (DHS)
Herotia Porter	SH3 Resource Development LLC (SH3)
Patrick Reid	Department of Commerce (DOC)
Connie Shimasaki	American Samoa Power Authority (ASPA)
Marjorie Steffany	American Samoa Telecommunications Authority (ASTCA)
Savali Sunia	Department of Commerce (DOC)
Tupulua "Bone" Taase	Department of Education (DOE)
Samuel Tagaloa	Department of Health (DOH)
Fiti Tavai	Election Office (EO)
Louisa Te'o	Department of Human and Social Services (DHSS)
Curtis Torres	Department of Legal Affairs (DLA)
Virginia Tuiolosega	American Samoa Telecommunications Authority (ASTCA)
Heidi Uele	Department of Education (DOE)
Anaise Uso	Department of Health (DOH)
Ray Tulafono Jr.	Lyndon B. Johnson Tropical Medical Center (LBJTMC)
Grace Tulafono-Asi	Department of Treasury (DOT)
Tafaimamao Tua Tupuola	University Centers for Excellence for Developmental Disabilities (UCEDD)

SUBGROUP MEMBERS

Critical Services
(Lead: H. Gingerlei Porter, SH3)
Edgar Apulu, EPA
Sal Faasala Augafa, ASTCA
David Betham, DOC
Henry Cha, DPA
Erica Magalei, ODAPM
Meauta Mageo, DHS
Chester Manaea, DPA
Tufanua Mase, DOC
Patrick Nomura, DPW
Herotia Porter, SH3
Connie Shimasaki, ASPA
Lipea Uta Sui, Red Cross
Fiti Tavai, EO
Kenny Dalle, DLA

Cybersecurity
(Lead: Grace Tulafono-Asi, DOT)
Jim Bryce, Australia New Zealand (ANZ) Bank
Randall Fitisone, DHS
Stuart Fong, Blue Sky
Howard Helg, VCX Technologies
Doug Jessop, ASPA
Curtis Torres, DLA
Virginia Tuiolosega, ASTCA
Don Nelson, VCX Technologies

Economic Development
(Lead: Michael McDonald, DOC)
Jason Betham, SBDC
Manua Chen, Manua Inc
Nathaniel Clayville, Territorial Bank of Am. Samoa (TBAS)
Moananui Haretuku, Manatize Ventures
Toloa'i Ho Ching, CBT
Solip Hong, KS Inc
Rep. Alexander Jennings, Fono
Louise Kuaea, Klaod Solutions
Katie Leilua, ASTCA
Chuck Leota, ASTCA
Hak Yeol Pyo, J&P Inc
Barney Sene, Aviana Technologies
Marjorie Steffany, ASTCA
Alexander Zodiacal, DOC

Education
(Leads: Sonny Leomiti, ASCC; Heidi Uele, ASDOE)
Magdalene Augafa, DOE
Victor Langkilde, Catholic Education
Justin Maga, Feleti Barstow Public Library
Jeriecho Martinez, ASCC
Tisha Peau, Manumalo Baptist Schools
Netini Sene, DOE
Faauisa Sotoa, DOE
Bone Taase, DOE
Ruth Tuatoo, Samoa Baptist Academy
Caroline Tuiolosega, Pacific Horizons School

Health
(Lead: Ray Tulafono Jr., LBJTMC)
Dr. Christina Higa, University of Hawaii Pacific Basin Telehealth Resource Center (UH PBTRC)
Kathryn McCutchan, Hope House
Dr. Dmitri Orleanski, LBJTMC
Sam Tagaloa, DOH
Louisa Teo, DHSS
Dr. Anaise Uso, DOH

Policy and Regulation
(Lead: Tafaimamao Tua-Tupuola, SH3)
William Ledoux, ASTCA
Peter Nomura, DHS
Patrick Reid, DOC
Nathaniel Savali, AS Fono
Savali Sunia, DOC

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Opposite page: Partial view of Mauna o Pioa, one of the seven National Natural Landmarks located on opposite side of Pago Pago Harbor above the village of Aua. Credit: Solomona Aoelua.

Executive Summary

The American Samoa Territorial Broadband Strategy (ASTBS) reflects discussions, community engagements, and collective input from the ASTBS Working Group (WG) and Subgroups. The document is a roadmap of strategies and actions to create an environment ready for broadband-related implementations in American Samoa.

Through a grant awarded to the Department of Commerce (DOC) from the US Economic Development Administration (EDA) and assistance by SH3 Resource Development, LLC (SH3) and the University of Hawaii (UH) Telecommunications and Social Informatics Research Program (UH TASI), American Samoa can reflect on a history of leveraging resources and partnerships to use broadband and information communication technologies (ICT) to improve quality, access, and cost-effectiveness of education and healthcare and expand economic development potential opportunities. Despite many challenges, American Samoa embraces broadband as a tool to improve its social and economic development and regional competitiveness. This plan, *Building American Samoa's e-Resilience: the 2021-2026 Territorial Broadband Strategy* is focused on immediate actionable priorities and long-term opportunities in education, critical service, health, economic development, government services, cybersecurity, and policies and regulations – that will create an ecosystem that fosters digital innovation, improve technology literacy of all American Samoans, build digital economy and develop industry clusters through broadband.

The American Samoa Economic Advisory Commission (ASEAC) in its ongoing reports has highlighted telecommunication and ICT as an important strategic direction for American Samoa's territorial development and economic growth. The ASEAC applauded American Samoa's willingness to embrace technological growth over the last decades, evident of our progress and investment in building and maintaining a robust telecommunications infrastructure that supports our needs today and in the future.

The ASTBS is anxious to enfold and share existing and ongoing broadband and ICT priorities initiated through the ASEAC; the American Samoa Comprehensive Information Technology (IT) Development Strategy; the Strategic Plan for ICT Development in American Samoa; the AS Department of Education Educational Technology Plan; the American Samoa Territorial General Plan; and the Comprehensive Economic Development Strategy (CEDS). The ASTBS is also very enthusiastic about supporting territory-wide broadband and technology priorities that are inclusive and diversified in education; health; economic development; government services; cybersecurity; policies and regulations; and critical services.

The American Samoa Government Department of Commerce (DOC), in partnership with the American Samoa Telecommunications Authority (ASTCA), launched the DOC Business Process Outsource (BPO) Incubator in Fagatogo. Klaōd Solutions is the first tenant of the BPO Incubator. Credit: ASDOC

RECENT DEVELOPMENTS – DIGITAL ECONOMY

Resilience is not just an attribute or a capacity; it is a process in which the most relevant resources within a community are identified to sustain its people and maintain safety and wellbeing. Broadband is a critical infrastructure component that builds American Samoa's resilience and binds us to the global economy. It has taken its place alongside water, sewer and electricity as essential infrastructure for communities. It is also a building block of our digital economy.

American Samoa has struggled to reap the benefits that modern broadband services have to offer. Like many remote locations, internet connectivity has been intermittent, slow, expensive and of poor quality. In 2015, the US Department of Agriculture's (USDA) Rural Utility Service (RUS) funded the Broadband Linking American Samoa Territory

(BLAST), installing fiber-to-the-premise (FTTP) infrastructure connecting all homes and businesses to the local fiber-optic network. American Samoa invested over $90 million in BLAST to replace its copper infrastructure with a fiber-optic network capable of delivering high speed, voice, video, data and cellular backhaul service throughout its islands of Tutuila, Aunu'u, Ofu, Ta'u, and Olosega. American Samoa further capitalized on BLAST upgrades by replacing the Territory's 2G network with 4G LTE (long-term evolution) technologies. The ASG followed with a $30M investment to launch the Hawa`iki Submarine Cable (Hawa`iki Cable) in 2018, connecting American Samoa to the global community via the availability of 200+ Gbps off-island bandwidth capacity. The Hawa`iki Cable is a 15,000 kilometer (9320 miles) high-capacity underwater cable connecting Australia and New Zealand to the mainland United States, American Samoa, and Hawai`i. These investments enable an ecosystem for digital innovations to thrive, positioning American Samoa for e-Resilience.

The continued development of American Samoa's digital economy presents the territory with tremendous potential for dynamic economic development. Digital Economy is the economic activity that results from billions of online connections between people, businesses, devices, data, and processes. The ASTBS, through its public forum TalaTek, compiled the following conditions to enable a Digital Economy: 1) Digital Literacy and Education; 2) Reliable Broadband Connectivity; 3) Mobility of Broadband Connectivity; 4) Safety and Security of Broadband Connectivity; and 4) Services enabled through Broadband Connectivity. Digital Economy is also about empowering communities to harness existing and emerging tools, technologies, and social innovations to add value to the lives of its people. Nurturing the opportunities to connect our main traditional industries – fisheries, tourism and agriculture - and the benefits of broadband, American Samoa has much to gain from an effective engagement to build a digital economy. While these strategies alone cannot trigger the full potential towards a Digital Economy, if used strategically, they can create cross-cutting solutions for American Samoa to build and access new markets.

ASTBS AND COVID-19

In December 2019, the COVID-19 global pandemic began. By March 2020, it spread throughout the United States and the Pacific Region, and American Samoa responded by closing its travel borders. This forced changes in modes of operations and communications on- and off-island. The drastic and sudden change required American Samoa to depend heavily on broadband to expeditiously function and communicate. COVID-19 highlighted the need to prepare for restrictive situations like stay-at-home, work-from-home, distance learning, remote monitoring, telehealth and other limitations that are triggered by a pandemic or disaster of this caliber. In June 2020, driven by necessity and enhanced by the urgency to respond to local needs due to closed borders, the DOC convened the ASTBS WG. Utilizing broadband for video teleconferencing through Zoom, the ASTBS WG and SubGroups began working to develop strategies, priorities and actions for broadband adoption across the Territory. Discussions and outreach yielded themes such as – providing equitable broadband access, affordable broadband to the homes, improving digital literacy, effectively applying digital tools in essential sectors, upskilling workforce, and broadband affordability & usability. These themes formulated the ASTBS roadmap and goals of the *Building American Samoa's e-Resilience: the 2021-2026 Territorial Broadband Strategy*.

AMERICAN SAMOA'S E-RESILIENCE

American Samoa's e-Resilience is defined as the process to harness our resources and investments to sustain our island's well-being and competitiveness in digital markets locally, regionally and globally.

Confronting challenges to our broadband infrastructure and striving for a culture of innovation in our communities require continued committed partnerships across all sectors to enact strategies and recommendations. The strategies in this plan are categorized by immediate, short- and long-term priorities. The priorities address growth, development, and continuous quality operations and services through the use of broadband. Information, discussions, and data compiled through weekly working group meetings; public forums; interviews with subject matter experts (SMEs) and household surveys were analyzed to reflect current environmental scans, market trends, and realities. Collectively, the ASTBS WG developed a vision, established goals, and created objectives and actions to build American Samoa's e-Resilience, by harnessing resources and investments that can sustain the well-being and competitiveness of our island territory in a local, regional, global and digital markets. In an era of resource constraints,

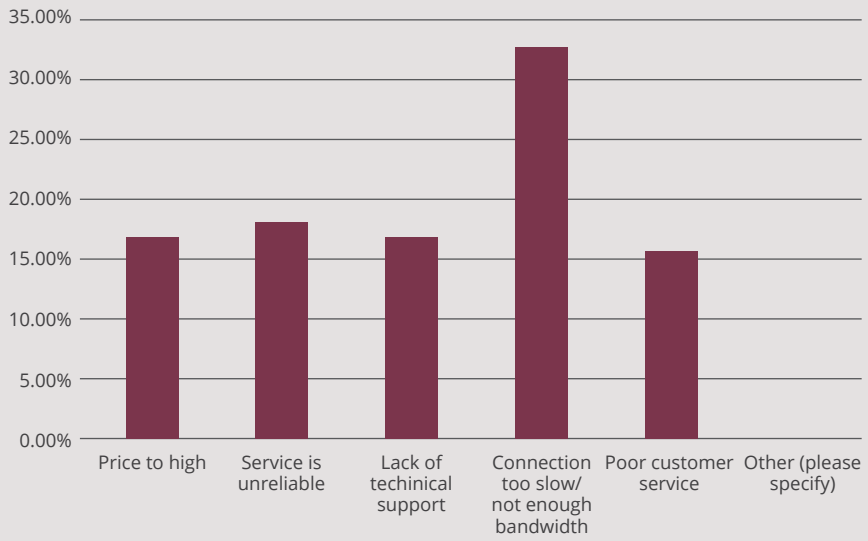


Table 1. Reasons for dissatisfaction with internet service (ASTBS Household Survey)

the Territory must exercise creativity, innovation, commitment, and collaboration to achieve the desired collective impact.

Broadband is a foundational element to building American Samoa's e-Resilience. Despite a modernized network and a significant reduction in cost, American Samoa faces a challenge with regards to the utilization and adoption of broadband. According to local broadband service officials, only 10% of the Hawaiki Cable capacity is being used. The ASTBS WG engaged in several marketing and campaign efforts and public outreach forums to encourage the use of broadband. The ASTBS household survey revealed that - unreliable service, lack of technical support, slow connectivity, and poor customer service - are reasons for low adoption at the household levels (Table 1). Other reasons include - telecommunications bandwidth and coverage; limited financial support; the absence of organized structure and policies; outdated legislation; and the lack of staff knowledge and understanding of ICT use. These constraints cut across the territory and are significant barriers to the use and development of ICT.

The strategic approach of the ASTBS is to overcome some of these obstacles through targeted strategies and initiatives that build American Samoa's e-Resilience. These strategic interests involve activities and resources to build our digital literacy, institutional capacity and integrate broadband; secure systems, network and data; help raise living standards; foster an entrepreneurial spirit; and develop an organizational, program and technical infrastructure that permit American Samoa to become an effective part of the digital global village. In addition to our technical readiness, American Samoa has uniqueness characteristics that contribute to our e-Resilience:

- Access to regional markets and Pacific Island countries with strong needs for technology and technology professionals;
- Experience in exporting services and conducting regional training in technical engineering and management in the Pacific region;
- US based Higher Education through Community College;
- Organizations in ICT;
- An English-language speaking population;
- A wage scale that is much lower than other U.S. communities and tax incentives; and
- Tropical location and Island friendly environment.

Introduction

ABOUT AMERICAN SAMOA

American Samoa comprises five volcanic islands (Tutuila, Aunu'u, Ofu, Olosega, and Ta'u) and two atolls (Rose Atoll and Swains Island) covering 75 square miles in the South Pacific Ocean. An unincorporated and unorganized territory of the United States of America (US) – American Samoa is the furthest US land to the east and south of the equator. Major economic activities in American Samoa include government services, tuna canning, and tourism. Government activities account for one-third of total employment, and tuna canning accounts for another one-third. The remaining one-third of employed workers are in the secondary economy, consisting mainly of retail and service enterprises. Agriculture has potential as a growth market; however, it is currently mostly for home consumption. The current population of American Samoa is 58,500. Over 90% of the population resides on Tutuila Island. American Samoa is about 2,300 miles southwest of Hawaii, over 4,100 miles southwest of San Francisco, and 1,600 miles northeast of New Zealand.

PLANNING FOR E-RESILIENCE

The June 2020 GAO Report to Congressional Committees (GAO-20-467) states, *"American Samoa Government believes that the newly activated Hawaiki cable and BLAST fiber optic network have raised the territory's potential to develop new industries tied to telecommunications, including information communication technology and business process outsourcing. According to a survey by the American Samoa Department of Commerce (ASG DOC) of over 50 public and private stakeholders, 64% of respondents—the largest share—identified information communication technology as one of the most promising economic development opportunities for the territory."*

Figure 1. Hawaiki Submarine Cable connecting Australia and New Zealand to US through American Samoa and Hawaii.

American Samoa has been at the forefront of regional broadband development and enhancement for the last three decades. In 1997, the ASG established the ASG Distance Education, Learning and Telehealth Applications (DELTA) Consortium to coordinate and develop a public service telecommunication and ICT infrastructure for the Territory. In 1998, the ASG created the American Samoa Telecommunications Authority (ASTCA) by Executive Order under the authority granted to the Governor and applicable sections of the Federal Communications Act of 1934, as amended, and the Telecommunications Act of 1996. The telecommunication industry in American Samoa continued to grow with the American Samoa Cablevision and BlueSky Communications entering the market for cable television, long-distance, mobile, and Internet services. By 2002, the American Samoa Comprehensive Economic Development Strategy (CEDS) acknowledged the need for an industry with higher productivity levels. Such higher productivity would be the result of better-educated, better-trained workers, a more efficient class of managers, and capital investment in new technology. For the next 20 years, efforts emerged to support the growth and development of American Samoa's broadband physical infrastructure and related initiatives.

Like many remote locations, broadband was intermittent, slow, expensive and of poor quality in American Samoa. In 2015, the US Department of Agriculture's (USDA) Rural Utility Service (RUS) funded the Broadband Linking American Samoa Territory (BLAST), installing fiber-to-the-premise (FTTP) infrastructure connecting all homes and businesses to the local fiber-optic network. American Samoa invested over $90 million in BLAST to replace its copper infrastructure with a fiber-optic network capable of delivering high speed, voice, video, data and cellular backhaul service throughout its islands of Tutuila, Aunu'u, Ofu, Ta'u, and Olosega. American Samoa further capitalized on BLAST upgrades by replacing the Territory's 2G network with 4G LTE (long-term evolution) technologies. The ASG followed BLAST with a $30M investment to launch the Hawaiki Submarine Cable (Hawaiki Cable) in 2018, connecting American Samoa to the global community via the availability of 200+ Gbps off-island bandwidth capacity. The Hawaiki Cable is a 15,000 kilometer (9320 miles) high-capacity underwater cable connecting Australia and New Zealand to the mainland United States, American Samoa, and Hawaii. These investments enable an ecosystem for digital innovations to thrive, positioning American Samoa for e-Resilience.

American Samoa's investment in the Hawaiki Cable represents a new dawn for digital development in the Territory. American Samoa continues to move forward to embrace the effective use of broadband as a tool to improve its social and economic development and regional competitiveness. Government departments, businesses, and organizations are investing, advancing and developing their own processes, infrastructure and operations to leverage the power of broadband available in American Samoa today. These activities support the mission of the US EDA to embrace strategies based on fostering innovation, increasing productivity, and developing industry clusters

The COVID-19 global pandemic forced changes in modes of operations and communications in American Samoa. The drastic and sudden change required American Samoa to heavily depend on broadband to expeditiously function and communicate. With closed travel borders, the norm became the use of video conferencing applications like Zoom, GoogleMeet, MSTeams, Facetime, Skype and others to communicate and conduct business. Social media also became the most effective form of public communications. In June 2020, the ASTBS initiative was successfully launched with 80+ virtual connections joining via Zoom and a simultaneous Facebook live stream to begin developing strategies and actions to leverage the investments made into the Territory's significantly improved telecommunications infrastructure.

DEFINING AMERICAN SAMOA'S E-RESILIENCE

American Samoa's e-Resilience is defined as the process to harness local resources and investments to sustain the island's well-being and competitiveness in digital markets locally, regionally and globally. Confronting challenges to both local broadband infrastructure and striving for a culture of innovation in our communities require continued committed partnerships, outreach and marketing, community engagement, and effective planning. A collection of technical professionals, innovators, entrepreneurs, community members at-large and experts offered their time and expertise to assist in this process to develop realistic findings and strategies to drive American Samoa's future in educational, business, and resident decision-making relating to increased broadband usage. The ASTBS provides a comprehensive list of strategies and

priority actions identified by the Working Group and focused on the following sectors:

- Critical Services
- Cybersecurity
- Economic Development
- Education
- Health
- Policy and Regulation
- Government Services

Information, discussions and data were compiled and analyzed to reflect a current environmental scan, market trends, and realities. Collectively, the ASTBS WG adopted a new vision, established goals and created objectives according to priorities and needs to create conditions for American Samoa's e-Resilience. To best inform the ASTBS, the WG and Subgroups took a holistic and inclusive community approach, and sought input from various departments and stakeholders through:

Working Group Weekly Meeting: The ASTBS WG held 30+ one-hour virtual sessions focused on vision and goals building, understanding ideologies, concepts and frameworks on broadband and its applicability in various markets and industries in American Samoa.

Subgroup Meetings: The ASTBS WG established seven SubGroups - Critical Services; Cybersecurity; Economic Development; Education; Health; Policy and Regulation and Government Services to formulate specific priorities, actions and recommendations for broadband use and adoption in these respective areas.

Household Survey: The ASTBS WG collected 500+ household surveys gathering information to understand the landscape, opportunities, challenges, usage, quality, affordability, access to broadband in American Samoa. The Household Survey was conducted in both English and Samoan.

KokoBytes: KokoBytes is a series of virtual interviews to share ideas about innovations and technological creativity in American Samoa. The purpose of the program is to raise awareness of "broadband economy" and to tell our stories, our way through conversations about potential developments and opportunities for American Samoa with access to tremendous bandwidth via Hawaiki. The ASTBS WG hosted eleven KokoBytes interviews.

TalaTek: Talanoaga Fa'aTekonolosi (TALA-TEK) is a webinar series / public forum of pertinent topics on the use of broadband and technology applications in American Samoa. TALA-TEK featured speakers and experts at the local, national and global levels. Topics include but are not limited to: cybersecurity, telehealth, distance education, eCommerce, trades and technologies and many more. The ASTBS WG hosted three (3) public / virtual forums on Cybersecurity, Telehealth and Digital Economy.

ASTBS Website – http://broadband.as.gov: The ASTBS developed a website to convey information on the progress of plan development and resources.

Social Media (Facebook and YouTube Channel) @amsamoatbs: Crucial to reaching the wider community is the use of social media. The ASTBS developed Facebook https://www.facebook.com/amsamoatbs and YouTube https://www.youtube.com/channel/UCAVigKss-cdhSaNLhDbfOog accounts as primary platforms to interact with the wider community and obtain feedback to planning efforts.

ASTBS Logo:

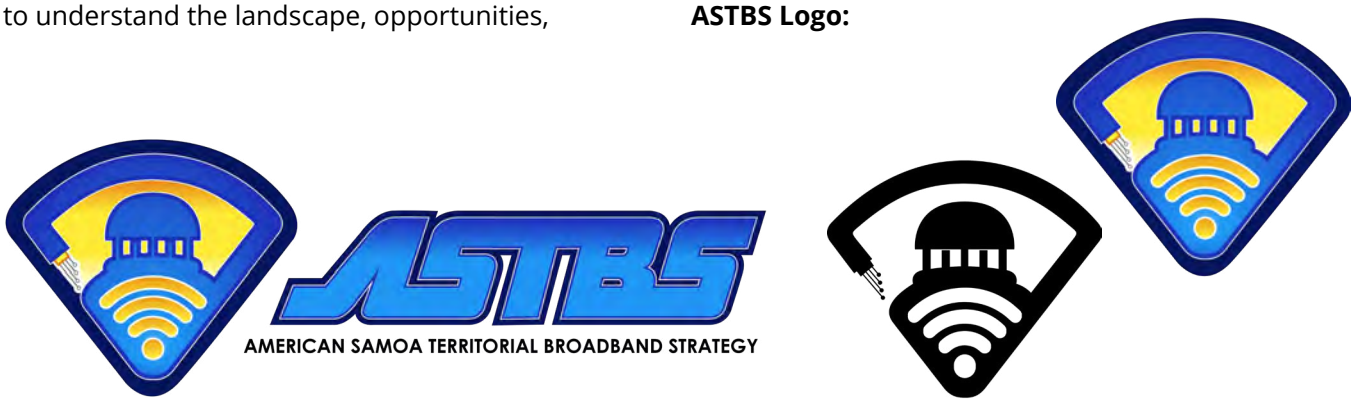


Figure 2. ASTBS Logo. The ASTBS recognizes that the benefits from advances in broadband and technology can only be realized if household, village and communities are reached. The Samoan fale is our gathering place and broadband connects us in absence of face-to-face presence. The triangular shape logo speaks to American Samoa's potential to be a regional hub for innovation in the Pacific.

Implementing American Samoa's e-Resilience – the 2021-2026 Agenda

The ASTBS WG recognizes the value of broadband and recommends its prioritization across all sectors. Recognizing broadband as an established priority means improving operations, transactions and funding consistent with market forces and responsive to changes and fluctuations in American Samoa's economy.

ELEMENTS

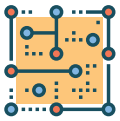
The ASTBS identifies five critical elements as part of its roadmap to implementation. These elements are: Access; Affordability; Capacity Building; Inclusion, Equity and Diversity; and Infrastructure. The strategies developed by the ASTBS WG address one or more of those key elements.

Access – While broadband internet is now available to over 90% of local residents through BLAST, it is inaccessible to some remote residents due to geographic and topographic constraints. Under this element, efforts address the need for residents to have access to fixed terrestrial broadband service at high-speed as defined by the FCC 25/3 Mbps capacity to afford them opportunities to access services and information. The ASTBS is proposing the adoption of 100/100 Mbps as the local definition of "high-speed" internet.

Affordability – High-speed internet costs are still too expensive for most users. The income per capita in American Samoa is $11,000. Currently shared residential internet access of 25/3 Mbps costs $55 per month; 50/5 Mbps costs $85 per month and 100/10 costs $130 per month. This element presents strategies and initiatives to address broadband affordability concerns.

Capacity Building – Integrating digital inclusion strategies into community and economic development efforts is a priority of the ASTBS. This element addresses strategies and initiatives to encourage increased levels of broadband adoption and usage to enhance people's knowledge and application of broadband.

Inclusion, Equity and Diversity – The ASTBS is committed to help drive lasting reform and champion a more connected, equitable, and just digital world. This element ensures that all broadband initiatives foster a culture of inclusion and assures all users feel supported, embraced and heard.



Infrastructure – One of the key elements to American Samoa's e-Resilience is infrastructure. This element addresses the ongoing need to improve, upgrade and maintain American Samoa's physical telecommunications infrastructure.

HOW TO READ THE ASTBS

The strategic themes, opportunities and outcomes identified in the ASTBS set the next steps for broadband adoption in American Samoa. These help to grow American Samoa's economy, expand health services, improve access to education opportunities, enhance government services and do so safely and securely. The ASTBS provides a comprehensive list of strategies and priority actions for implementation to reach specific goals for e-Resilience. The strategic themes are organized per sector or Subgroups (Critical Services, Cybersecurity, Economic Development, Education, Health, Policy and Regulation, Government Services). The Subgroups formulated realistic priorities, resources and strategies to address opportunities under each strategic theme. Each strategy is aligned with an objective(s) or elements. The outcome of implementation will drive American Samoa's digital future by enhancing educational, business, and resident decision-making relating to increased broadband usage. This supports the strategic vision of the ASTBS to have affordable internet access, a qualified IT workforce, sustainable infrastructure, adequate policies and regulations and improve the digital literacy of the people of American Samoa.

Vision

The vision of the ASTBS is for American Samoa to have affordable broadband internet access, have a qualified IT workforce and IT infrastructure with policies and regulations to support and secure business innovation and development, and improve technology literacy and quality of life.

Strategic Themes	**SECTORS**		
	1. Critical Services 2. Cybersecurity 3. Economic Development 4. Education 5. Health 6. Policy and Regulation 7. Government Services		
Opportunities	**PRIORITIES**	**OBJECTIVES**	
	What do we want our community to look like? • Affordable Broadband • Access • Responsible Governance and Strong Institutions • Promote Technology Literacy • Cybersecurity	**Where do we start?** • Purpose • Access • Affordability • Quality • Capacity Building • Inclusion, Equity and Diversity	
Outcome	**GOALS**	**STAKEHOLDERS**	**ALIGNMENT**
	What is our priority? • Improve quality of life • Expand and strengthen infrastructure • Promote literacy • Empower AS to be recognized at a global level	**Who is responsible?** • Stakeholders	**How does it align?** • Strategic Objective and Priority Actions

Table 2. ASTBS Plan Roadmap

Strategic Goals

Broadband touches all aspects of the community by providing a new foundation for innovations, economic development, healthcare, education, public safety, entertainment, and many other possibilities. The following strategic goals lay the framework to strengthen and increase the adoption of broadband in American Samoa by 2026.

GOAL 1: AFFORDABLE BROADBAND ACCESS - Improve the quality of life afforded through services and access to affordable broadband & internet service.

American Samoa's unique geography requires a wide range of broadband infrastructure and technologies to support its digital growth. The ASTBS carries forward ideologies and actions to maintain and improve the quality of life by realizing a broadband driven economy that is dynamic, enterprising, self-sustaining, culturally appropriate and responsive to changes and fluctuations in the global economy.

GOAL 2: RESPONSIBLE GOVERNANCE AND STRONG INSTITUTIONS - Develop an organizational, program and technical infrastructure that include governance, policies and regulations, collaborations and partnerships permitting American Samoa to become an effective part of the global digital village.

The ASTBS will initiate, develop and advance broadband-related policies, programs and initiatives that support and foster collaboration amongst sectors. Our goal is also to strengthen the implementation and revitalization of local, regional, national and global partnerships for responsible governance and strong institutions in telecommunication.

GOAL 3: TECHNOLOGY LITERACY - Promote technology literacy at all levels.

Technology literacy is defined as the ability of individuals to responsibly use appropriate technology tools to: access and integrate information; and construct and communicate knowledge to improve learning and support lifelong learning. American Samoans will be empowered with technological knowledge and skills to use Information and Communication Technology (ICT) to find, evaluate, create, and communicate by 2026.

GOAL 4: CYBERSECURITY - Enable American Samoa to securely participate in national, regional and global information infrastructure.

Information, data and network security is a priority of the ASTBS. American Samoa shall strengthen its cybersecurity to respond to growing global threats and safely and securely protect its citizens from those attacks. In addition, with cybersecurity crimes new laws, policies and regulations shall be in place to protect consumers from potential attacks.

Opportunities and Immediate Actions

The following are findings and priority strategies for the next steps of implementing American Samoa's e-Resilience. The complete list of key strategies can be found in Appendix A.

P.1: Establish the Territorial Broadband Coordination, Opportunities, Redevelopment and Deployment Office (Broadband CORD Office):

The ASTBS strongly recommends establishing the CORD Office inclusive of a Territorial Broadband Coordinator supported by a Territorial Broadband Advisory Council. The CORD Office will lead the coordination, identification, development and protection of territory-wide projects and innovative initiatives to improve government services and performances through information technology. They will also coordinate and drive broadband planning, policy, funding, and initiatives to build American Samoa's e-Resilience. This office can be housed in the Governor's Office or as done in many US jurisdictions, the DOC.

GOALS  ELEMENTS 

P.2: Develop the American Samoa information Network for Expansion and Inclusion of Broadband (BROADBAND iNEI) Initiative:

The ASTBS proposes the adoption of BROADBAND iNEI (information Network for Expansion and Inclusion), an island wide initiative aimed to encourage the immediate transition to all things digital thereby fostering a more efficient, productive, and resilient American Samoa. This includes an overarching framework for the application and implementation of broadband. At a territory level, this initiative is to be led by the CORD Office working in collaboration with government, private sector and various organizations to adopt BROADBAND iNEI to promote the fast-track adaptation of broadband-anchored services and processes.

GOALS  ELEMENTS 

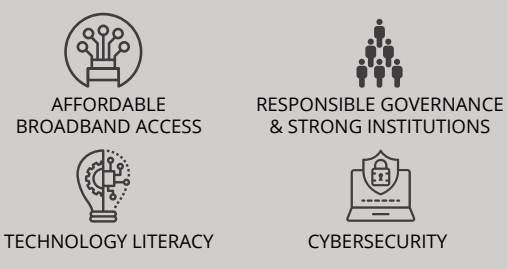
P.3: Critical Services and Disaster Communications:

The ASTBS highlights the need to prioritize ICT for improving operations and transactions in American Samoa, especially in disaster communications. Communications during emergencies incorporate a wide range of measures to manage risks within communities and the environment. It encompasses the information disseminated by the government, responders, disaster managers, and other media.

The ASTBS identified the following priorities for action:

P.3.1: Activate the ASTCA's FirstNet Network by 2021: FirstNet Network is a mobile network dedicated to First Responders and will prioritize these users during traffic congestion. To ensure on-going communications for First Responders during disasters including the COVID-19 pandemic, we recommend the immediate identification and assignment of users of cell phones and devices by the ASG TEMCO / EOC provisioned under the FirstNet Network.

GOALS  ELEMENTS 



P.3.2: Back-up Communications: We must ensure that American Samoa has the necessary backup communications and broadband to support operational needs in times of disasters. This will ensure minimal disruption to operations during disasters.

GOALS  ELEMENTS 

P.3.3: Establish warm and hotlines for emergency technical support: To support stay-at-home, distance education, and other remote activities, we must ensure that students, parents, teachers, patients and others have access to online technical support for distance learning, telehealth and other government services. This will require public-private collaboration.

GOALS  ELEMENTS 

P.3.4: Upgrade Territorial Legacy 911 System to NG911: For over 30 years, the Territorial 911 system has served the needs of our local community in emergencies and disasters. With the advent of new communications technologies such as wireless cellphones, text, picture messaging, social media, video/data streaming, Voice Internet (VoIP) devices, gateways or interfaces to existing or other emerging emergency communication systems, requires the Department of Public Safety to seriously upgrade our 911 services. The aging 911 system is not capable of accepting these new multimedia communication formats or communicating with other Internet Protocol (IP) systems. In order to better serve the public and our First Responders such as the Department of Public Safety (DPS), Emergency Medical Services (EMS), and others, it is imperative for American Samoa to upgrade its Public Safety Answering Points PSAP(s) to an Internet Protocol (IP) based 911 system, commonly known as Next Generation 911 or NG911. With the BLAST and FirstNet broadband networks in place, the introduction of NG911 will greatly enhance our PSAPs and First Responder's response to daily emergencies and disasters with the flow of digital information.

GOALS  ELEMENTS 

P.3.5: Expansion, Adoption and Resilience Emergency Communications Network: In order to quickly and effectively respond to emergencies, disasters, and pandemics, the Department of Public Safety and EMS must upgrade, expand and add resilience to their wireless communication systems rather it be Land Mobile Radio (LMR) with broadband interoperability, broadband satellite technology such as Iridium, Inmarsat including other wireless and wireline broadband technologies. With the adoption of FirstNet, Law Enforcement and EMS specific band 14 devices and cybersecurity applications are crucial to their operations. Surveillance and Analytical systems including emergency management applications over broadband infrastructure are critical for our First Responders and Emergency Operations Center (EOC) to manage a major crisis.

GOALS  ELEMENTS 

P.4: Cybersecurity:

The Hawaiki Cable brings many benefits to American Samoa, but also brings threats, risks, and vulnerabilities through cyberattacks toward our people and our way of life. Cybersecurity in American Samoa is driven by sectors such as health, communications, finance, and primarily in government. The ASTBS sets capacity building, building digital citizenry, technical workforce training, awareness-raising, and promoting cyber safety as its priority for cybersecurity.

Cybersecurity is more than a technical issue; it is also a cultural and behavior issue for American Samoans. The *fa'asamoa*, or Samoan way of life, trophies the collective community, reciprocity, inclusivity, and mutuality. This translates commonly to nearly blind trust regarding what is seen, sent, and received online. Cybersecurity is the practice of protecting information, data, systems, networks, and programs from digital attacks. This translates to isolation, exclusion, and alienation – all of which are culturally inept.

There currently is no central and dedicated body or framework for cybersecurity in American Samoa. American Samoa will need a public awareness campaign about cybersecurity, ultimately increasing the understanding of cyber threats and empowering our people to be safer and more secure online. Our elderly are our most vulnerable population, and our message should be culturally appropriate to address their needs. One of the objectives of the ASTBS is to elevate territorial awareness of cybersecurity and its association with our island's security and the safety of our personal lives. This can begin to shift people's perception of cybersecurity from avoidance of the unknown to acknowledging shared responsibility.

The ASTBS identified the following priorities for action:

P.4.1: Establish a Cybersecurity Committee responsible for creating minimum cybersecurity standards that all will be required to adhere to. Such a committee will also be mandated to develop and implement territorial cybersecurity awareness-raising programs on the island.

GOALS  ELEMENTS 

P.4.2: Professional Training: Provide security training programs and opportunities for IT staff and build a cadre of cybersecurity professionals. Provide training on how to provide security support for remote users. Provide security basics training for employees (especially those who work remotely because of COVID-19).

GOALS  ELEMENTS 

P.4.3: Develop computer science curriculum, courses, and training to include cybersecurity measures: The ASTBS prioritizes the integration of cybersecurity awareness-raising efforts into ICT literacy courses and initiatives that could provide established vehicles for cybersecurity awareness-raising campaigns.

GOALS  ELEMENTS 

P.5: Economic Development:

According to the Asian Development Bank, the world economy has been in the midst of a profound transformation, spurred by globalization and supported by the rapid development of ICT that accelerates the transmission and use of information and knowledge. This powerful combination of forces is changing the way we live, and redefining how companies do business in every economic sector. Regional leaders, including American Samoa, are progressing forward with ICT as an important force to shape our social and economic development in the 21st century. American Samoa understands the ripple effect that global and regional trends bring to its shore as multinational corporations seek competitive advantage in markets and locations to provide profits and cost savings.

Modern broadband and IT infrastructure are vital to stimulating economic growth and building American Samoa's digital economy. Digital Economy is the economic activities that result from billions of online connections between people, businesses, devices, data, and processes. The backbone of such activities is the hyperconnectivity and interconnectedness driven by the Internet, broadband, technology, and Internet of things (IoT). With strategic planning, sufficient resources, and modernized broadband infrastructure, American Samoa can now support a prosperous digital economy.

The ASTBS identified the following priorities for action:

P.5.1: Coordinated Broadband-Related Economic Development initiatives through the Broadband CORD Office: Economic growth requires a well-coordinated multisectoral approach with multisectoral solutions. The ASTBS fully endorses the establishment of the CORD Office to lead and coordinate broadband efforts across the territory, including BROADBAND iNEI, an initiative mandating that all ASG departments and authorities adopt policies that will promote the fast-track adaptation of broadband-anchored services and processes into their operations by 2025.

GOALS  ELEMENTS 

P.5.2: Institute the ASG BROADBAND iNEI Policy: Unique barriers exacerbate American Samoa's efforts to enhance our competitive advantage, create economic opportunities and attract investment. One of the main barriers is the slow transition from manual, error prone processes to automated digital workflows. This lag prevents opportunities to capitalize on new technologies, improved data collection and analytics, and an expedited transition from a cash to a digital economy. With the technical infrastructure in place, creating a digital ready ecosystem for economic development in American Samoa is necessary to sustain an economic base and maximize our competitive advantage in regional and global markets. To pursue this, the ASTBS endorses the BROADBAND iNEI policy requiring all government departments and authorities to adopt policies that will promote the fast-track adaptation of broadband-anchored services and processes into their operations by 2025. The adoption of a BROADBAND iNEI policy would ensure American Samoa's competitiveness by requiring all users – leaders, directors, managers and staff to commit to transitioning to a new, digital age, ensuring American Samoa remains competitive to access opportunities for economic growth that would otherwise be unavailable or inaccessible to our people. Each department will conduct a thorough service and process review to determine (1) what processes can be digitized, automated, or transitioned to be delivered online; (2) how those processes can be transitioned with minimal risk, impact or disruption to current operations and (3) needed resources required to successfully complete transition. Each department is to review and adjust all budgets to account for the implementation of strategies and plans. The BROADBAND iNEI policy shall also require all vendors conducting business with ASG to adjust accordingly.

GOALS  ELEMENTS 

P.5.3: American Samoa Innovation & Technology Campus: Officially designate Tafuna/Lion's Park Government Housing land as a future site of the American Samoa Innovation & Technology Campus. Doing so clears a path for development plans, including the identification of development financing resources or investors. This development project shall be coordinated with the Department of Education's current effort to expand and improve its Career & Technical Education (CTE) program. The Innovation & Technology Campus shall act as the catalyst for the growth of the ICT and related industries, prioritize workforce development opportunities in CTE; and set the standard in our region for connected communities.

GOALS  ELEMENTS 

P.5.4: IT Professional Workforce Training and Development: Communities that have been successful in attracting and developing ICT industries tend to have large educated workforce, favorable tax structures that encourage investment and risk capital. This promotes entrepreneurship education at all levels, supports business incubators, and reduces regulations that impede new business formation and strong institutions of higher education. The ASTBS recommends the immediate implementation of an IT/ICT Workforce Development Program for all ASG dedicated IT/ICT staff or personnel. Further, the ASTBS encourages ASG to extend these workforce development opportunities to those considering a change in career paths to build greater capacity in these fields.

GOALS  ELEMENTS 

P.5.5: Create smart classrooms and campuses by providing broadband access campus wide: The BROADBAND iNEI initiative shall also set requirements to ensure our education system, including our trade schools, have the proper broadband resources in every classroom. 100% of all DOE classrooms shall be hardwired and connected to the internet; wireless hotspots should be readily available at every location on every campus; and a curriculum must be adopted that effectively integrates broadband into the learning experience.

GOALS  ELEMENTS 

P.5.6: Create American Samoa Broadband Maintenance Policy: The ASTBS supports creating local policies that will preserve, maintain, upgrade and/or replace our telecommunications infrastructure as it ages. Policies include a practical solution to pay for the ongoing maintenance costs to BLAST and the Hawaiki spur; planned or unplanned upgrades; repairs; or eventual replacement of key system components. This will ensure that sacrifices, efforts, and progress being made currently will not be impeded upon by any known or unforeseen events.

GOALS  ELEMENTS 

P.5.7: Incentivize technology and broadband driven investments in American Samoa: One of American Samoa's uniqueness that provides competitive advantages to open markets is its wage scale, tax incentives, and preferential trade terms. However, time is running out on American Samoa's low wage, labor intensive industries primarily because the artificial location advantages upon which the tuna canneries depend are disappearing. Through policies or other tools, we must incentivize investments into the development of the ICT or technology industry via local and/or foreign investment.

GOALS  ELEMENTS 

P.6: K-12 and Post-Secondary Education and Curriculum Development:

Broadband connectivity carries the unprecedented potential to bridge education divides, transform learning and improve skills for the globalized economy. Governments make broadband accessible, empower teachers and students to use technology, support local language content production, and promote open educational resources. This report recognizes that participation in the global economy is increasingly dependent on skills in navigating the digital world but warns that traditional school curriculums still tend to prioritize the accumulation of knowledge above its application and fail to train students in the ICT literacy skills they will need to ensure their employability in the knowledge economy. An excellent and well-rounded education is the basis on which future livelihoods and families are founded, and education opens up minds, as well as job prospects. The ability of broadband to improve and enhance teaching and students' experience of education is undisputed.

In light of our current reality with COVID-19, the ASTBS identified the following priorities for action:

P.6.1: Awareness and Building Asynchronous Learning Environments: All educational institutions, libraries and must initiate the building of technological online/distance learning platforms to ensure the continuous delivery of instruction given the Territory's COVID-19 Code Blue Status. All educational institutions must implement asynchronous learning alternative plans for all American Samoa students to ensure that learning resources and access to resources are available to students if schools are too close due to the COVID-19.

GOALS  ELEMENTS 

P.6.2: Developing and Expanding Career Technical Education (CTE) Curricula – Gainful Employment: The ASTBS also identified the need for Career Technical Education and continued advancements – professional training in the technical and trade areas workforce development needs. Contributing factors include limited curriculum available to the community, lack of experts in the technical/trade areas, geographical location, and costs to travel for education/professional development. Current plans include the development of career technical education pathways and certification programs that will contribute to gainful employment to increase the numbers of certified personnel, as needed in today's workforce.

- Establish American Samoa Territorial-Set Standards and Expectations for the Workforce – Career Technical Education. To develop Territorial Standards for American Samoa in Career Technical Education to meet the needs of the workforce.
- Improve and Expand Career Technical Education Pathways and Access to Learning Resources: To design curriculum pathways conducive to the workforce needs.

GOALS  ELEMENTS 

P.6.3: Implementing the Integration of Technology across all Content Disciplines: The ASTBS recognizes the importance of technology in education and emphasizes promoting educational technologies across all disciplinary core content areas, ensuring that the 21st-century educational technology skills are infused in curriculum offered to students/community.

- Training: Develop monthly or quarterly plans particular to Technology Integration in the content areas.
- Certification: Develop more certification courses or upgrade current course(s) in Technology Integration.

GOALS  ELEMENTS 

P.7: Expanding Telehealth Services:

The health infrastructure system in American Samoa consists of one hospital, Lyndon B. Johnson Tropical Medical Center (LBJTMC), and six community health centers operated by the Department of Health (DOH). American Samoa currently scores a 20 (lowest) and 26 (highest scored value) in the HRSA's Health Professional Shortage Area (HPSA), meaning an extreme shortage of primary, dental or mental health care providers. Before Hawa'iki Cable, the LBJTMC and DOH had limited bandwidth capacity to conduct most telehealth services to support primary care and specialty services. Today, with increased bandwidth in American Samoa, the LBJTMC Hospital and DOH not only can conduct live consultations with shared images and files but can expand to many other telehealth services like tele-ultrasounds, telepathology, teledentistry and teleneurology.

The ASTBS WG acknowledges the value in expanding telehealth services to access and bring more health care and human service programs to American Samoa. With reliable and stable connectivity through Hawaiki Cable, American Samoa can expand telehealth services to continue to improve access to care, increased availability of services both on- and off-island, have access to healthcare professionals not locally available, reduce costs of services by reducing unnecessary travel and referral costs, and provide online educational opportunities for health care professionals. With technical infrastructure currently in place, the next ideal steps are to identify needed services and the resources to support those services. Specifically, the ASTBS Working Group recognizes the following actions:

P.7.1: Implement More Telehealth between Providers and Patients including private healthcare providers: American Samoa is currently dealing with the global pandemic with the spread of COVID19. This means the LBJTMC and DOH clinics will need to minimize non-essential traffic at their premises. To assist in keeping unnecessary traffic at a minimal and to limit direct patient contact with physicians to reduce potential spread and exposure, we recommend the adoption of telehealth clinical services by LBJTMC and DOH for the delivery of clinic visits via a video consultation with health care providers including public and private healthcare providers and specialists on and off island. The Centers for Medicaid and Medicare Services (CMS) have already made amendments in its rules to allow for these types of telehealth virtual clinic visit services to be reimbursable under the Medicaid and Medicare CMS programs.

GOALS  ELEMENTS 

P.7.2: Establish the American Samoa Telehealth Taskforce (AST Task Force) by 2021: To lead the exploring opportunities on the use of the increased broadband capacity for telehealth and telemedicine applications and to ensure coordination and alignment of regulations and policies with the many telehealth opportunities, the ASTBS WG recommends establishing of an American Samoa Telehealth Taskforce (ASTT). The ASTT will include members from the health community, government departments, stakeholders from the community-based organizations, or non-government organizations and that provide health or social services to the community.

GOALS  ELEMENTS 

P.7.3: Identify and Adopt Telehealth Service Payment and Sustainability Model by 2022: American Samoa has a unique payment system for Medicaid patients. To be sustainable and allow for Medicaid and Medicare patients to utilize these benefits for receiving telehealth services, we recommend the development and establishment of a sustainable payment structure and schedule for telehealth services to be offered at LBJTMC, the DOH Community Health Centers, and other eligible providers under the AS Medicaid program. We recommend these discussions be conducted in collaboration with the AS Medicaid Office.

GOALS  ELEMENTS 

P.7.4: LBJTMC Specialty Consultation (Provider-to-Provider): American Samoa's only hospital, LBJ Tropical Medical Center, has a great opportunity to provide specialty consultation services from experts in Honolulu, Hawaii via the use of video conferencing equipment. To allow this opportunity to become a reality, we recommend full support from the government leadership, and to provide adequate financial and human resources for the provisioning of this telehealth service at the LBJ Tropical Medical Center.

GOALS  ELEMENTS 

P.7.5: Community Integrated Behavioral, Social and Clinical Services support for juveniles and at-risk youth telehealth counseling services: American Samoa has seen an increase in at-risk behavior in our youth in the schools. The schools are not adequately equipped with adequate number of trained and qualified counselors to deal with the demand from these high-risk students. We recommend the coordination of a telemedicine project on the use of telehealth video conferencing to provide these counseling services in the schools. We recommend a partnership with the DHSS and DOE to allocate private spaces on campus with broadband and video conferencing equipment in each of the schools, to allow for a qualified or trained counselor to conference with the at-risk student. We also recommend using individual conferencing centers to be used by on-site school counselors to receive adequate education and training for the development of school staff.

GOALS  ELEMENTS 

P.8: Policies and Regulations:

Rapid technological advances and the modernization of American Samoa's telecommunication infrastructure have promoted the need to reexamine our existing territorial regulatory framework; concept of operations and government policies and procedures. The BROADBAND iNEI is a framework for policies and regulations to encourage the broadband adoption, foster innovation and promote sustainable and inclusive Industrialization across all sectors in the Territory by 2025. Harmonizing policies and regulations

to technological and infrastructure advancements is a critical component to building American Samoa e-Resilience. In addition, the aim of regulatory frameworks is to ensure effective competition and provide an incentive for investment. This means deploying networks, offering competitive services, and in a small market like American Samoa, acknowledging that public intervention is required. However, regardless of a duopoly, this does not mean the market in American Samoa should not be regulated. The work of the ASTBS aimed at identifying regulatory characteristics that will meet industry and national technical standards and make recommendations to the Regulator for local policy development in broadband adoption, maintenance, and sustainability.

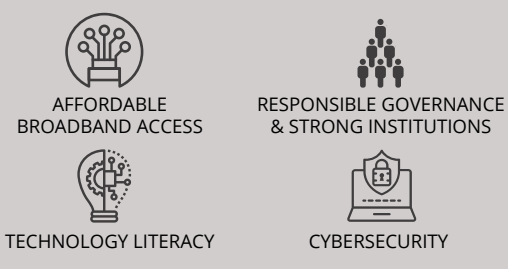
The ASTBS identified the following priorities for action:

P.8.1: Recognizing ICT Broadband through a Territorial Proclamation by 2021: Broadband touches all aspects of the community by providing the foundation for innovations, economic development, healthcare, education, public safety, entertainment, etc. A public proclamation would recognize the value it holds in our community and livelihood.

P.8.2: Redefine "Broadband" to 100/100 Mbps: US Congress has called for the redefining of the current minimum speeds that internet service providers call "high-speed" broadband from 25/3 Mbps to 100/100 Mbps. Data needs are expected to increase annually by at least 25% per year. In order to support those needs, our broadband capacity also has to increase in standard. The ASTBS seeks the adoption of the definition of high-speed from 25/3 Mbps to 100/100 Mbps. In addition, Service Level Agreements (SLAs) shall set performance standards to include – customer needs, quality of service (QoS), provide a foundation for client comprehension, address potential conflict and expectations. The network availability of 99.999% remains the standard.

P.8.3: Develop and Adopt an American Samoa Enterprise Architecture (EA) Framework for IT and Communications by 2022: An enterprise architecture provides a holistic, top-down view of structure and systems, making it invaluable in managing the complexities of any system. An American Samoa EA Framework for IT and Communications would provide the following outputs: (1) Inventory of Assets; (2) Clearly define Relationships and Roles; (3) Standardization of Services; and (4) New Services (e.g., cloud-based services).

P.8.4: Re-examine Territorial Regulatory Framework: The function of regulating telecommunication in American Samoa rests with the Governor of American Samoa. As Regulator, he has the authority to introduce new policies and regulations to meet the changes in our telecommunications environment. A key objective of a sound regulatory framework is to ensure independence for regulators entrusted with the application, transparency and accountability of the regulatory process. In addition, policy development should be



inclusive of input from all sectors. The ASTBS sees an immediate opportunity to re-examine American Samoa's territorial telecommunications regulatory framework and policies for feasible options that will align our strategic goals with the demand of the digital world.

GOALS  ELEMENTS 

P.9: Government Services:

It has been a goal of the American Samoa Government to embrace telecommunications and ICT as a tool for delivering government services. Suitable e-government tools and applications play a crucial part in diminishing the digital divide and building American Samoa's e-Resilience. E-government is defined as using ICT to more effectively and efficiently deliver government services to citizens and businesses. It is the application of ICT in government operations, achieving public ends by digital means.

The ASTBS identified the following government services priorities for action:

P.9.1: Re-Establish a central government information technology office (ASG IT): The establishment of a central Government Technology Office is critical to American Samoa's Territorial Broadband Strategy. The ASG IT Office shall be headed by a Chief Information Officer (CIO) and will serve to oversee and coordinate IT related activities within government. The office should include several divisions such as IT support, Technology, Data Management, Maintenance and Planning and Development. A Planning and Development section should be established to oversee the development and implementation of IT policies within ASG and to assist with the establishment of new IT policies for the territory. A Maintenance section needs to be established within the IT Division to provide assistance and direction to IT personnel throughout ASG. Critical to the success of the Maintenance section will be the establishment of a Help Desk with staff on call for all working hours during the business week. The Technology subsection will implement the hardware and software systems to carry out these procedures.

GOALS  ELEMENTS 

P.9.2: Conduct a government-wide IT Assessment: Under the guidance of the CORD Office and Advisory Group, a government-wide IT framework and infrastructure assessment should be conducted and should address the following components: (1) An update environmental scan of eGovernment services – current, potential, and future; (2) An update environmental scan of territorial ICT policies and development – current, modification, and future. (3) Status of Government Systems and Security Assessment

GOALS  ELEMENTS 

P.9.3: Public Safety Systems Interoperability: The Department of Public Safety provides government services to our local community through the Office of Motor Vehicles or OMV. Currently, OMV has 3 different systems for vehicle registration, driver's licensing and accounting purposes. Yet still performs other functions manually, if not mostly. These systems also are not in sync with each other. The huge silo creates a duplicate in the work-flow, therefore, also causing a major delay and frustration for the public. The associated networking components need to be upgraded to better integrate into the PSAPs, the DPS Dispatch systems, and other government agencies, such as the Treasury's IFAS accounting system to effectively disseminate information and to better serve the public. There is a need for one inoperable system to streamline the OMV processes and to effectively communicate with other government agencies.

GOALS  ELEMENTS 

Socio-Economic Value and Other Industries in American Samoa

Broadband has steadily shifted from an optional amenity to a core utility for households, businesses and community institutions. It has taken its place alongside water, sewer and electricity as essential infrastructure for communities. Broadband can be a driver of household income in key industries in American Samoa - fisheries and agriculture. Fishermen and farmers would benefit from both practical and technical applications of broadband. In these industries, maximizing productivity, yields and techniques require broadband connections for data collection and analysis performed in the field (ocean, farm, environment) and at hub locations (office, data centers, etc.). Access to information and remotely sensed data play a significant role in revealing ecological processes at both large and small scales, and provide critical data for managing our aqua and agricultural resources. Fishermen and farmers would also benefit from the practical application of broadband. Roadside markets are cash transactions and with broadband, they could access digital payment transactions and new online markets. It is the overall strategic goal of the ASTBS to create a digital ecosystem to encourage the adoption of broadband across all sectors including agriculture and fisheries.

Digital Equity and Inclusion

A digital divide, either geographically or along socioeconomic lines, runs counter to our community's values, policy, and funding decisions in support of closing those gaps. The Territory's telecommunications infrastructure creates an infinite synergy between residents and technology by launching a broadband presence in remote and rural areas. This continues to improve as broad-based planning and resources are prioritized to access technology. The diverse community quest for digital equity ensures all communities participate, creating digital inclusion entirely. Therefore, American Samoa must empower all in the community to participate in the knowledge economy and our regional innovation ecosystem. American Samoa must also create awareness about the importance of broadband adoption to education, work, and quality of life by raising literacy standards to include digital skills.

Consequences of Inaction

American Samoa has overcome many obstacles in modernizing its broadband infrastructure; however, many challenges remain before American Samoa can achieve e-Resilience through broadband. Economists warn of underinvestment as the cause of loss of market growth potential in countries. American Samoa's inaction and underinvestment to create a consumer-ready digital ecosystem is consequential to its growth competitively, financially and its economic productiveness. With the technical infrastructure in place, creating a digital ready ecosystem for economic development in American Samoa is necessary to sustain an economic base and maximize our competitive advantage in regional and global markets. Failure to develop a digitally literate population translates to a failure to meet the demands of a digital job market in American Samoa. The ASTBS provides a comprehensive list of actionable items that contribute to overall systematic improvements that can create more opportunities for development in American Samoa. However, if processes create inefficiencies and systematic bottlenecks, American Samoa loses its competitive advantage and opportunities to improve the overall quality of life of its citizenry, despite having one of the most robust telecommunication networks in the Pacific Region. The consequences of inaction on these strategies will delay efforts to accomplish the most challenging project yet for the Territory, ***Implementing American Samoa's e-Resilience.***

Appendices

Appendix A of this plan presents Subgroup Key Strategies to achieve the goals of the ASTBS. Strategies are identified by short term (achievable within two years) and long term (achievable within five years) categories. The strategic themes, opportunities and outcomes identified in the ASTBS set the next steps for broadband adoption in American Samoa.

Appendix B includes a list of accomplishments from June 2020 to March 2021.

Appendix C is the ASTBS Household Survey.

Appendix D includes fiber infrastructure maps.

Appendix A – Key Strategies and Actions

CRITICAL SERVICES

A critical service is one that, if disrupted, would result in a high or very high degree of injury to the health, safety, security or economic well-being of American Samoans, or to the effective functioning of our local community. The overall strategic objective of the Critical Services Subgroup is to improve operations and transactions in American Samoa during disasters through the use of broadband.

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.3.1 – Activate the ASTCA FirstNet Network - Ensure that AS First Responders has priority access / connection during disasters	1. Activate the ASTCA FirstNet Network – Mobile network dedicated to First Responders / prioritize FirstNet users during traffic congestion	1. ASTCA 2. DHS	ST 2021	
P.3.2 – Backup Communications - Ensure American Samoa has the necessary backup communications and broadband in place to support operation with limited interruption in case of disasters such as fiber break.	1. Support the creation of an American Samoa Broadband Maintenance program and policy 2. Create IT training program to support network and technical infrastructure 3. Create an inventory of Territorial backup network connections for general territorial planning	1. ASTBS 2. ASG 3. Private Sector 4. Civil Society	ST 2021	
P.3.3 – Ensure access to services during public health emergency COVID-19 by establishing warm and hotlines for technical support	1. Ensure that students, parents, teachers, patients and others have access to online technical support 2. Develop a “hotline” or “warmline” for technical support	1. DOE 2. ASTBS 3. DOC	ST 2021	
P.3.4 – Upgrade Territorial 911 System to NG911	1. Facilitate assessment for transition of legacy 911 system to Next Generation 911.	1. DPS 2. ASG IT / CIO 3. ASTBS 4. EMS	ST 2021	
P.3.5 – Expansion, Adoption and Resilience Emergency Communications Network	1. Adopt the use of FirstNet, Law Enforcement and EMS specific band 14 devices and cybersecurity applications are crucial to their operations. 2. Upgrade, expand and add resilience to their wireless communication systems rather it be Land Mobile Radio (LMR) with broadband interoperability, broadband satellite technology such as Iridium, Inmarsat including other wireless and wireline broadband technologies.	1. DPS 2. ASG IT / CIO 3. ASTBS 4. EMS	ST 2021	

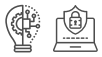
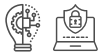
Opposite page: Preparing Samoan fine mats for a special event in Fagasa. ‘Ie toga or fine mats are the most precious type of mat in the Samoan culture. It represents the most indigenous form of wealth for Samoan families. Credit: Tafaimamao Tua-Tupuola

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.3.6 – Promote ICT as an established priority for improving operations and transactions and for funding consistent with market forces and responsive to changes and fluctuations in economy	1. Introduce and Draft Governor's ICT Declaration 2. Host ongoing meetings to update leadership and highlight values and accomplishments on the use and adoption of ICT 3. Conduct ongoing data collection activities such as population survey on use and adoption of ICT to ensure data territorial baseline data are updated and valid. 4. Promote the adoption of ASTBS Plan and activities	1. DOC 2. ASG IT / CIO 3. ASTBS 4. Private Sector 5. Civil Society	ST 2021	
P.3.7 – Develop an ICT governance model that will meet needs of all sectors in American Samoa	1. Establish a Territorial Broadband Coordination Office (B-CORD) focused coordinating, facilitating and promoting broadband-related initiatives and opportunities 2. Establish ASTBS WG permanently as a governing and advisory body for ASG 3. Identify a model for multisectoral collaboration (e.g., non-profit, business incubation, etc.) for ICT developments 4. Create and encourage partnership between government and public sector to support broadband initiatives 5. Identify funding opportunities to support broadband initiatives at the territory, community/village and household levels	1. DOC 2. ASG IT / CIO 3. ASTBS 4. Private Sector 5. Civil Society	ST 2021	
P.3.8 – Ensure the safety and security of American Samoa's access to the Internet.	1. Host ongoing technical training for American Samoa IT workforce 2. Host ongoing outreach to the public working with ASDHS 3. Work collaboratively with Cybersecurity WG to ensure various aspect of cybersecurity outreach, training and education are addressed	1. ASTBS 2. DHS 3. ASG IT / CIO 4. Legal Affairs 5. Office of Governor 6. Department of Treasury 7. ASCC	ST 2021	
P.3.9 – Maintain Universal Access to Information, Alerts, Messaging Transmitted/Received Through Broadband Needed to Support Critical Services During Disasters	1. Collaborate with private sector to provide assistance to expand FM radio services to Manu'a Islands for weather alerts, disaster communications, announcements from Tutuila 2. Promote Wireless Emergency Alerts (WEA) to ensure all alerts reach all populations; people with disabilities; rural communities 3. Ensure uptime of 99.999% for on island Cellular network (fiber transport)	1. ASTBS 2. Federal Partners – NOAA, NPS 3. Red Cross	ST 2021	
P.3.10 Enhance American Samoa's regional competitiveness by becoming an internet and data hub for the Pacific.	1. Implement an American Samoa Internet Exchange for local internet cross-connections for cache servers, peer-to-peer; data redundancy and storage	1. ASG IT / CIO 2. ASTBS 3. Private Sector 4. ISPs	LT 2024	

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.3.11 – Conduct a Feasibility Study to evaluate telecom industry in American Samoa through SME review and assessment; to explore governance models for telecom industry; to explore options for market expansion; to explore regulatory and legislation options; to explore technical options and to explore economical feasible options.	1. Identify SME to conduct Feasibility Study 2. Identify funding to conduct Feasibility Study	1. ASTBS 2. DOC	LT 2026	
P.3.12 – Standardized technology and equipment to meet federal and national standards and restrictions	1. Develop local standard for technology and equipment use and integrate those into existing process for purchase 2. Create vetting requirements for vendors (e.g., must be a US Based company with a local presence for onsite support; Time zone consideration; regional categorization for Am. Samoa) 3. Standardize on technology and equipment allowable by the US federal government to operate and do work with the US government. 4. Create specifications of allowable equipment and technology 5. Create list or inventory of vendors and unallowable equipment 6. Reclassify American Samoa in regional support centers/services for vendors – AS fall under Asia/ Pacific Region with major vendors Dell, Cisco).	1. ASTBS 2. DOC 3. ASG IT / CIO	LT 2026 (Ongoing)	

CYBERSECURITY

The overall strategic objective of the Cybersecurity Subgroup to prevent the loss of availability, the loss of integrity, and the loss of confidentiality for systems and data in American Samoa.

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.4.1 – Establish a Cybersecurity Committee	1. Re-initiate the Cybersecurity Committee under DHS 2. Implement Cybersecurity Strategy of the ASTBS	1. ASG IT / CIO 2. ASTBS 3. Department of Treasury 4. DHS 5. Legal Affairs 6. Office of Governor	ST 2021	
P.4.2 – Provide training for ASG IT staff in Cybersecurity basics in order to stay protected, especially those that are required to work remotely because of COVID-19	1. Provide security training for IT staff and how to provide security support for remote users 2. Provide security basics training for employees (especially those who work remotely because of COVID)	1. ASG IT / CIO 2. ASTBS 3. ASG IT Staff	ST 2021	
P.4.3 – Develop computer science curriculum, courses and training to include cybersecurity measure	1. Integrate cybersecurity awareness-raising efforts into ICT literacy courses and imitative 2. Work collaboratively with DOE and private schools on cybersecurity curriculum	1. ASG IT / CIO 2. ASTBS 3. ASG IT Staff	ST 2021	
P.4.4 – Promote digital literacy in Cybersecurity through Outreach and Education	1. Distribute monthly cybersecurity education materials, alerts and updates (as appropriate) 2. Identify subject matter experts locally or globally to speak on TalaTek to encourage awareness 3. Conduct general outreach programs via various media outlets including radio, television, social media, etc. 4. Work with local media to include cybersecurity updates and alerts on Public Service Announcements (PSAs)	1. ASG IT / CIO 2. ASTBS 3. DHS	ST 2021	
P.4.5 – Establish an ASG IT Department or appoint a CIO to facilitate and standardize government infrastructure that will maximize the efficiency of broadband.	1. Provide Recommendation to Governor to initiate the establishment of IT Department 2. Connect all ASG Departments, Offices, etc., to a single domain to be placed behind a firewall 3. Establish policies for standard ASG email usage, including policies on downloading 4. Hire System Administrator and/or Network Administrator to help implement and manage the domain project and other cybersecurity initiatives 5. Consider using Unix / Linux to save costs (and also make sure there is adequate support for it)	1. ASTBS 2. Legal Affairs 3. Office of Governor 4. Department of Treasury	ST 2021	
P.4.6 – Conduct a Comprehensive ASG IT Cybersecurity and Vulnerability Assessment	1. Conduct and complete a risk and vulnerability assessment for all ASG Departments. 2. Conduct and complete cybersecurity assessments for all ASG Departments. 3. Request for funding assistance through mitigation funding with Department of Homeland Security (DHS)	1. ASG IT / CIO 2. ASTBS 3. Department of Treasury 4. DHS 5. Legal Affairs 6. Office of Governor	ST 2021	

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.4.7 – Ensure all ASG Department complete a Basic Security Assessment and have basic security measures in place	1. Conduct a preliminary Cybersecurity assessment using basic requirements confirmed by ASTBS WG 2. Perform Penetration and Vulnerability testing once preliminary assessment is complete.	1. ASG IT / CIO 2. ASTBS SMEs 3. ASG IT Staff	ST 2021	
P.4.8 – Create and Adopt Cybersecurity Standards for ASG based on national and industry requirements	1. Collaborate with Departments responsible for managing entry points of network to identify key requirements by reviewing national and industry requirements 2. Identify official standards to be adopted by ASG for Cybersecurity 3. Create a checklist of basic standards that can be met by all (e.g., include requirements for Physical Security, Updated Firewall, AV OS system Updates, Password Policy)	1. ASG IT / CIO 2. ASTBS 3. DHS 4. DOT 5. Legal Affairs	ST 2022	
P.4.9 – Establish written guide for ASG Department Disaster Recovery (DR) and continuation of operations	1. Create and adopt guidelines for ASG Department on DR 2. Include the adoption of Cloud solutions as an option for Back and Recovery as part of Disaster Recovery plans for Continuity	1. ASG IT / CIO	LT 2024	
P.4.10 – Create a Territorial Response Plan for Cybersecurity	1. Create a working committee to review Territorial Response Plans (TEOP) 2. Update in Territorial Response Plans including but not limited to Territorial Emergency Operations Plan to include Cybersecurity (Cyber Attacks Scenarios) 3. Collaborate with private sector, SMEs and ASDHS on needed changes	1. ASG IT / CIO 2. ASTBS	LT 2025	

ECONOMIC DEVELOPMENT

The overall strategic objective of the Economic Subgroup is to identify key business and government "Areas of Opportunities" to leverage American Samoa's new local broadband infrastructure and high-speed internet (global connectivity) pipe to grow a new digital economy, enhance productivity and efficiencies throughout the local business and government infrastructure, and create jobs for our people.

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.5.1 – Coordinated Broadband-Related Economic Development Initiatives through CORD Office	1. Coordinate broadband-related economic developments, as appropriate with CORD 2. Coordinate territorial funding requests and opportunities 3. Coordinate the development of standards and policies 4. Coordinate the development territorial Digital Literacy Rate	1. ASG CIO 2. CORD Office 3. DOC	ST 2021	
P.5.2 – Institute the American Samoa Government BROADBNAD iNEI Policy	1. Assess all ASG processes and identify workflow for online transition 2. Create and Implement ASG Policy changes regarding ICT/technology processes, products and services 3. Drive growth of local ICT through "BROADBAND iNEI" initiative	1. ASG ALL 2. Private Sector	ST 2021	
P.5.3 – Build available capacity for new IT businesses and for growth expansion – American Samoa Innovation and Technology Campus	1. Designate a site for American Samoa Innovation and Technology Campus 2. Create turnkey opportunities in various sectors 3. Reduce start-up time and costs for new businesses by creating a facility 4. Assess and make recommendations on use/ repurpose building (e.g., FAA Housing) OR other communal/private land for lease for ASII	1. ASG CIO 2. ASTBS WG 3. CORD Office 4. DOC 5. Office of the Governor 6. Private Sector	ST 2022	
P.5.4 – Create a Comprehensive IT/ICT Workforce Development Initiative	1. Train and upskill IT Professional Workforce for a changing economy 2. Create educational and training resources 3. Identify online training opportunities appropriate 4. Identify SMEs to provide training 5. Identify and apply for Technical Assistance opportunities for training 6. Create Strategic Partnerships between organizations – public and private sectors	1. ALL	ST 2021	
P.5.5 – Create smart classrooms and campuses by providing broadband access campus wide	1. Ensure 100% of classrooms shall be wired and have broadband connection 2. Ensure that there are wifi access points campus wide	1. ASCC 2. COC 3. DOC 4. DOE	ST 2021	
P.5.6 – Establish long-term maintenance/upgrade financing strategy for telecom infrastructure	1. Create an American Samoa Broadband Maintenance Policy 2. Continuous improvements to telecom infrastructure indefinitely 3. Review BLAST maintenance plans, ASTCA Operational and Security Plans 4. Identify funding options for maintenance plan – user fee, tax or other revenue source 5. Create policy to generate funding stream	1. ASTCA 2. Office of the Governor 3. Fono	ST 2021	
P.5.7 – Incentivize technology and broadband driven investments	1. Create incentive packages for business to invest in IT/ICT 2. Align ASG payment with	1. ASTCA 2. Office of the Governor 3. Fono	ST 2021	

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.5.8 – Improve process of assessing business viability/business planning through well-defined broadband rates	1. Make readily available clear well-defined broadband rates 2. ISPs to post/provide base commercial rates	1. ASTCA 2. Bluesky 3. CORD Office 4. ASG IT / CIO	ST 2021	
P.5.9 – Promote additional sub-ISP businesses and services	1. Promote and support new entrepreneurs entering the digital economy 2. Outreach and marketing strategies (technical expos, mixers, forums, etc.)	1. ASG IT / CIO 2. ASTCA 3. Bluesky 4. CORD Office 5. DOC 6. Private Sector 7. Tech related businesses	ST 2021	
P.5.10 – Launch eCommerce Island wide Initiative	1. Create a Buy & Sell Online Portal for American Samoa 2. Access to online marketplaces like Amazon 3. Create educational and training resources 4. Identify and apply for Technical Assistance opportunities for training 5. Create Strategic Partnerships between organizations – public and private sectors	1. DOC 2. COC 3. ISPs	ST 2021	
P.5.11 – Eliminate Barriers to Digital Economy/ Financial Tools	1. Request to the Office of Financial Institutions an analysis, barriers and recommendations of payment gateways, mobile card readers, and other financial services that are not available in American Samoa 2. Improved access to payment gateways, investing opportunities, and other financial services	1. DOC 2. Office of the Governor 3. OFI 4. Congressional Representative	ST 2021	
P.5.12 – Create Content for on-line Market	1. Learn to Create Content for on-line Market 2. Ensure that there are wifi access points islandwide 3. Create opportunities for new revenue streams for income earners/workers with remote working 4. Create culturally appropriate online resources 5. Create educational and training resources 6. Identify and apply for Technical Assistance opportunities for training 7. Create Strategic Partnerships between organizations – public and private sectors	1. ASCC 2. COC 3. DOC 4. DOE 5. NGOs	ST 2021	
P.5.13 – Support growth in telehealth/telemedicine service providers	1. Encourage new business to support growth in these industries ie technicians, suppliers, etc. 2. Encourage opportunities to establish Private Health Care Practitioners 3. Increased number of private healthcare practitioners specializing in telehealth/medicine 4. Create strategic partnerships to sustainability and payments	1. COC 2. DOH 3. DOC 4. LBJTMC	ST 2021	
P.5.14 – Digitize Business License Process	1. Create online workflow for business license 2. Implement process for online business license processing, approval and issuance 24/7/365 3. Move to online transaction for Government Services	1. ASG IT / CIO 2. ASTBS WG 3. CORD Office 4. DOC	ST 2021	

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.5.15 – Build confidence of potential investors and business operators	1. Create an IT telecom hub for South Pacific 2. Improve Security of telecom infrastructure 3. Implement security protocols/best practices for facilities physical security and IT/Network security	1. ASTCA 2. Office of the Governor 3. CORD Office 4. Private Sector	ST 2022	
P.5.16 – Access to Capital to support new broadband driven businesses	1. Create other options for accessing capital (only 3) 2. Develop NGOs to create CDE and other lending organizations for community development 3. Create processes and leveraged/utilized programs (i.e., CDFI) 4. Create opportunities for Online lending 5. Apply for technical assistance and other financing opportunities	1. DOC 2. General Public	ST 2022	
P.5.17 – Innovative Video Conferencing Centers	1. Build innovative video conferencing centers 2. Leverage video teleconferencing for training, substitute for travel, distance learning, social purposes, etc	1. COC 2. DOC 3. Local Lenders	ST 2022	
P.5.18 – Marketing Strategy for Territory	1. Market and sell “American Samoa” as a destination for BPO, CSC, Helpdesk 2. Create pathway for American Samoa to become a BPO, CSC and Helpdesk for US-based companies and US Government for offshoring ONLY on US soil (sensitive data, healthcare data, financial data)	1. ASG IT / CIO 2. ASTBS WG 3. ASTCA 4. CORD Office 5. DOC 6. NGO 7. Office of Governor	ST 2022	
P.5.19 – Improved Immigration Policy for Tourism	1. Access permits fully online 2. Ease of entry for foreign technicians/trainers to build-up our BPO/CSC and Helpdesk industry 3. Technology training resources in Fiji, Pacific Islands, India 4. Leverage our current Immigration Status (non-US Gov Homeland Security) 5. Expand existing country access and visa policies (short and long-term)	1. Office of Attorney General 2. ASG IT / CIO 3. CORD Office 4. ASTBS WG 5. Private Sector	ST 2022	
P.5.20 – ASG to require employees to enroll in direct deposit; vendor payments to be done via Automated Clearing House (ACH) and/or other forms of electronic transactions.	1. Enroll ASG employees for direct deposit 2. Explore options for electronic transactions such as credit card payments or electronic checks 3. Identify capability of current financial system to complete vendor payments electronically 4. Ensure systems security to conduct electronic transactions safely and securely	1. ASG IT / CIO 2. CORD Office 3. Department of Treasury	ST 2022	
P.5.21 – Recommend to mandate procuring ALL computing/ICT equipment locally so as to build private sector capacity, service response (IT support, warrantees)	1. Issue an Executive Memo mandating procurement to local businesses	1. Office of the Governor 2. DOC 3. ASG IT / CIO	ST 2022	
P.5.22 – Open Access to Infrastructure	1. Allow private sector to lease capacity on BLAST to resell their own products and services 2. Fully deploy BLAST FTTP network	1. ASG IT / CIO 2. ASTBS WG 3. ASTCA 4. DOC 5. Office of the Governor 6. USDA	ST 2024	

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.5.23 – Transition to digital economy	1. Develop Territory strategy on how to phase in and accept digital payments by least 75% within 3-4 years 2. Easier exchange of money for payment of goods and services 3. Reduce risks associated with cash 4. Reduce money laundering and tax evasion	1. ASG IT / CIO 2. ASTBS WG 3. CORD Office 4. DOC 5. Department of Treasury 6. Financial Institutions 7. Office of the Governor 8. OFI 9. Private Sector	LT 2025	
P.5.24 – Identify options for New Dedicated Submarine Cable from AS to US	1. Identify opportunities for – improved redundancy, improved cybersecurity, improve competition 2. Promote value of AS technology industry AS to region 3. Promote non-reliant on any one connection 4. Alignment of AS to be potential operating site for US DOD 5. Promote federal partnerships for physical and cybersecurity	1. Office of Governor 2. US Representative Office	LT	

Child in Auasi village enjoying a day in the sand. Credit: Helenia Wiletta Fagaesea Porter

EDUCATION – EARLY CHILDHOOD EDUCATION, K-12 AND HIGHER EDUCATION

The Education Subgroup compiled the following priorities in ECE, K-12 and higher education in its efforts to determine the current/future educational broadband needs for American Samoa. The subgroup's findings revolved on discussions that impact educational curriculum, teaching modalities and learning resources, and the technological trends in the defined levels of education in American Samoa, to meet the demands of the ever-changing world, with consideration to global challenges such as the 2020 coronavirus. The following objectives surfaced as a result of many deliberations concerning the need of broadband, technological resources, technical training, and ongoing technical curriculum planning.

- P.6.1 Awareness and Building Asynchronous Learning Environments
- P.6.2 Developing and Expanding Career Technical Education (CTE) Curricula – Gainful Employment
- P.6.3 Implementing the Integration of Technology across all Content Disciplines

Note: All private schools may integrate and adopt these strategies as appropriate. All private schools were invited to participate as part of the process.

Focus 1: Integrated Technology Curriculum Developed for K-12 / Career and College Ready Standards

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.6.3.1 – Ensure all public and private school systems - Early Childhood Education (ECE) - have the available technical workforce development infrastructure in place to support and provide resources for teachers and students.	**Catholic Schools**			
	1. Develop a curriculum program connecting technology with core areas of learning 2. Incorporate technology or technical devices in all training 3. Collaborate with DOE on professional development training to ensure efficient and timely processing of consolidated grant resources 4. Equip all classrooms and computer labs with high-speed internet 5. Procure adequate amount of technology for teachers and students to access 6. Procure adequate broadband capacity for classrooms and school campus 7. Create pathways to access community centers for parents/students to access technology 8. Obtain stipends for professional development in technology 9. Provide assistance for students that have no access to internet	1. DOE 2. Catholic Education 3. Private Schools 4. E-Rate 5. ASTCA 6. SPED	ST 2021	

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.6.3.2 – Ensure all public and private school systems - Primary Education - have the available broadband, technology, equipment and technical support in place to assist student learning	**Catholic Schools**			
	1. Provide adequate technology training for teachers 2. Equip all classrooms and computer labs with high-speed internet 3. Implement a curriculum for students to learn how to use technology devices and other learning platforms 4. Create a digital/tech platform/space where all teachers can access for communication with colleagues to share education and technology resources and request assistance 5. Develop a curriculum program connecting technology with core areas of learning 6. Incorporate technology or technical devices in all training 7. Collaborate with DOE on professional development training to ensure efficient and timely processing of consolidated grant resources 8. Equip all classrooms with high-speed internet 9. Procure adequate amount of technology for teachers to access 10. Procure adequate broadband capacity for classrooms and school campus 11. Create pathways to access community centers for parents/students to access technology 12. Obtain stipends for professional development in technology. 13. Provide assistance for students that have no access to internet at home	1. DOE 2. Catholic Education 3. Private Schools 4. E-Rate 5. ASTCA 6. SPED	ST 2021	
	DOE			
	1. Implement curriculum that incorporates use of computers and related devices, software and applications including word processing (MS Word), spreadsheets (Excel), search engines (Google) and other general virtual learning tools. 2. Provide training toward certifications for teachers 3. Invest in technology and network maintenance to ensure systems are well maintained for access and connectivity 4. Invest to improve overall ASDOE broadband/internet capacity to the schools 5. Implement curriculum that incorporates use of technology in the classroom on a daily basis 6. Procure laptops for all public-school K-12 students to do virtual learning	1. OCI 2. E-Rate 3. Elementary Division 4. Secondary Division 5. ECE 6. SPED 7. CTE Division	ST 2021	

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.6.3.3 – Ensure all public and private school systems - Secondary Education - have the available broadband, technology, equipment and technical support in place to assist student learning	**Catholic Schools**			
	1. Implement curriculum that incorporates use of computers and related devices, software and applications including word processing (MS Word), spreadsheets (Excel), search engines (Google) and other general virtual learning tools. 2. Work collaboratively with DOE to improve direct services provided through E-Rate program. 3. Identify funding opportunities for professional development to integrate IT in to student learning 4. Provide assistance for students that have no access to internet at home	1. DOE 2. Catholic Education 3. E-Rate 4. Secondary Division 5. SPED	ST 2021	
	DOE			
	1. Implement curriculum that incorporates use of computers and related devices, software and applications including word processing (MS Word), spreadsheets (Excel), search engines (Google) and other general virtual learning tools. 2. Provide training toward certifications for teachers 3. Invest in technology and network maintenance to ensure systems are well maintained for access and connectivity 4. Invest to improve overall ASDOE broadband/internet capacity to the schools 5. Implement curriculum that incorporates use of technology in the classroom on a daily basis 6. Procure laptops for all public-school K-12 students to do virtual learning	1. OCI 2. E-Rate 3. Elementary Division 4. Secondary Division 5. ECE 6. SPED 7. CTE Division	ST 2021	
P.6.3.4 – Ensure all public and private school systems – Post- Secondary Education - have the available broadband, technology, equipment and technical support in place to assist student learning	**ASCC**			
	1. Develop a bridge between Secondary Education Curriculum (content competencies) with the College's Academic Program Curriculum 2. Centralizing the discussion on educational pathways 3. Seek Funding Opportunities for Distance Education: • Upgrading of Systems – Course Management Systems • Work stations for students • Increase Broadband speed and access • Training on Online Teaching Modalities 4. Implement program to increase student placements into the Workforce – Student certification to meet the demands of the workforce/community 5. Increase opportunities for students to transfer to other institutions of higher learning – Student readiness / Increase of Time to Complete Degree percentages and student matriculation rates. 6. Increase opportunities for individual professional development in specialized areas.	1. ASCC	ST 2021	

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.6.3.5 – Implement the necessary public library services, technology, broadband, equipment and technical capacity to support educational needs of the people of American Samoa	**Feleti Barstow Library**			
	1. Implement data collection mechanism regarding broadband accessibility in the territory to include affordability, underserved communities in outlying/ rural areas, and vulnerable groups such as unemployed, disadvantaged families and elderly. 2. Request legislation in support of library services 3. Improved connectivity for libraries and schools to foster efficiency and innovation in e-learning, digital educational content, and personalized learning. 4. Establish electronic links between academic institutions and libraries to ensure broader access for students and teachers (parents). 5. Encourage educational institutions (FBPL/ASDOE/ ASCC) to build digital libraries. 6. Executive level buy-in/commitment 7. Public support	1. Feleti Barstow Public Library 2. DOE/ERATE 3. ASTCA 4. ASTBS 5. Samoan Affairs/ Pulenu'u	ST 2022	

Focus II: Information and Communications Technologies (ICT) / Information Technology Pathways

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.6.3.6 – Develop pathways to support the demand for digital literacy	**Catholic School - Early Childhood Education**			
	1. Develop Technology curriculum for ECE 2. Provide technology integration aligned to Primary Education training for teachers 3. Develop partnership with Elementary School to develop a pathway from ECE	1. Catholic Education	ST 2022	
	Catholic School - Primary Education			
	1. Develop Technology curriculum for Primary Education 2. Partner with DOE and other private schools to align priorities 3. Develop STEAM programs	1. Qualified IT teachers 2. High Schools/ Gov't departments, private sector industry	ST 2022	
	Catholic School - Secondary Education			
	1. Develop Technology curriculum for Primary Education 2. Partner with DOE and other private schools to align priorities 3. Develop ROV and STEAM programs 4. Partner with ASDOE/ASCC, ASG, and private sector for Work-Based Learning opportunities for students 5. Work collaboratively with DOE to improve direct services provided through E-Rate program. 6. Work collaborative with appropriate government departments to identify: • Funding for IT teachers' salaries • Funding for IT curricula, tools, and materials • Funding for IT hardware (computers, laptops, tablets), software, maintenance, air-conditioning • Additional Classrooms • Hire Qualified IT/ICT Teachers • Certification of ITCP students 7. Fast internet access in schools and homes.	1. Qualified IT teachers 2. IT and Advisors 3. Gov't departments, private sector in industry	ST 2022	
	DOE - Secondary Education			
	1. Develop a program to certified ITCP senior students in IT before graduation 2. Develop ITCP curriculum; 3. Obtain approval of ASDOE's Instructional Mgt Team to Implement ITCP in Levels 11-12 in Secondary schools 4. Hire Qualified IT/ICT teachers 5. Develop partnerships with gov't departments and private sector for Work-Based Learning opportunities for ITCP students 6. Work collaboratively with DOE to improve direct services provided through E-Rate program. 7. Increase bandwidth capacity to schools	1. DOE	ST 2022	

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.6.3.6 – Develop pathways to support the demand for digital literacy	**ASCC - Post Secondary Education**			
	1. Develop a bridge from Secondary Education ICT Curriculum (content competencies) with the College's Academic Computer Science Program Certificate of Proficiency and Associate of Science Degree in ICT 2. Centralizing the discussion on the utilization of technology peripherals and program software in primary, secondary, and post-secondary education to ensure a smooth transition of ICT content competencies. 3. Seek Funding Opportunities for Distance Education: • Upgrading of Systems – Course Management Systems • Workstations for students • Increase Broadband speed and access • Training on Online Teaching Modalities 4. Implement program to increase student placements into the Workforce – Student certification to meet the demands of the workforce/community 5. Increase opportunities for students to transfer to other institutions of higher learning – Student readiness / Increase of Time to Complete Degree percentages and student matriculation rates. 6. Increase opportunities for individual professional development in specialized areas.			
	Feleti Barstow Library - Library Services			
	1. Increase the Digital Literacy and ICT Skills of the territory to maximize the return on investment made by ASG: • ASG Workforce • Private Sector Workforce • Various demographics that may need to build skill sets to navigate information technology to better participate in a rapidly changing society. 2. Inspire innovation (government processes, entrepreneurs, e-commerce, etc.) • Continue to collaborate on the development content with educational and community-based stakeholders. • ASDOE; ASCC 3. Consider library connectivity in broader situational analysis and assessments of national strengths, weaknesses, and opportunities for internet growth. 4. Preservation of heritage items; national treasures, and local content for public access 5. Submission of local content from community 6. Taking advantage of technological advancements to streamline processes (and record keeping?) of the government unities	1. Feleti Barstow Public Library 2. ERATE 3. ASCC 4. ASTCA 5. HR 6. DOE Libraries; 7. DYWA 8. ASTBS	ST 2022	

HEALTH

American Samoa will develop and implement appropriate plans that support the expanded use of telehealth to improve access to care and overall health outcomes for our people.

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.7.1 – Implement more Telehealth between Providers and Patients including private healthcare provider	1. Increase access to health care service through the use of telehealth between provider and patients on-island 2. Make available and promote use of existing telehealth services 3. Identify new services to be delivered via telehealth 4. Provide provider and user training on use to telehealth 5. Develop telehealth service at Community Health Centers 6. Raise public awareness of telehealth opportunities and services 7. Train providers, patients and families	1. Community Health Centers 2. DOH 3. DHSS 4. LBJTMC 5. Medicaid 6. Providers 7. Patients and Families	ST 2020	
P.7.2 – Establish the American Samoa Telehealth Task Force (AST Task Force) to support the expansion of telehealth, coordinate the development of territorial telehealth policies, procedures & activities among government and community organizations to improve access to service	1. Establish the American Samoa Telehealth Task Force 2. Connect ALL clinics delivering telehealth services 3. Expand membership of the ASTBS health subgroup 4. Identify key partners and stakeholders for members 5. Identify key roles and responsibilities 6. Compile priorities service areas for telehealth based on needs identified from health care providers 7. Establish a Territorial Telehealth Coordinator position 8. Develop a telehealth provider and service directory	1. DOH 2. DHSS 3. LBJTMC 4. Medicaid	ST 2021	
P.7.3 – Identify and Adopt a model for Telehealth Service Payment and Sustainability	1. Collaborate with Medicaid and other payors to mechanism for reimbursing telehealth services 2. Update the Medicaid State Plan Amendment to include Telehealth Service Coverage	1. AST Task Force 2. DOH-CHC 3. Eligible Health Care Providers 4. LBJTMC 5. Medicaid	ST 2021	
P.7.4 – Encourage provider participation in telehealth sessions to share and learn best practices	1. Ongoing participation in telehealth educational sessions such as CDC COCA sessions (COVID-19 medical related trainings including Peds, Medical, Dental etc.); Hawaii ECHO session (Behavioral, Pediatric, Geriatrics, Cancer); and many regional health education sessions.	1. DOH 2. LBJTMC 3. ASCC 4. AST Task Force	ST 2020	
P.7.5 – Develop integrated behavioral, social and clinical services and support for juveniles and at-risk youth programs at schools through telehealth	1. Collaborate with DOE, DOH, LBJTMC and other health specialists 2. Identify a pilot program 3. Identify and deploy Interdisciplinary Teams to schools include: behavioral health, clinicians, school staff, teachers and parents	1. Behavioral Health clinicians 2. Clinical Teams 3. DOE 4. DOH 5. DHSS 6. High Schools leadership, teachers and staff 7. LBJTMC 8. Parents 9. Social Support Organizations 10. Students	ST 2022	

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.7.6 – Conduct ongoing Technical Assistance Training and Continuing Medical Educations	1. Identify subject matter experts or specialist (on and off island) to provide technical assistance training for medical staff or technicians via telehealth 2. Promote workforce education and development in areas of health. School of Nursing and Certification of technicians are examples for development via use of broadband capacity.	1. DOH 2. LBJTMC 3. ASCC 4. AST Task Force	ST 2020	
P.7.7 – Develop COVID-19 Telehealth Response Plan	1. Develop policies and procedures to telehealth visits 2. Develop process for remote patient monitoring 3. Train users on telehealth devices	1. AST Task Force 2. DOH 3. LBJTMC 4. Nurses 5. Physicians	ST 2021	
P.7.8 Establish formal and routine Specialty Consultations between LBJTMC and Queens Medical Center for neurology and stroke	1. Execute and formalize memorandum and agreement between the two entities 2. Apply for provider credentialing/privileging for QMC providers to operate in American Samoa 3. Set up technical access / image sharing solution 4. Establish referral process 5. Identify funding resources for BEAM license (license for sharing DICOM compliant images with hospital in Hawaii) 6. Identify other advance payment models	1. LBJTMC 2. Queens Medical Center (QMC) 3. Medicaid/ Payors	ST 2021	
P.7.9 – Implement telehealth readiness environment at all clinics	1. Increase bandwidth capacity 2. Implement basic telehealth technologies at all clinics 3. Establish policies and procedures for telehealth	1. DOH 2. LBJTMC	ST 2021	
P.7.10 – Develop a transitional process for hospital Discharge Coordination and Home Care	1. Automate, real-time data entry for better coordination 2. Use telehealth to augment clinical staff for consulting from home visits 3. Update Medicaid State plan to include Hope House as an eligible Medicaid Provider	1. DOH 2. LBJTMC	ST 2021	
P.7.11 – Expand pharmacy services and access at the Community Health Center through telehealth	1. Develop internal SOP in place per LBJTMC Pharmacy requirement	1. AST Task Force 2. DOH	ST 2021	
P.7.12 – Utilize funding opportunities for Broadband for telehealth such as USAC Rural Health Care Program	1. Apply for Universal Service Fund Rural Health Care Programs 2. Inventory all applicable services	1. AST Task Force 2. ASCC 3. ASTCA 4. BlueSky 5. DOH 6. LBJTMC	ST 2021	

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.7.13 – Develop a Strategic Territorial Telehealth Plan	1. Create a roadmap and framework for telehealth 2. Coordinate efforts and services between facilities in AS that provides health care service 3. Document territory wide efforts in telehealth 4. Collaborate across sectors to plan, communicate and synergize in needed services and technologies	1. AST Task Force 2. LBJTMC 3. ASDOH 4. ASDHSS 5. AS Medicaid Office 6. NGO/ Private Health Care Providers	LT 2023	
P.7.14 – Develop a Tele counseling Drug Rehabilitation Program to improve access to drug rehabilitation services and counseling services	1. Work collaboratively with service providers and community stakeholders 2. Coordinate all drug counseling or rehab counselor resources and schedules 3. Provide telecounseling to members of the community who need drug rehabilitation or counseling services without having to come into a physical location 4. Identify safe and secure locations for telecounseling services	1. DHSS 2. DOH 3. LBJTMC 4. Behavioral Health clinicians	LT 2024	
P.7.15 – Develop and design sustainable telehealth programs to improve access to care and specialty services	1. Identify all areas to integrate telehealth in specialty areas as needed 2. Identify telehealth champions 3. Identify specialist/providers 4. Identify funding opportunities	1. LBJTMC 2. DOH	ST 2020	
P.7.16 – Chronic Kidney Disease Clinic	1. Review and integrate chronic kidney disease outreach to existing programs such as Nutrition, Physical Education, Mindset of Training and Self-Management 2. Add Telehealth layer to existing programs, video connect/follow-up with the participants, constant coaching over 12 weeks. 3. Use telehealth for follow-up Using face-to-face time via video conferencing.	1. LBJTMC 2. DOH	ST 2022	
P.7.17 – Renal Dialysis	1. Establish a regular Tele-Clinic via telehealth between patients at LBJTMC and Nephrologist in Hawaii. 2. Collaborate with Medicaid and other payors on mechanism for reimbursing telehealth services	1. LBJTMC 2. DOH 3. Specialist 4. Medicaid Office 5. Hope Dialysis	ST 2021	
P.7.18 – Gastroenterology	1. Establish a Tele-gastroenterology program 2. Identify specialist to support 3. Collaborate with Medicaid and other payors on mechanism for reimbursing telehealth services	1. LBJTMC 2. DOH 3. Specialist 4. Medicaid Office	ST 2022	
P.7.19 – TB Program Direct Observation Therapy	1. Develop program SOP (program in place to observe very high risk and non-compliant patients drinking their medications but patients may not necessarily have the means to utilize this or properly installed zoom app on their electronics to utilize (HIPPA approved app.) 2. Enhance existing program capability through patient outreach 3. Provide patient training on telehealth technologies	1. DOH 2. AST Task Force	ST 2021	
P.7.20 – Helping Hands Early Intervention Therapies (Occupational, Speech and Behavioral)	1. Continue to support families who have been iPad and MIFI to use during sessions. 2. Ongoing support for specialists conducting home-visitors to supervise, coach and translate. 3. Provide training for visitor and coach 4. Identify off-island specialists (ongoing)	1. DOH 2. AST Task Force	ST 2020	

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.7.21 – Newborn Hearing Teleaudiology	1. Continue to support families who have been iPad and MIFI to use during sessions. 2. Ongoing support for quarterly audiologist visits.	1. DOH 2. AST Task Force	ST 2020	
P.7.22 – Teleradiology	1. Use of broadband for teleradiology applications. LBJTMC seeks to increase radiology services through use of radiology services from remote (eg. Radiologist, Mammograph reads) and also through sharing of radiology images and reports for far-end providers diagnosis and treatment recommendations.	1. LBJTMC	ST 2020	
P.7.23 – Encourage patient centric models for healthcare through use of patient self-monitoring and testing	1. Assess and review any existing regulations on use remote monitoring devices 2. Integrate with clinics or hospital for patients to be able to share their diagnostics with providers. 3. Develop Privacy and Security Procedures and Policies 4. Establish Standards for accuracy and integrity of equipment used.	1. LBJTMC 2. DOH	LT 2025	

POLICY AND REGULATION

American Samoa will develop and implement broadband related policies and regulations that promote its interests, create a fair market and ensure the safety and security of its technical infrastructure.

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.8.1 – Promote ICT as an established priority for improving operations and transactions and for funding consistent with market forces and responsive to changes and fluctuations in economy	1. Introduce and Draft Governor's ICT Proclamation 2. Host ongoing meetings to update leadership and highlight values and accomplishments on the use and adoption of ICT 3. Conduct ongoing data collection activities such as population survey on use and adoption of ICT to ensure data territorial baseline data are updated and valid. 4. Adopt and promote ASTBS Plan and activities	1. DOC 2. ASG IT / CIO 3. ASTBS 4. Private Sector 5. Civil Society	ST 2021	
P.8.2 – Redefine "Broadband"	1. Adopt a definition of high-speed suitable for American Samoa and capability 2. Recommend to redefine high-speed internet to 100/100 Mbps 3. Maintain availability of 99.999% uptime to meet SLAs performance standards to include – customer needs, quality of service (QoS), provide a foundation client comprehension, address potential conflict and expectations. 4. Immediately require all ASG agencies take steps to achieve this new definition by 10/1/21	1. ASTBS 2. CORD Office 3. ASG IT /CIO 4. Office of the Governor	ST 2021	
P.8.3 – Develop and Adopt an American Samoa Enterprise Architecture (EA) Framework for IT and Communications	1. Coordinate the development of the EA 2. Conduct Inventory of Assets 3. Work collaboratively territory-wide to define Relationships and Roles 4. Set standards for services 5. Promote new services (e.g., cloud-based services).	1. ASTBS 2. DOC 3. Office of the Governor	ST 2022	

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.8.4 – Evaluate and identify option for regulating telecom in American Samoa	1. Evaluate current telecom regulating structure 2. Identify what current policies, modifications and set priorities for standards are 3. Provide recommendation on best structure given current environment and future plans	1. ASTBS 2. DOC	LT 2026	
P.8.5 – Create the American Samoa Broadband Information Network for Expansion and Inclusion of Broadband (American Samoa Broadband iNEI)	1. Create the BROADBAND iNEI policy based on feedback 2. Identify Roles and Responsibilities 3. Consult with appropriate stakeholders 4. Develop procedures 5. List all other policy considerations that should be a part of the BROADBAND iNEI work i.e. 1 PC per household (computers for all); Basic computing skills for all	1. ASTBS 2. DOC 3. Office of the Governor	ST 2021	
P.8.6 – Institutionalize BROADBAND iNEI within ASG to encourage e-government and digitizing of services	1. Assess current services to determine services that can transition 2. Update existing policies & procedures to include options for use of broadband internet for the delivery of service	1. DOC 2. Office of Governor 3. ALL	Ongoing	
P.8.7 – Advocate for ISPs to develop long-term strategies to subside internet costs for low-income families.	1. Identify options for subsidizing internet costs (e.g., universal service fund)	1. ASTBS 2. ASTCA 3. Bluesky 4. DOC	Ongoing	
P.8.8 – Include ICT/IT industry certification as a criterion for ASG Employment Classification	1. Include ICT/IT industry certification in position descriptions (PD) 2. Ensure PDs reflect certification and range in salary based on market value	1. DHR 2. Office of Governor 3. ASTBS 4. ALL	Ongoing	

GOVERNMENT SERVICES

American Samoa will facilitate the development of government services to meet local need and to position American Samoa to export broadband-based services.

Strategy and Opportunity	Priority Actions	Resources and Responsibility Assigned	Timeline	Goals
P.9.1 – Establish an ASG IT Department or appoint a CIO to facilitate and standardize government infrastructure that will maximize the efficiency of broadband.	1. Provide Recommendation to Governor to initiate the establishment of IT Department 2. Establish an ASG IT Advisory Group 3. Establish Chief Information Office (CIO) position	1. ASTBS 2. Legal Affairs 3. Office of Governor 4. Department of Treasury	ST 2021	
P.9.2 – Conduct a complete assessment of government services and their online transition readiness	1. Conduct assessment of services begin offered electronically 2. Conduct assessment of services that are currently in transition to be delivered online 3. Identify services that can be offered in the future	1. ASG IT / CIO 2. ASTBS 3. Legal Affairs 4. Office of Governor 5. Department of Treasury 6. ASDHS	ST 2021	
P.9.3 – Public Safety Systems Interoperability	1. Conduct workflow assessment for OMW registration, driver's licensing and accounting 2. Conduct technical assessment and planning to identify upgrades for PSAPs, DPS Dispatch and other systems. 3. Create a process to streamline the OMV processes and to effectively communicate with other government agencies.	1. DPS 2. ASG IT / CIO 3. ASTBS 4. Department of Treasury	ST 2021	
P.9.4 – Establish a Chief Security Officer position responsible for security of systems and network	1. Solicit support to create an Office of Security independent from the Office of the CIO responsible for conducting risk assessments, audit IT systems and ensure standards for systems and network security are up to date.	1. ASTBS 2. Office of the Governor	ST 2021	
P.9.5 – Conduct a complete review of exiting government IT policies and procedures	1. Identify current policies, modifications and set priorities for standards 2. Ensure systems are compliant with nature security standards 3. Identify priority for compliance: Federal and Local laws; Security (protecting data, systems, access, etc.); Data Protection; Electronic Transactions. 4. Provide recommendation on best structure given current environment and future plans	1. ASTBS 2. DOC	LT 2026	

Appendix B – Accomplishments (June 2020 – March 2021)

Between June 2020 and March 2021, the ASTBS WG not only identified strategies for future implementation, but took action on immediate strategies and priorities. Below is a list of accomplishments.

Sector	Strategy	Action	Outcome
Critical Services	Activate the ASTCA FirstNet Network by 2021 	Encourage the designation of devices provisioned under FirstNet Network	ASTCA activated FirstNet Network (1Q2021)
Economic Development	Workforce Development GOOGLE IT Professional Support Program (Recommendation #3) 	Request to DOC for dedicated funding for GOOGLE IT Professional Support Program for ASG	ASG launched GOOGLE IT Professional Support Program (2Q2021)
Economic Development	Facilitate a process to digitize business license process 	Procured services to digitize business license process. Completed design of process.	Anticipated Launch date: June 2021 (1Q2021)
Health	Develop and design sustainable telehealth programs to improve access to care and specialty services 		LBJTMC received USDA DLT grant award (2Q2021)
Health	Develop and design sustainable telehealth programs to improve access to care and specialty services wireless and wireline broadband technologies. 	Assist LBJTMC to apply for USAD DLT grant to develop a Maternal Health Telehealth Network in American Samoa	DOH awarded HRSA AMCHP Grant (4Q2020)
Government Services	eReadiness during COVID-19 (Recommendation #1) 	Provided official recommendation to DOC identifying key actions to prepare ASG for remote work and transition to services (COVID-19 Teleworking Kits; Increase Bandwidth Capacity for ASG Departments; Adopt AUP; Assessment of public and internal processes to transition online).	Recommendations endorsed by ASG Leadership (3Q2020)
Government Services	Designate Technology Park (Recommendation #2) 	Provided official recommendation through DOC to designate a site for a future Technology Park	Designation endorsed by ASG Leadership (2Q2021)


AFFORDABLE BROADBAND ACCESS


RESPONSIBLE GOVERNANCE & STRONG INSTITUTIONS


TECHNOLOGY LITERACY


CYBERSECURITY


ACCESS


AFFORDABILITY


CAPACITY BUILDING

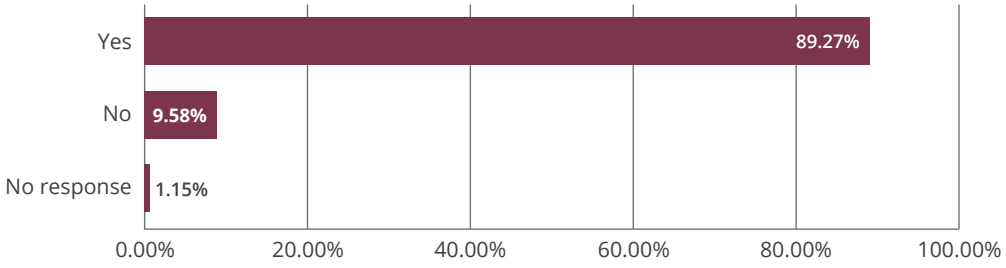

INCLUSION, EQUITY, DIVERSITY


INFRASTRUCTURE

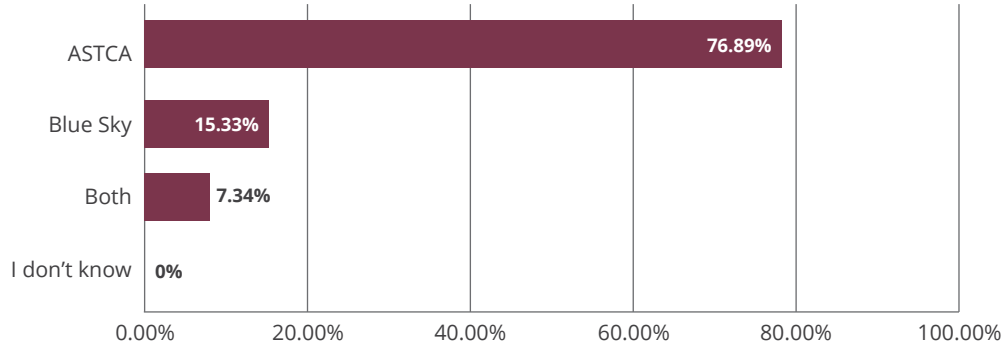
Appendix C – ASTBS Household Survey Results

N= 522

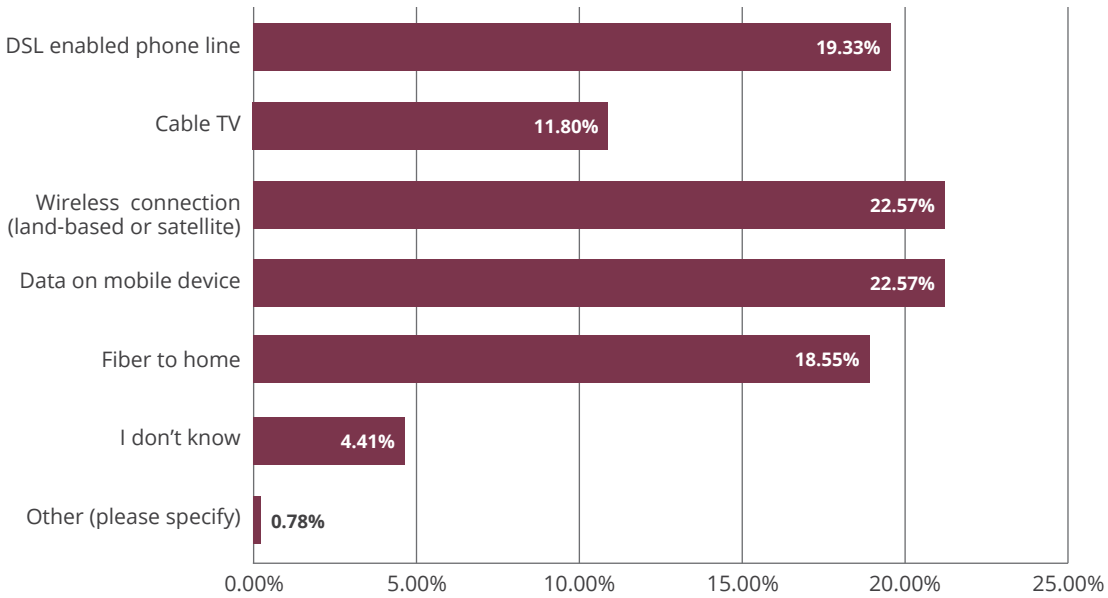
Q1: Do you have access to internet at your home? (Accessibility)



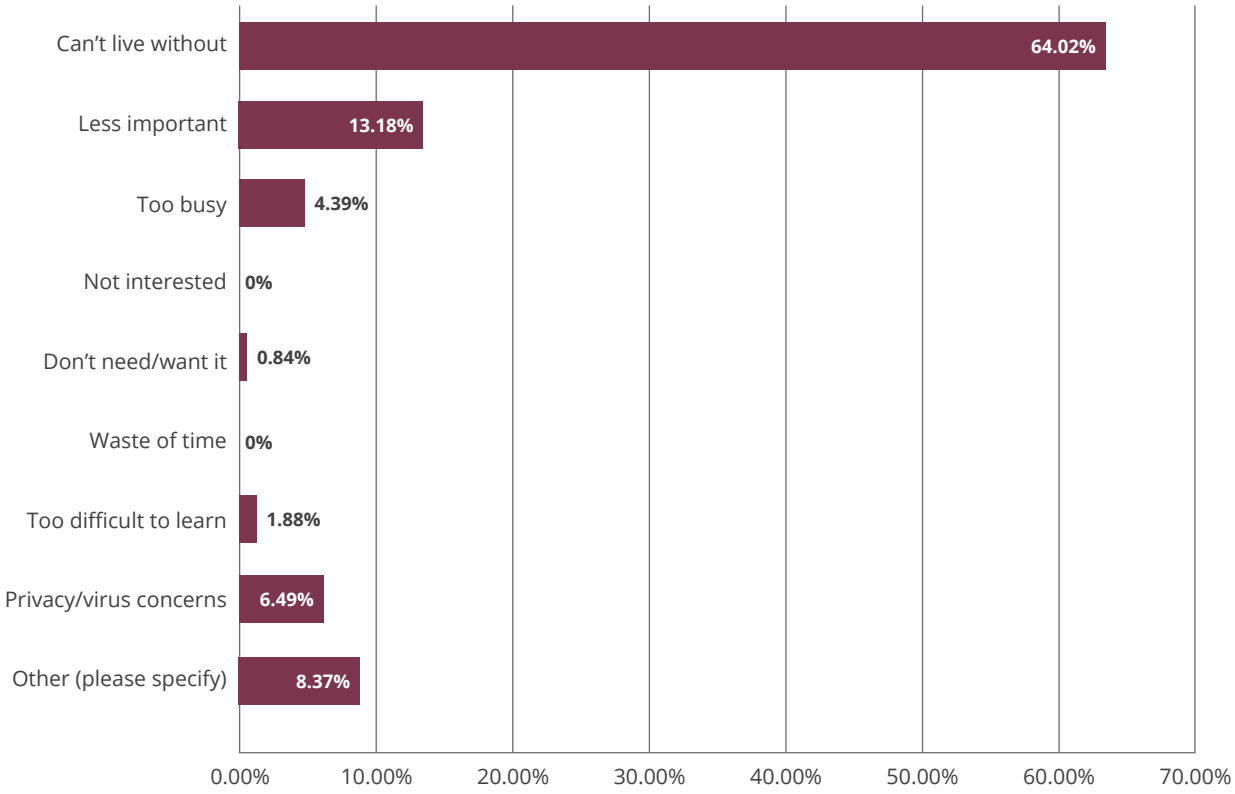
Q2: Who is your current internet provider at home?



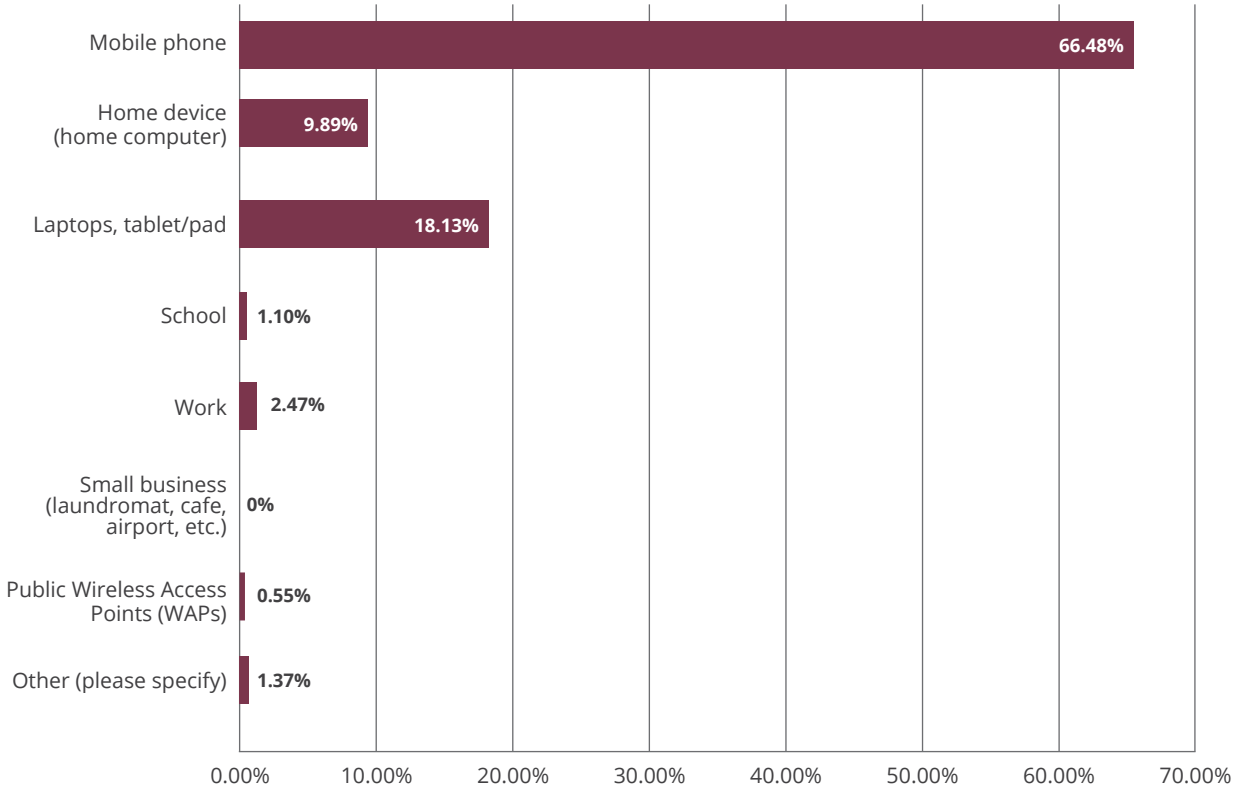
Q3: What kind of Internet connection do you have at home? (Check all that apply)



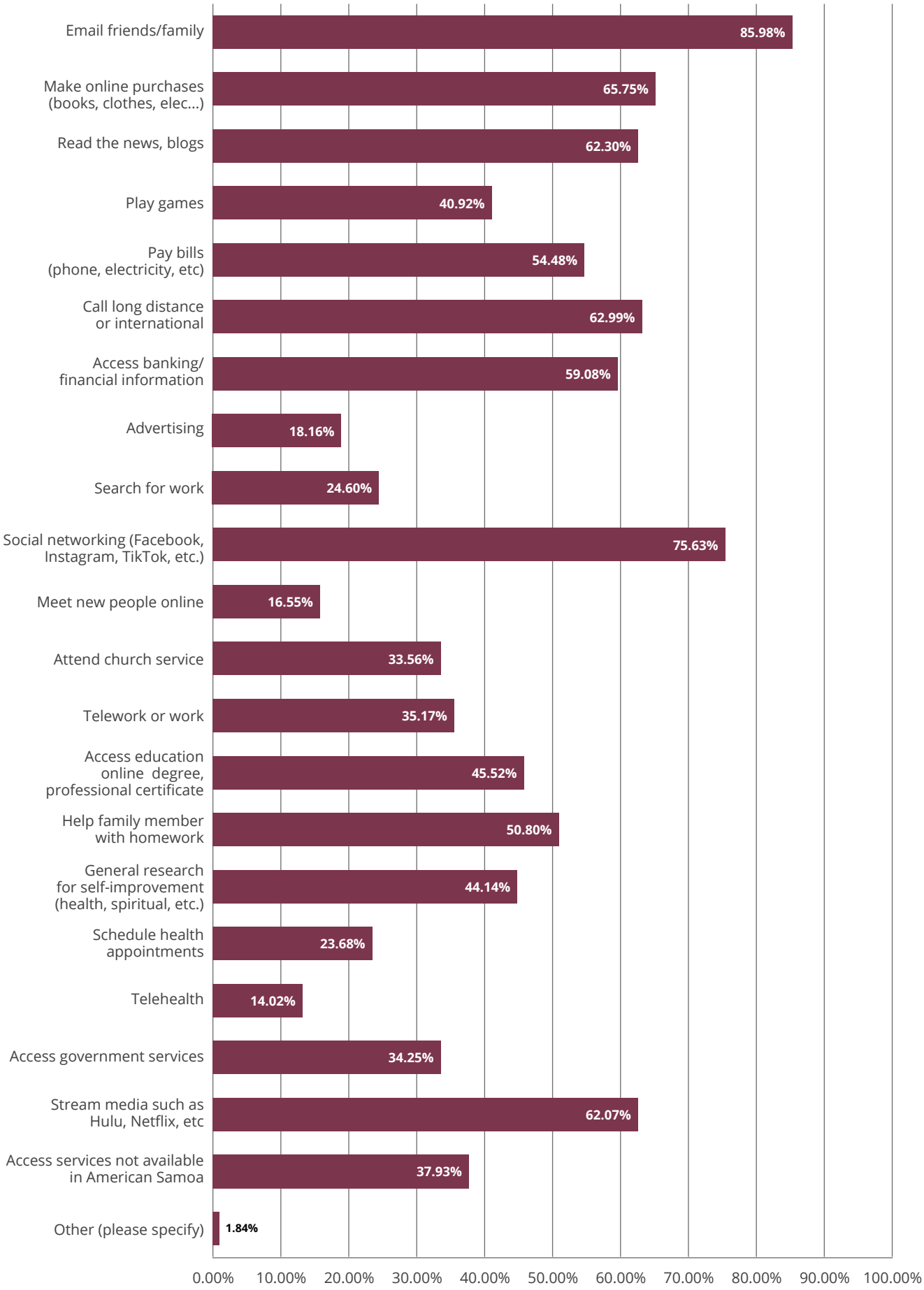
Q4: How relevant is Internet in my life? (Check at least one)



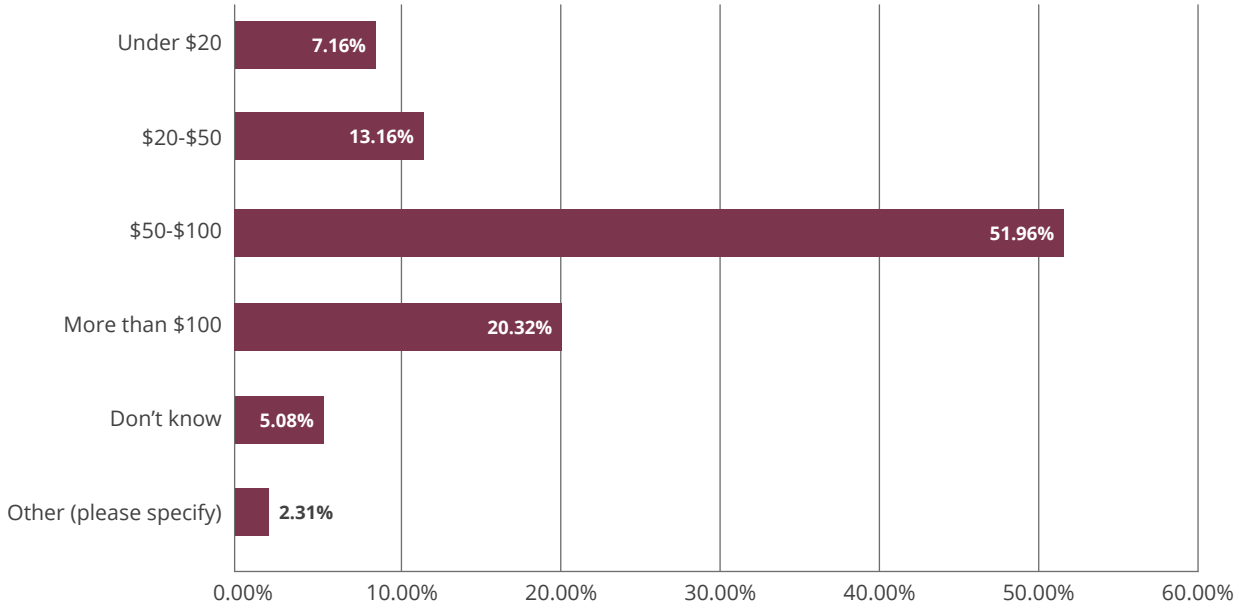
Q5: How do you PRIMARILY access the internet?



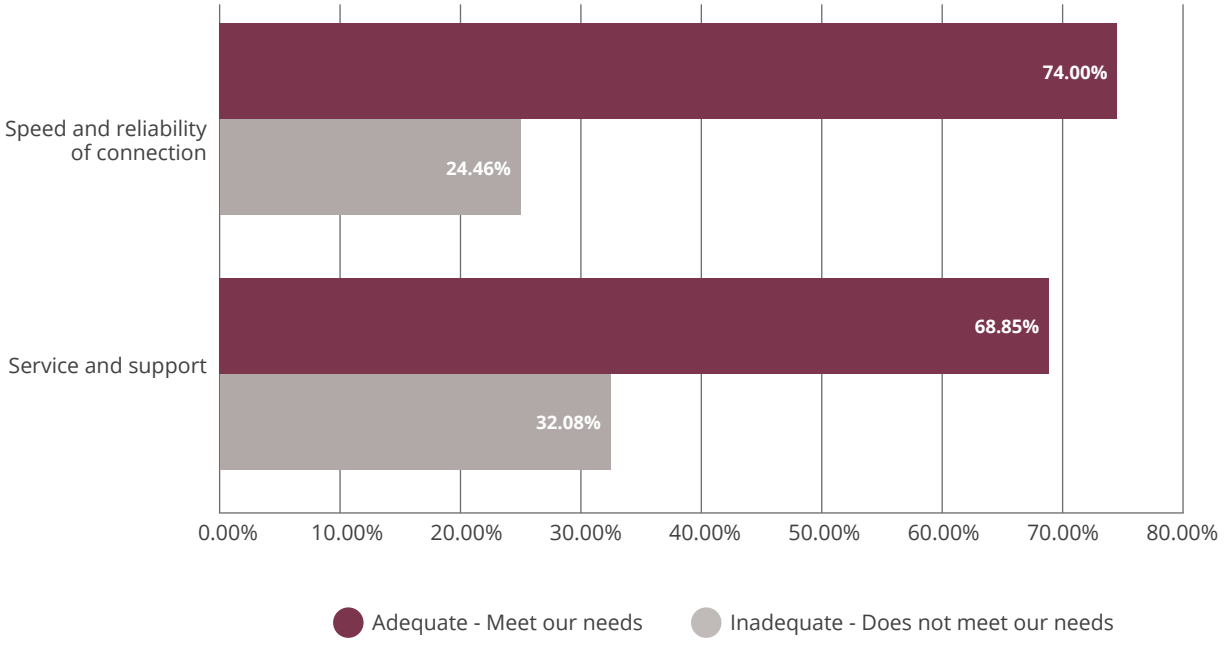
Q6: What kinds of activities do you do online? (Check all that apply)



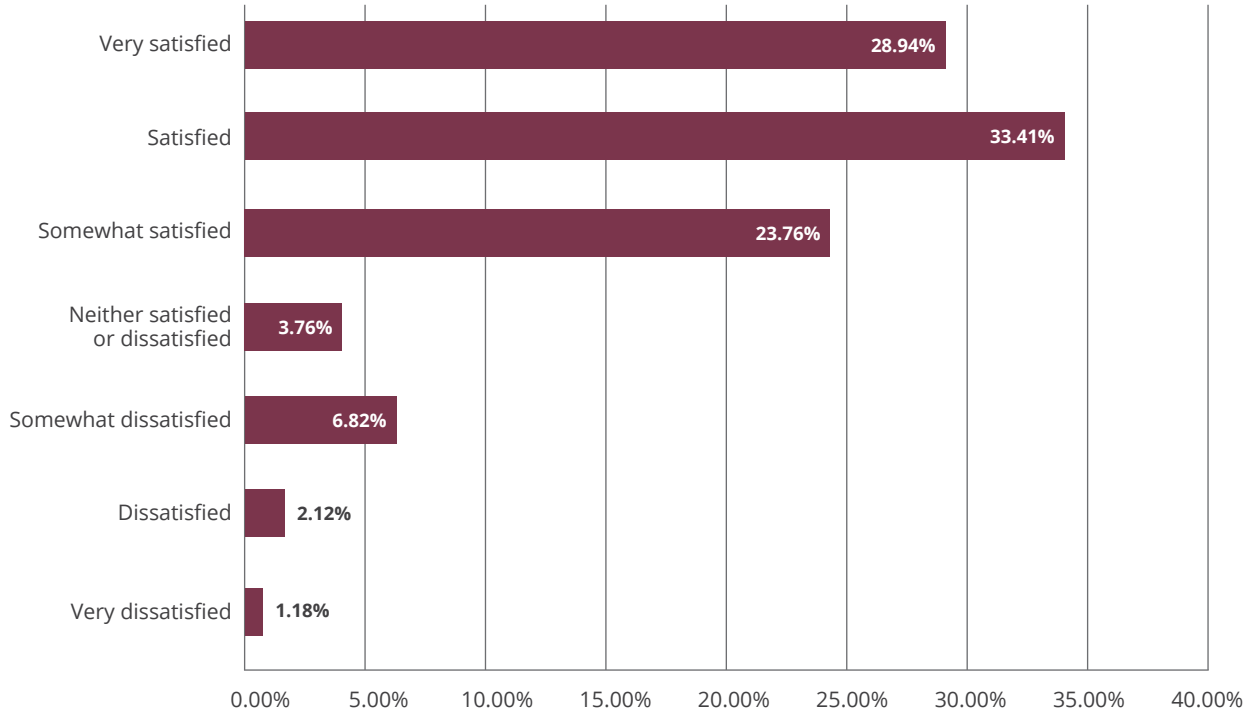
Q7: How much do you spend on data for your HOME INTERNET service (estimate ok)?



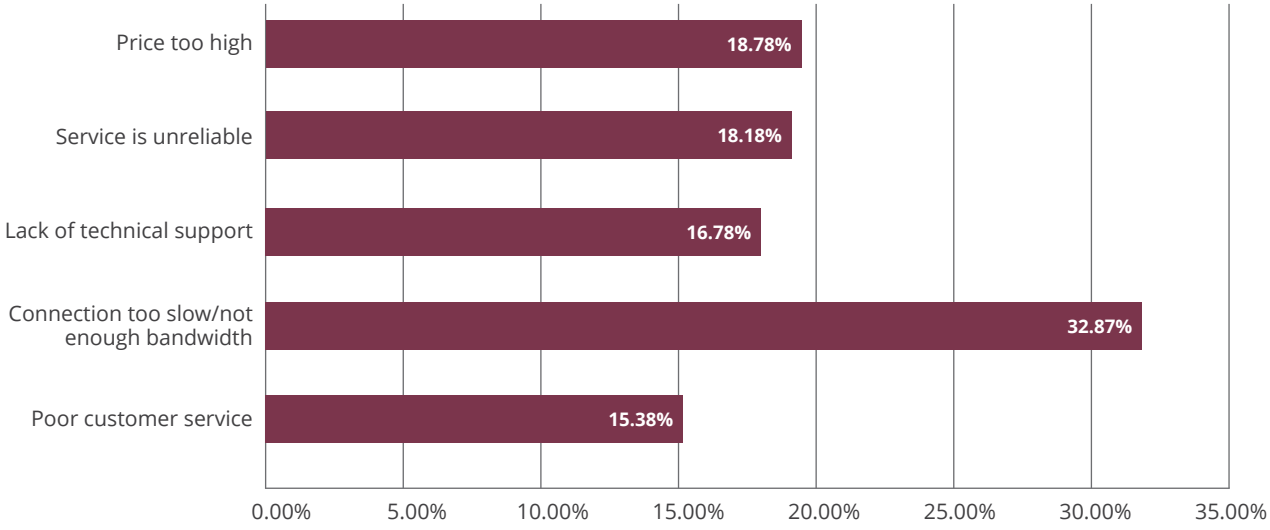
Q8: Rate your current Internet service on the following two items:



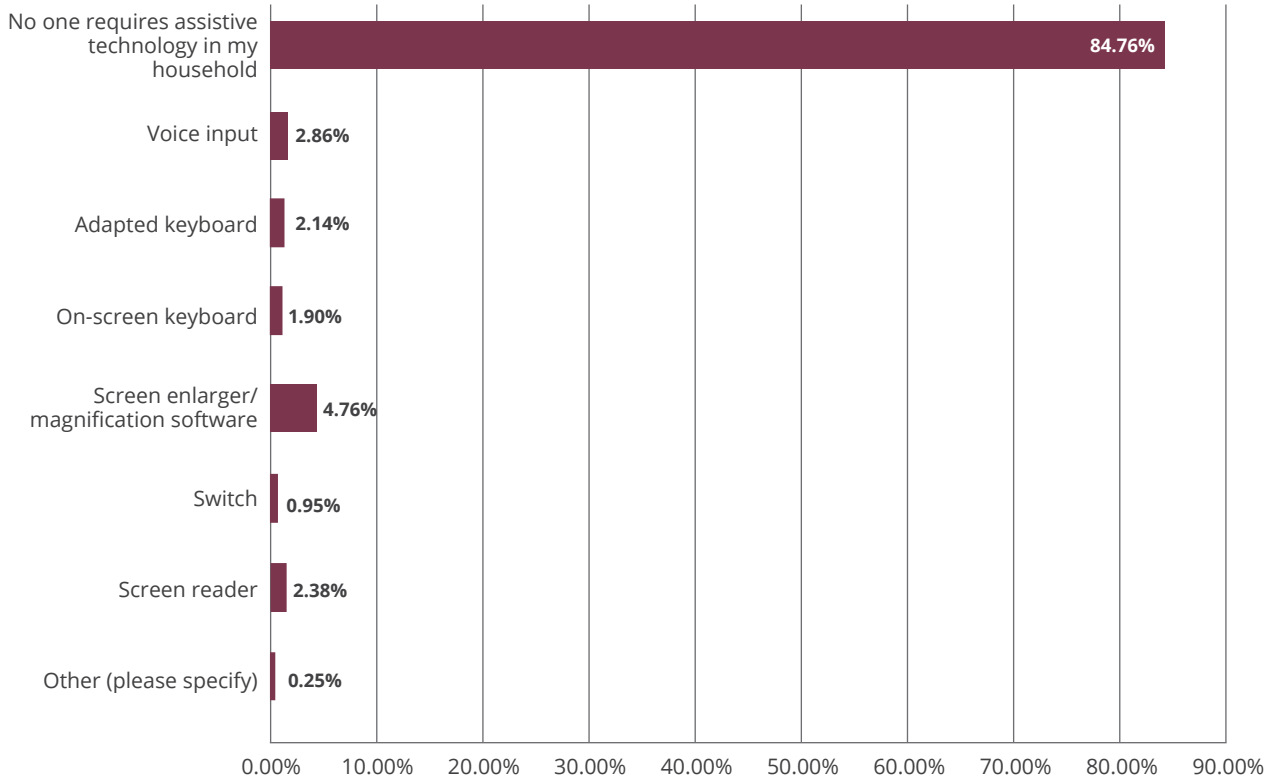
Q9: Rate your overall satisfaction with your current Internet service.



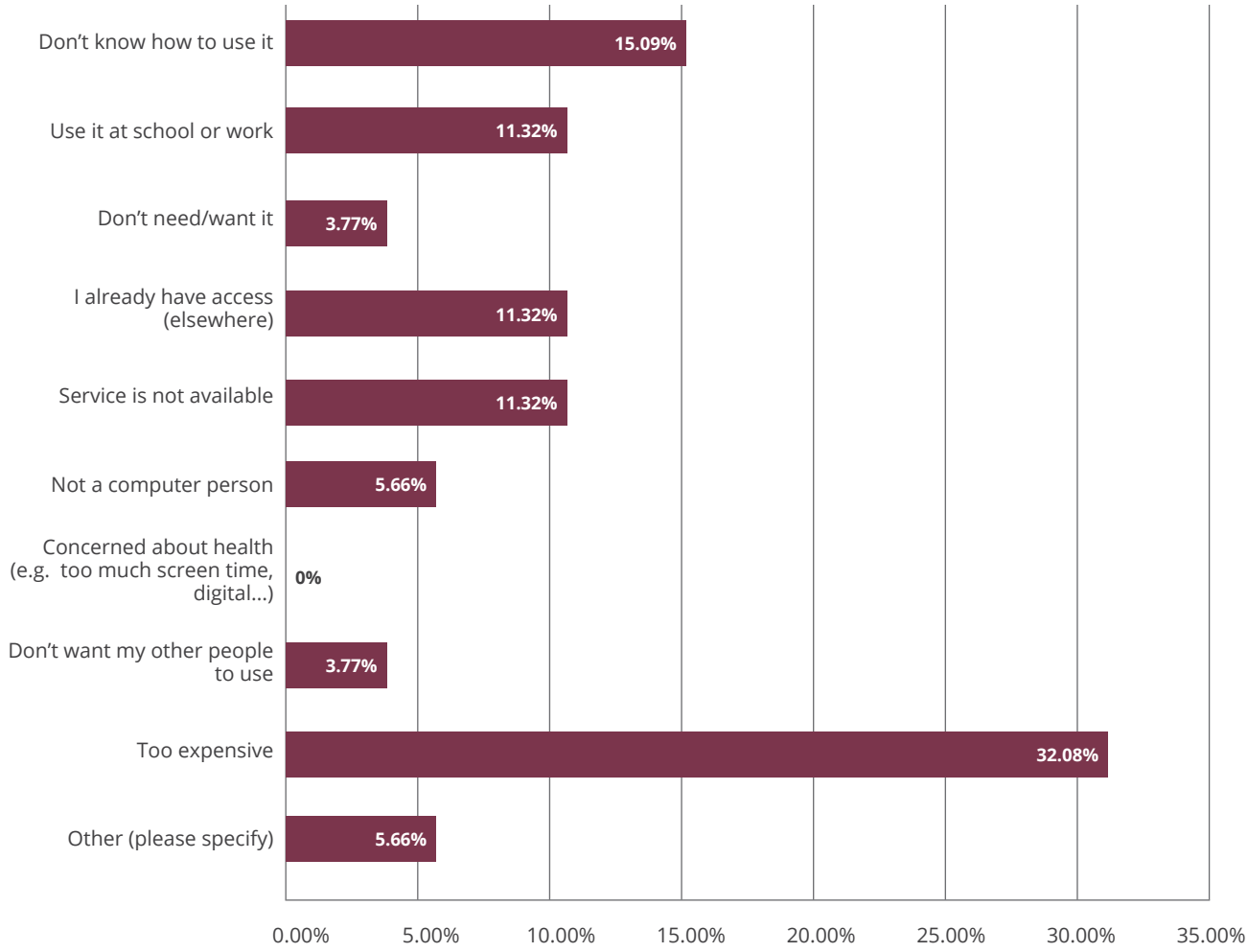
Q10: What are your reasons for any dissatisfaction with your current Internet service? (Check all that apply)



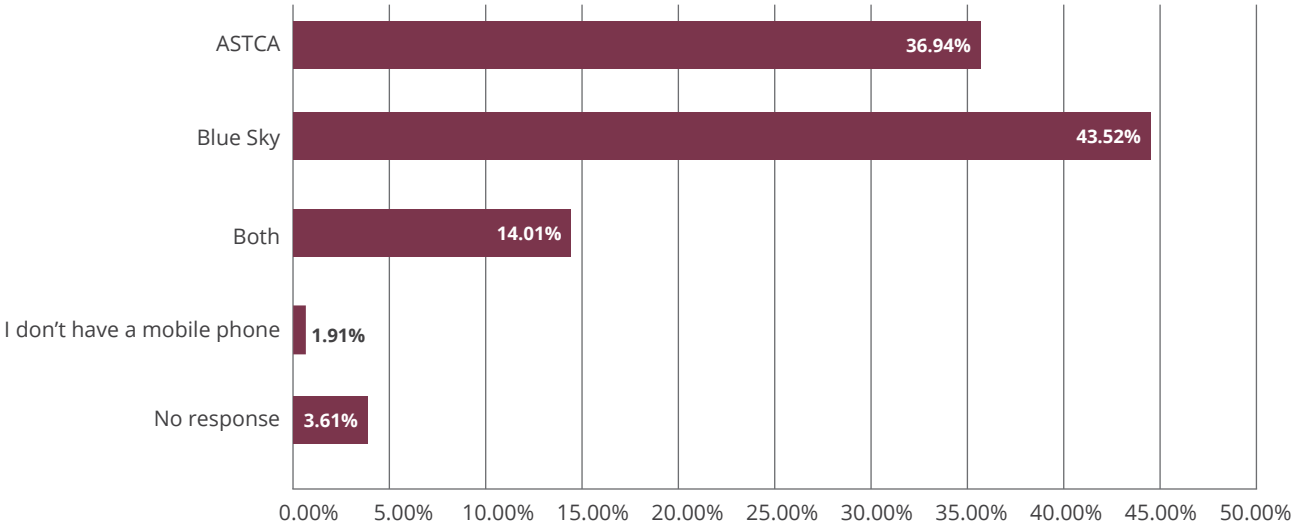
Q11: Someone in my household has a disability that requires the use assistive technology to access computers and/or the Internet. What kind of assistive technology?



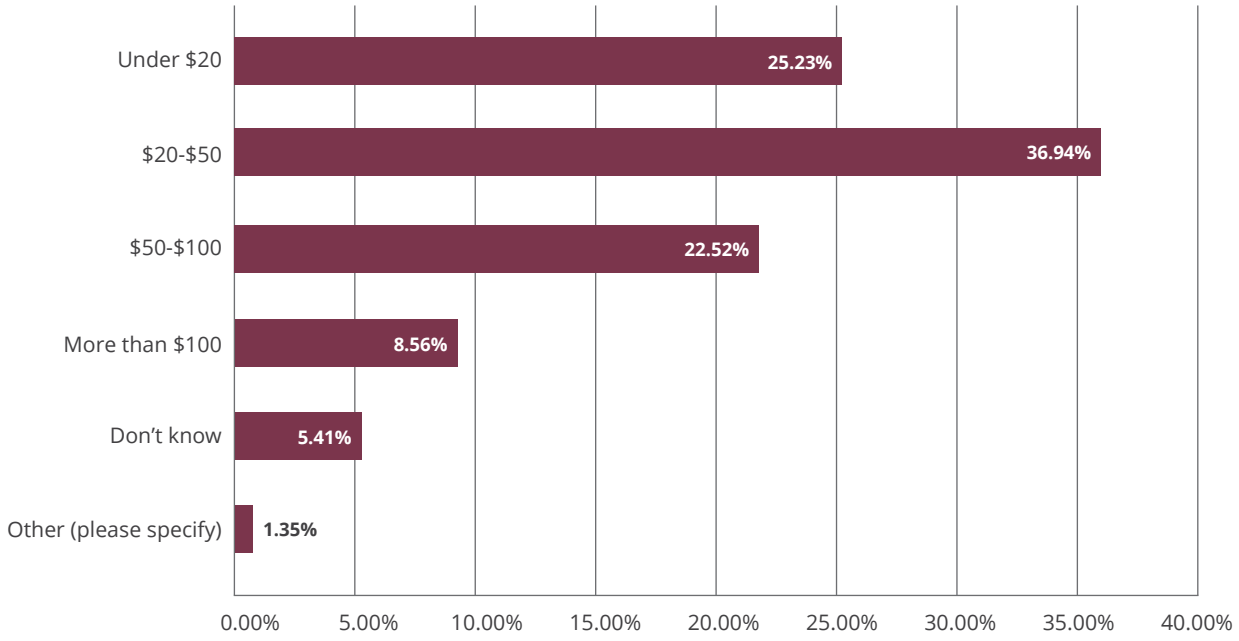
Q12: What is the main reason you do not have Internet access at home?



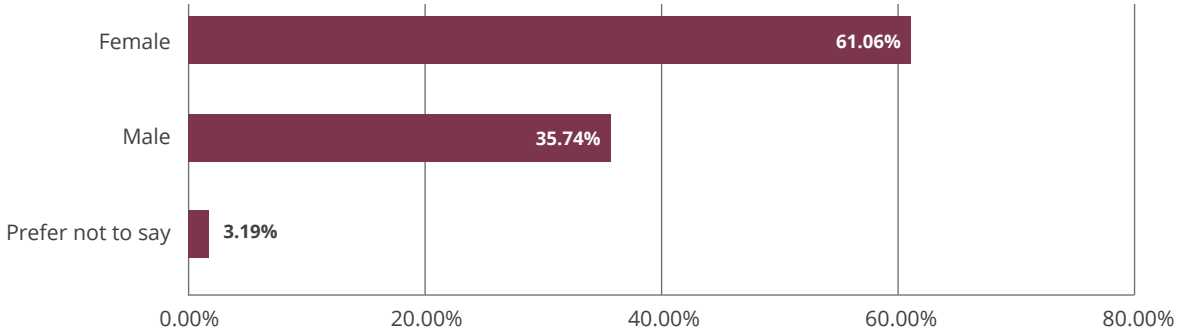
Q13: Who is your current mobile service provider?



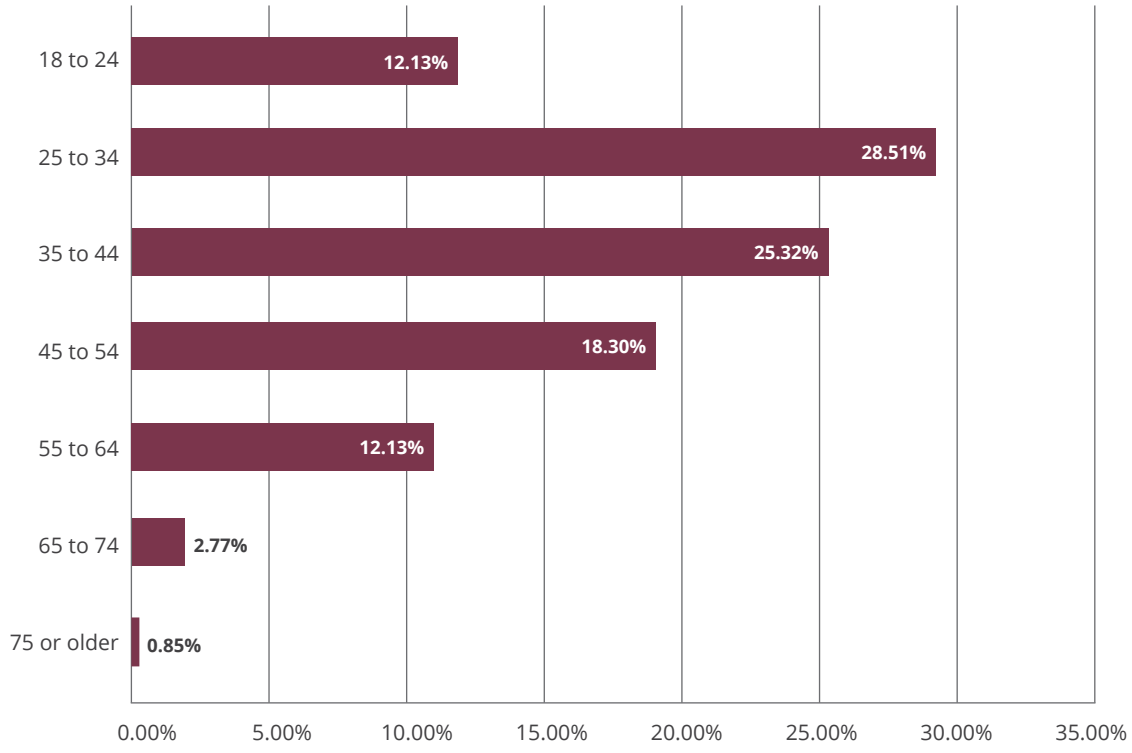
Q14: How much do you spend on data for your MOBILE DEVICE monthly (estimate ok)?



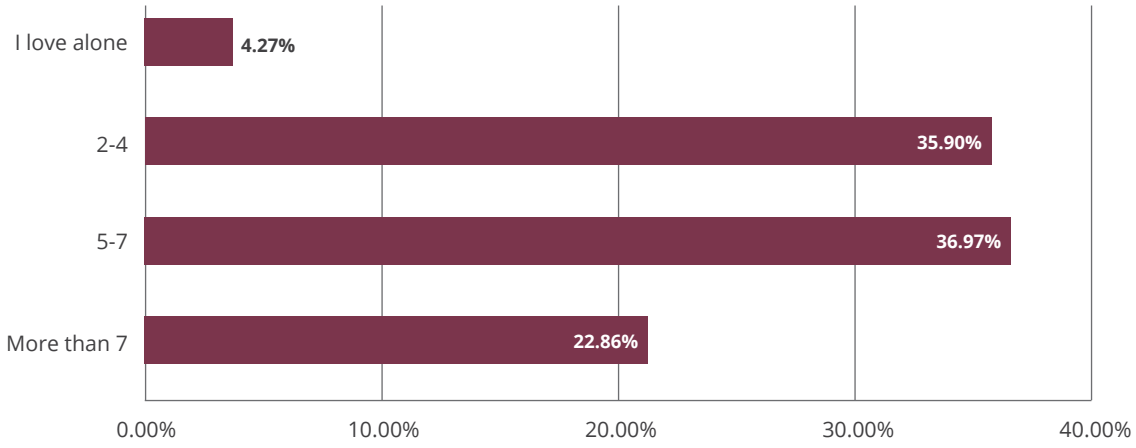
Q15: What is your gender?



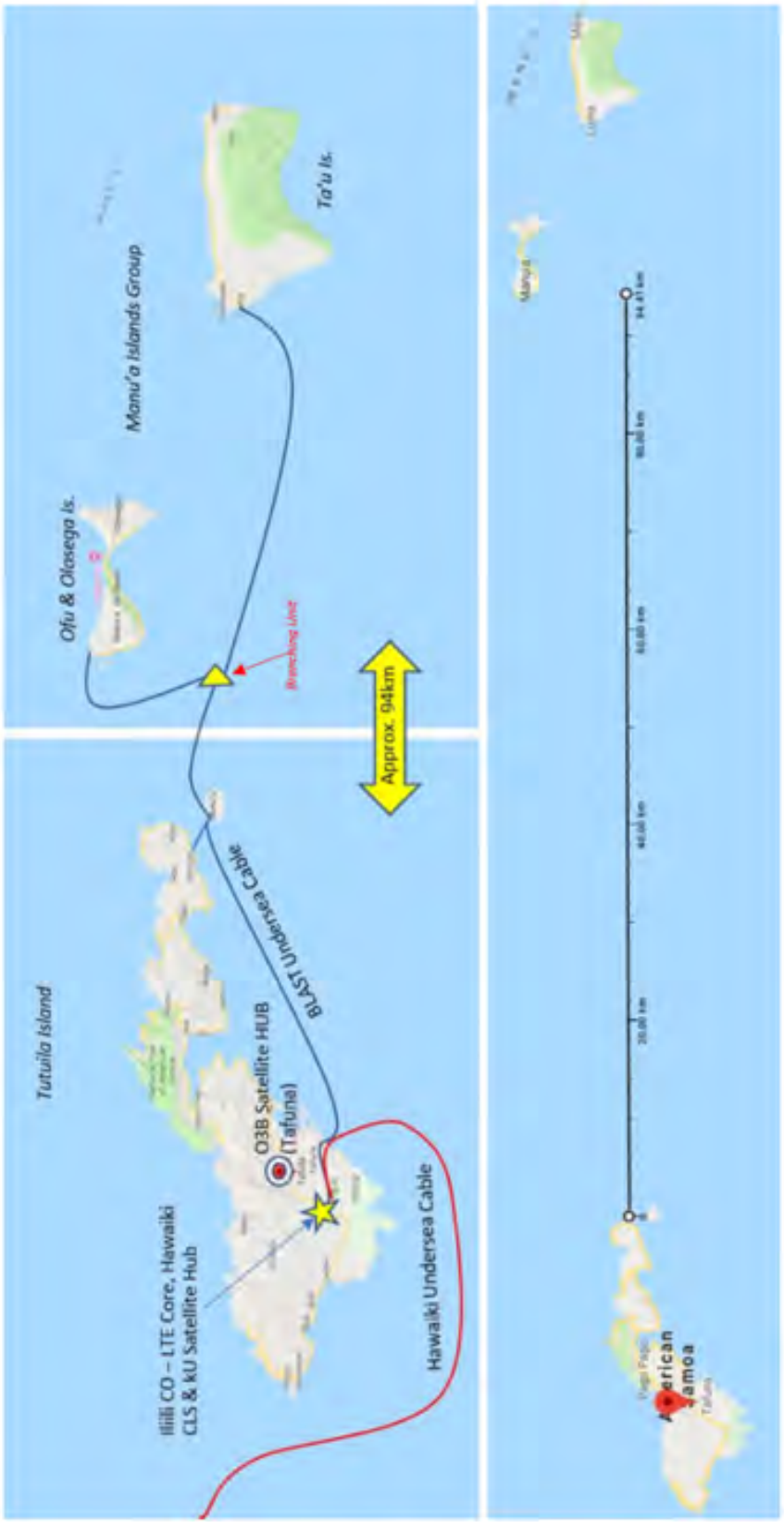
Q16: What is your age?



Q17: How many people live in your home?



Appendix D – Maps



Map 1: American Samoa Undersea Fiber Map.

Map 2: Fiber Infrastructure for Tutuila Island.

Implementation Roles and Responsibilities

On its surface, American Samoa, with a population of 60,000 does not have the population, economic base, and academic institutions to compete in many areas of the ICT industry. With a multimillion investment in modernizing its broadband infrastructure, many of the challenges to American Samoa's e-Resilience are surmountable. The costs of travel are reduced with the adoption of technology and broadband. Among many factors, these realizations came with visionary leadership and commitment to ICT in American Samoa, a realistic focus on growth opportunities appropriate for American Samoa and the establishment of a competitive telecommunications environment. The roles and responsibilities of each of the following departments and organizations are crucial to achieving American Samoa's e-Resilience.

AMERICAN SAMOA GOVERNMENT (ASG)

The strategic role of ASG is to create conditions to utilize broadband to develop and diversify our economy, creating new and higher-paying jobs and entrepreneurial opportunities driven by and through telecommunications and broadband initiatives and infrastructure in American Samoa; Improve access to and quality of health care through telehealth; Improve access to and quality of education through distance learning; Improve efficiency and effectiveness in the delivery of government services to residents through online platforms and interfaces; and Support social and personal development of residents. ASG to meet this objective will create and implement policies that will support the development of these opportunities and continue to support to support implementing of strategies as listed in the ASTBS. ASG will create an economic development plan and programs to encourage and facilitate private business links with local institutions and private sectors for partnership and collaboration. ASG will aggressively pursue an investment in regional assets-education, research, physical infrastructure, institutions for collaboration.

AMERICAN SAMOA COMMUNITY COLLEGE (ASCC)

As the sole institution for higher education with a total student enrollment of 1,000+ students, ASCC's strategic role will focus on the use of ICT to improve learning through integration in the classroom, integration to develop programs for the workforce skills and collaboration for research and development with the private sector to develop innovative products, processes and services. ASCC will leverage its resources (faculty, staff, students, laboratories, classrooms, land and computer systems) and assets to attract private capital investment. According to EDA, several trends are driving the push for higher skills: technological change, globalization and demographics. ASCC will continue to partner with ASG departments such as the Department of Education and private businesses to develop an ICT education and training program and small business incubation center for credits, degrees, certification and professional development. ASCC will continue to create programs that will enable the export of its expertise through its telecommunications infrastructure. ASCC will continue to partner with local businesses through its Small Business Development Center and Land Grant Division to encourage and market their entrepreneurial skills and products through ICT. ASCC and DOE will join with its partners to link economic development and workforce development.

ASG DEPARTMENT OF EDUCATION (DOE)

The DOE's strategic role is to build upon the goals and objectives as outlined by the Educational Technology Division. The mandate of the Educational Technology Division (ETD) is to implement its revised plan based on the criteria of the No Child Left Behind program, the criteria of the Schools and Libraries Division of the Federal Communications Commission (FCC) and any other technology related funding. The DOE will continue to work with ASCC, private schools to implement an awareness campaign to educate the public about broadband and technology practices, and acceptable conduct within the workplace.

AMERICAN SAMOA TELECOMMUNICATIONS AUTHORITY (ASTCA)

The strategic role of ASTCA as a semi-autonomous agency of the ASG is to maintain its telecommunications network; support technology for broadband connectivity to encourage competition, maintain affordable pricing, provide quality of service (QoS) and encourage investment

Opposite page: A beautiful plumeria blossoms in American Samoa. Credit: Helenia Wiletta Fagaesea Porter

in advanced telecommunications capabilities. ASTCA will continue to maintain and sustain the physical telecommunication infrastructure to provide security and redundancy from major disasters and terrorist activities. ASTCA will continue to be a leader in developing and strengthening the public service telecommunications infrastructure and providing training and technology transfer to integrate into the education system. ASTCA will also focus on telecommunications regulations and policies to assist them in competitive grants and access to various markets and business investors.

DEPARTMENT OF COMMERCE (DOC)

The strategic role of the DOC is to continue its refinement of the Comprehensive Economic Development Strategy (CEDS) and the Territorial General Plan to assure consistency under the guidelines of the U.S. Economic Development Administration (EDA) on priorities and sharing of resources as well as the resolution of outstanding issues and concerns regarding the development of the four growth industries in Fisheries and Agriculture, Telecommunication and Information Technology, Manufacturing and Visitor. DOC will allocate and maintain the necessary resources to develop a systematic method to record, track and analyze data related to GDP and other economic indicators properly measure and guide the Territory's economic growth. Many investors who support new business ventures require market studies, cost-benefit, and risk analysis reports and business plans. Reliable information will assist potential investors on the benefits versus the risk of investing in American Samoa.

CHAMBER OF COMMERCE (THE CHAMBER)

The strategic role of the Chamber is to elevate its efforts in pursuing active opportunities for public-private partnership with regards to ICT and eCommerce activities and policies that will create conditions and opportunities for the private businesses. The Chamber will represent the private sector with regards to government policies in the ICT field. The Chamber will also provide an informal briefing on any barriers created by government policies to the business's attraction and development of the economy.

BLUESKY COMMUNICATIONS (BLUESKY)

The strategic role of Bluesky is to seek public-private partnership with regards to the effective use of technology for education, health and government service. As the only Competitive Local Exchange Carrier (CLEC), Bluesky will seek opportunities to partner with other carriers for more bandwidth to improve its service to the community.

FELETI BARSTOW PUBLIC LIBRARY (FBPL)

Feleti Barstow Public Library's (FBPL) top priority is digital inclusion. FBPL realizes the collaborative efforts of the ASTBS Working Group must be leveraged to accomplish this feat as we all have a vested interest in developing the community's digital skill sets. While many issues surround the digital divide, FBPL recognizes access, devices, and content as three areas that may significantly impact our communities. As we increase our e-content; we would like to ensure access is equitable in the territory so that it's citizenry may participate and function responsibly in the digital age. The role of FBPL will be determined by our community.

DEPARTMENT OF HEALTH

The Department of Health (DOH) functions as the territorial public health agency in American Samoa. DOH's mission is to effectively and efficiently deploy available public health, human and material resources: to PROMOTE physical and mental health; to PREVENT disease, injury, and disability; and to PROTECT individual rights to access quality and affordable health care services for all residents of American Samoa. The strategic role of the DOH is to facilitate the use of telehealth within DOH clinics, LBJTMC as well as necessary off-island specialists for services.

LBJ TROPICAL MEDICAL CENTER

The Lyndon B. Johnson Tropical Medical Center (LBJTMC) shall work hand-in-hand with DOH and other healthcare providers on island to facilitate, coordinate and conduct telehealth on and off island. LBJTMC is the only hospital in American Samoa, and is located in Faga'alu, Ma'oputasi County. It has been ranked among the best hospitals in the Pacific. It is home to an emergency room and there are doctors on duty at all hours. It is a 150-bed facility. It includes TB, leprosy and obstetric units. LBJTMC is also one of the first hospitals to conduct telehealth in the early 1990s. With increased bandwidth capacity, the LBJTMC is in a position to expand its telehealth services to include many specialty areas and services including but not limited to like tele-ultrasounds, telepathology, teledentistry and teleneurology.

The Path Forward

American Samoa's e-Resilience is defined as a process to harness our resources and investments to sustain our island territory's well-being and competitiveness in local, regional, global, and digital markets. Our e-Resilience is achieved through having affordable broadband internet access, a qualified IT workforce and IT infrastructure with policies and regulations to support and secure business innovation and development, and improved technology literacy and quality of life. Confronting challenges to our broadband infrastructure, and striving for a culture of innovation in our communities require continued committed partnerships across all sectors to enact strategies and recommendations. In an era of resource constraints, we must exercise creativity, innovation, commitment, and collaboration to achieve our desired collective impact.

To continue to move toward American Samoa's e-Resilience, the ASTBS is committed to these next steps:

1. Proceed with steps to complete and implement the AS Territorial Broadband Strategy
    - Establish and/or Formalize the ASTBS WG & Advisory Committee
    - Establish and/or formalize CORD Office
    - Assign CORD Coordinator
    - Initiate PROCLAMATION and introduce BROADBAND iNEI
    - Initiate and Endorse the BROADBAND iNEI initiative
    - Adopt BROADBAND iNEI as an ASG Policy
    - CORD Office begins Implementation of ASTBS WG recommendations
2. Advise leadership on national broadband programs and all local broadband opportunities
    - Pursue public-private partnerships to support the implementation of ASTBS
3. Monitor and pursue broadband funding opportunities to support local development initiatives
    - Pursue funding opportunities (e.g. FCC, USAC, EDA, etc.) to support the implementation of ASTBS

The ASG is committed to improving the quality of life for all residents in the Territory while maintaining local language, culture, and traditions. The goals and action strategies outlined in this document provide the people of American Samoa with the capacity and skills to develop new industries without adversely impacting their way of life, their island, and their livelihood. The economic returns of IT infrastructure and broadband services are clearly delineated as are the benefits to social services, the environment, and the people. Minimal investment coupled with well-organized targeted programs and strong partnerships could revolutionize the local economy in American Samoa and bring the Territory to the forefront of the national and international stage.

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Acronyms

ASCC	American Samoa Community College
ASEAC	American Samoa Economic Advisory Commission
ASG	American Samoa Government
ASPA	American Samoa Power Authority
AST	American Samoa Telehealth
ASTBS	American Samoa Territory Broadband Strategy
ASTCA	American Samoa Telecommunications Authority
CORD	Territorial Broadband Coordination, Opportunities, Redevelopment and Deployment Office
BLAST	Broadband Linking American Samoa Territory
BPO	Business Process Outsourcing
CEDS	Comprehensive Economic Development Strategy
CHC	Community Health Center
CIO	Chief Information Officer
CLEC	Competitive Local Exchange Carrier
CTE	Career Technical Education
DELTA	Distance Education, Learning, and Telehealth Applications
DHS	Department of Homeland Security
DHSS	Department of Human & Social Services
DICOM	Digital Imaging and Communications in Medicine
DLA	Department of Legal Affairs
DOC	Department of Commerce
DOE	Department of Education
DOH	Department of Health
DOT	Department of Treasury
DPA	Department of Port Administration
DPW	Department of Public Works
DR	Disaster Recovery
DYWA	Department of Youth and Women Affairs
EA	Enterprise Architecture
ECE	Early Childhood Education
EDA	U.S. Economic Development Administration
EO	Election Office
EOC	Emergency Operation Center
EPA	Environmental Protection Agency
FBPL	Feleti Barstow Public Library
FCC	Federal Communications Commission
FTTP	Fiber-To-The-Premises
GAO	Government Accountability Office
GDP	Gross Domestic Product
HPSA	Health Professional Shortage Area
HR	Human Resources
HRSA	Health Resource Services Administration
ICT	Information & Communication Technology
iNEI	Information Network for Expansion and Inclusion
IoT	Internet of Things
ISP	Internet Service Provider
IT	Information Technology
ITCP	Indirect Transmission Control Protocol
LBJTMC	Lyndon B. Johnson Tropical Medical Center
NGO	Non-Government Organization
NOAA	National Oceanic and Atmospheric Administration
NPS	Nation Park Services
OCI	Office of Curriculum Instruction
ODAPM	Office of Disaster Assistance and Petroleum Management
PSA	Public Service Announcement
QMC	Queens Medical Center
ROV	Remotely Operated Vehicle
SBDC	Small Business Development Center
SME	Subject Matter Expert
SOP	Standard Operation Procedure
SPED	Special Education
STEM	Science, Technology, Engineer, and Mathematics
TBAS	Territorial Bank of American Samoa
TEMCO	Territory Emergency Management Coordinating Office
TEOP	Territory Emergency Operation Plan
UCEDD	University Center for Excellence in Developmental Disabilities
UH	University of Hawaii
UH PBTRC	University of Hawaii Pacific Basin Telehealth Resource Center
USAC	Universal Service Administrative Company
WG	Workgroup

Opposite page: The Congregational Christian Church in Aua. Credit: Solomona Aoelua


E·D·A
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DEPARTMENT OF COMMERCE


UNIVERSITY OF HAWAI'I


ASTBS
AMERICAN SAMOA TERRITORIAL BROADBAND STRATEGY


She
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