FACILITIES BROADBAND

American Rescue Plan Act (ARPA) State and Local Fiscal Recovery Fund (SLFRF)

VDH VIRGINIA DEPARTMENT OF HEALTH

12/31/2022

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Report Mandate

Chapter 1 Enactment Clause 1, paragraph B.2.P.4., of the amended 2021 Acts of Assembly states, "The department shall communicate a detailed plan and implementation schedule to the Governor, the Chairs of the House Appropriations and Senate Finance and Appropriations Committees, and the Director of the Department of Planning and Budget by September 30, 2021. Additionally, the department shall report quarterly to the Governor, the Chairs of the House Appropriations and Senate Finance and Appropriations Committees, and the Director of the Department of Planning and Budget on progress made, with the first progress report to be delivered not later than December 31, 2021."

Context for ARPA Initiatives

The Virginia Department of Health (VDH) is excited about the opportunity presented by the appropriation of ARPA State Fiscal Funds in the August 2021 Special Session II of the General Assembly to improve public health in Virginia. VDH views this investment as a once in a generation opportunity and will work diligently to maximize use of funds to initiate, implement and sustain these initiatives. Modifications to VDH's plans will be reflected in future quarterly reports.

Executive Summary

The Virginia Department of Health (VDH) seeks to upgrade the internet infrastructure of Local Health District (LHD) offices and client service areas throughout the Commonwealth to enable the delivery of broadband service at speeds of at least 100 Megabits per second (Mbps) download and 20 Mbps upload. As millions of Virginians pivoted to remote work and life during the COVID-19 pandemic, it underscored the importance of universally available, high-speed, reliable, and affordable broadband coverage for all citizens. Individuals and families continue to rely on the internet to increase their awareness of COVID variants, locate local healthcare resources, and request immunization records.

The COVID-19 pandemic exacerbated the demand for timely and accurate health data from VDH, which is necessary for public health decision-making and transparency with the public. In addition, sufficient broadband allows for timeliness and accuracy in the delivery of public health resources that use web-based services (where services are scheduled, documented, and reported via those web-based systems and are reported to multiple different sources – such as vaccinations to Virginia Immunization Information System, VIIS).

With nearly 96% of assessed VDH buildings currently unserved by broadband (speeds less than 25 Mbps download and 3 Mbps upload), significant internet infrastructure upgrades are imperative for VDH to adequately serve Virginians post-COVID-19. The ARPA SLFRF funding will be used to upgrade unserved and underserved VDH facilities via fiber optic broadband connection, wireless 5G broadband connection, or reliable wireline connection.

Over the last three months, VDH has launched a pilot project to deliver broadband to 17 sites across the Commonwealth. VDH selected 3 vendors capable of servicing the sites and utilized the pilot to test the quality of these vendors, better understand the end-to-end process for implementing broadband, and collect lessons learned to apply when implementing broadband at the remaining VDH sites. While the pilot project is still ongoing, VDH has used lessons learned from the pilot to kick-off Phase 1 of 3 at an additional 37 sites across the Commonwealth.

Objective(s)

The objective of this initiative is to add a broadband connection to unserved and underserved VDH buildings that will reliably deliver speeds of 100 Mbps download and 20-100 Mpbs upload, to:

- Enable internet speeds for the operation of an Electronic Health Records (EHR) system, digitized records storage, and increasingly automated administrative systems at each location
- Enable adequate bandwidth for employees to support day-to-day operations for the Department
- Provide speeds adequate for two-way video conferencing between VDH and other stakeholders or patients who are unable to visit in person due to COVID-19
- Increase the capacity of each office to access online systems and resources to more efficiently complete daily operations and serve clients

Overview of Quarterly Progress (October – December 2022)

Since the submission of the September 2022 quarterly report, VDH has completed the below activities associated with the Facilities Broadband Initiative. These accomplishments provide VDH a clearer path forward for Phases 2 and 3 of rollout while finalizing the approach to close out upgrades at Pilot and Phase 1 sites post-SD-WAN upgrades:

Key Activities and Accomplishments

- Pilot Project:
    - Completed broadband circuit installation at 16 of 17 sites, including construction to lay new fiber lines, where needed. As a next step on the critical path, the Virginia IT Agency (VITA) and Verizon will install Secured Software Designed Wide Area Network (SD-WAN) before LHD staff experience upgraded service.
- Rollout to Remaining Sites: Phase 1 of 3:
    - Completed broadband circuit installation at 21 of 40 Phase 1 sites, including construction to lay new fiber lines, where needed. As the next step, SD-WAN will be installed at sites.
    - Began construction for broadband upgrades at 13 additional Phase 1 sites. Finalized vendor assignment to remaining 6 sites that are in locations that needed additional vendor support to provide coverage.
- Rollout to Remaining Sites: Phase 2 of 3:
    - Kicked-off broadband upgrades at 55 sites in Phase 2 and briefed local LHD contacts on rollout process, LHD responsibilities, and lessons learned from the Pilot and Phase 1.
    - Completed broadband circuit installation at 1 of 55 Phase 2 sites, including construction to lay new fiber lines, where needed. As the next step, SD-WAN will be installed at the site.
    - Began construction for broadband upgrades at remaining 54 of 55 Phase 2 sites.
- Planning and Communications:
    - Worked with VITA and Verizon leadership and technical teams to begin planning SD-WAN rollout and provide all necessary data to complete upgrades. Tentative timeline is to start these upgrades in January and finish SD-WAN upgrades at VDH sites in the first quarter of 2023

- o Used agency-wide forums, the VDH intranet site, and leadership briefings to share site status and answer stakeholders' questions about rollout.
- o Met with all vendors conducting upgrades in weekly check-ins to track construction status and troubleshoot site-specific issues.

Anticipated Next Quarter Activities (January – March 2023)

The following outlines the activities and tasks planned from January through March 2023:

- Pilot Project:
  - o Finish broadband vendor construction at remaining Pilot site
  - o Work with VITA and Verizon to install SD-WAN at Pilot sites and align on any additional steps needed before VDH employees can experience increased services
  - o Activate sites and test speeds so that upgraded services are experienced by VDH employees. Capture "success stories" from employees to share with VDH leadership and other stakeholders
  - o Conduct wireless site assessments and begin upgrading Wireless Access Points (WAPs) to ensure upgraded speeds are user-friendly and available both hard-wired and over Wi-Fi
- Full Broadband Rollout: Phases 1-3:
  - o Continue monitoring upgrades at Phase 1-2 sites. Work with broadband vendors and local site contacts to resolve any site-specific challenges that arise. Target is to complete Phase 1 sites in next quarter of 2023, with many Phase 2 sites expected to be completed
  - o Begin broadband upgrades at remaining Phase 3 sites in February
  - o Support VITA and Verizon installation of SD-WAN and as well as any needed Wireless Access Point (WAP) upgrades needed at sites. Monitor progress and coordinate broadband upgrade timeline to ensure minimal delay in services

Risks, Issues, and Management

- **Risk 1:** If there are supply chain delays on inventory, then the Broadband project could be delayed

  - o **Mitigation Strategy:** Mitigate procurement delays for critical equipment and materials by planning and scheduling in collaboration with vendors. These measures will empower the VDH-IT team to confidently sequence projects and enable broadband technicians and engineers to assess site and facility conditions and order necessary equipment and materials with sufficient lead time between material ordering and the scheduled start date for installation.

- **Risk 2:** If VDH funding to support broadband services charges are insufficient once the ARPA funds expire, then sites will lose service

  - o **Mitigation Strategy:** Monitor budget projections to determine when current ARPA funding will expire and when requests need to be submitted for additional funds. If additional funds are not available, VDH will remove the wireline service and use those

savings to pay for the Broadband service. This will result in no failover (backup) connectivity if broadband service is disrupted.

- **Risk 3:** If VITA SD-WAN installation does not occur by March 2023 and/or does not provide the expected connection to services, then upgrade timeline may extend beyond FY23.

    o **Mitigation Strategy:** VITA and VDH are beginning regular meetings as VITA/Verizon rollout SD-WAN across sites. VDH has provided updated site lists and other requested data to VITA. VITA planning to provide VDH-specific timeline in the coming weeks.

- **Issue 1:** VDH will be charged for sites where vendor construction is finished, but VDH employees cannot access the faster speeds until VITA SD-WAN installation completes and testing and final connection is finished.

    o **Mitigation Strategy:** 6 sites have completed all broadband-related construction and are being billed to VDH, while awaiting SD-WAN install and final site testing. All other sites that have completed construction will not begin billing VDH until end December 2022 and early January 2023.

Change Management Considerations

VDH understands that successful transformation initiatives rely on more than just the right technology, processes, and resources. They also depend on effective communications and engagement strategies to equip stakeholders with the information and guidance that they need to support the changes taking place. For the Broadband initiative, the successful implementation of critical upgrades will depend on ongoing two-way communication and engagement with a variety of local contacts.

These activities have been outlined in a communications plan that maps key internal and external stakeholders, assesses how they may be impacted and/or their role in supporting the effort, and establish strong feedback loops and channels for information-sharing. The primary objective of the strategy is to demonstrate VDH's transparency through regular updates to all impacted groups. Core communications channels include regular status updates to stakeholders via email, an intranet site to house content for internal stakeholders, an initiative-specific email inbox for two-way communication, and regular briefings to Central Office and LHD stakeholders across a variety of VDH forums.

Project Budget

Budget, Obligations, and Actuals as of December 2022

Total Appropriation	$8,000,000	Total Commitments/ Obligations *(To Date)*	$4,402,000	Total Expenditures *(To Date)*	$1,180,000