FACILITIES BROADBAND

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

VDH VIRGINIA
DEPARTMENT
OF HEALTH

12/29/2021

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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. Simultaneously, VDH is fully engaged in responding to COVID-19 and protecting the health of Virginians. Currently, VDH is developing project plans to minimize the impacts of the public health emergency on local health departments in the first year and will be flexible in the implementation of these initiatives as dictated by the emergency response. Modifications to VDH's plans will be reflected in future quarterly reports.

Executive Summary

As millions of Virginians pivoted to remote work and life during the COVID-19 pandemic, it underscored the significant 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.

Modernizing and upgrading the internet infrastructure of Local Health District (LHD) offices and client service areas throughout the Commonwealth is fundamental to protecting the health and promoting the well-being of all people in Virginia. Critical to continuing Virginia Department of Health's (VDH) unprecedented COVID-19 response effort is the delivery of broadband service at speeds of at least 100 Megabits per second (Mbps) download and 20 Mbps upload.Sufficientbroadband allows for timeliness and accuracy in the delivery of public health services 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 VIIS).

With nearly 96% of assessed VDH buildings currently unserved or underserved 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 conducted a broadband gap analysis and identified facilities that require bandwidth improvements and sequenced them based on criteria which included current connectivity sufficiency, utilization requirements, and socioeconomic factors of the population and communities served. Following the successful completion of broadband and wireless 5G pilot programs, improvements will be made to VDH facilities in batches, beginning with the sites identified as having the greatest needs.

Objectives

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 virtually access systems and allow them to effectively work remotely.

- 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 (Oct – Dec 2021)

Since the submission of the September 30, 2021 report, VDH has accomplished the below activities associated with the Facilities Broadband Initiative. These accomplishments have strongly positioned VDH to begin broadband service upgrades at VDH facilities in the coming months. The key activities that have been accomplished to date are summarized below:

- Site Identification / Selection

    o Compiled a list of all VDH facilities that are currently unserved or underserved and are candidates for broadband upgrades and implementation.

    o Developed a fiber broadband pilot program to target initial upgrades on a diverse subset of facilities. This initial pilot will serve as an example and baseline for subsequent broadband upgrades, helping to inform potential process inefficiencies, discrepancies in estimated vs. actual cost of upgrades, and vendor performance. These lessons-learned will allow the team to optimize and further refine the upgrade process and schedule for the subsequent facility upgrades to increase efficiency, effectiveness, and cost-savings throughout the entirety of the initiative.

    o Identified fifteen eligible sites to be included in the fiber broadband pilot program. These sites were carefully selected to serve as a diverse sample of the remaining locations across

the various LHD's, which will help to inform best practices for future facility broadband upgrades.

o Created a tool to sequence projects based on criteria that includes current bandwidth and utilization, as well as surrounding community health equity considerations. These metrics were weighted and aggregated to establish a ranked list that will be used to sequence facility improvements, beginning with facilities and communities with the greatest need.

o Developed baseline schedule of logically sequenced activities for VDH facilities broadband upgrades, from planning to implementation to closeout.

o Developed and distributed internet speed test survey to LHD facilities to obtain more accurate upload/download speeds at each site.

- Internal Engagement

o Met with the Commonwealth's Broadband Office to better understand the broader landscape of broadband activities currently taking place in the Commonwealth, and to coordinate with the efforts to upgrade VDH facilities to broadband service. This initial outreach has facilitated continued collaboration between VDH and other broadband stakeholders in the Commonwealth, which will enable all interested parties to utilize best practices and lessons learned.

o Engaged with Bureau of Real Estate (BRES) to ensure that necessary landlord approvals are being considered at each facility where hardware installation or structural updates may need to be made, and that opportunities to obtain rent credits from building upgrades are being pursued when possible.

- External Engagement

o Established standard communications channels to coordinate initiative correspondence with external stakeholders.

o Distributed correspondence to fiber broadband vendors qualified in the VITA Supply Chain Group to gauge interest and ability to complete upgrade activities at broadband pilot sites.

- Miscellaneous

o Developed ARPA guidance materials to enable the team to more easily monitor relevant ARPA guidelines throughout the initiative lifecycle.

Comments on Alignment to plan submitted in September 2021

The activities completed since the September 30, 2021 submission of the initial workplan have been important components of the Discovery & Facility Assessment project phase that, as outlined in the September workplan, was scheduled to continue through March 2022. The implementation of a fiber

broadband pilot program prior to conducting site assessments for all facilities was not explicitly outlined as a step in the initial workplan, but was identified as an important phase that will allow VDH to refine the facility upgrade process and gain efficiencies in the future. VDH will first focus on completing pilot site upgrades upon completion of the Discovery & Assessment phase. VDH then plans to use lessons learned to optimize the upgrade process before initiating the full implementation of site upgrades across the Commonwealth.

Anticipated Next Quarter Activities (Jan – March 2022)

The following outlines the activities and tasks planned from January through March 2022:

- Pilot Program

    o Use of mandatory source VITA contracts for the pilot sites; these are fixed contract rates. It is anticipated that some vendors will be selected to complete upgrades at multiple locations.

    o Vendors will conduct site assessments at the pilot sites to determine the full scope of work needed to improve bandwidth and recommend the most effective broadband technology based on facility and surrounding environment.

    o Once the scope of work is defined at each site, vendors will procure the necessary equipment and materials to install the upgraded broadband infrastructure, while the agency will be responsible for obtaining accompanying software, such as secure gateway services.

- Full Implementation

    o Utilize the sequencing tool to generate a project sequence for the remaining facility upgrades. Sites will be upgraded in batches, beginning with locations and communities with the greatest need.

    o Identify and select vendors to batch-improve pilot sites after review of vendor responses and their fixed contract rates with VITA. Lessons learned from the pilot program will be leveraged to minimize risk and exposure to unforeseen changes.

Risks and Risk Management

- **Risk 1:** EHR, Records Management, and Administrative Systems are all successor initiatives to the Facilities Broadband initiative and could be drastically impacted by communication or coordination shortcomings between the respective initiatives and the broadband initiative.
    o **Mitigation Strategy:** The Broadband team will continue to collaborate closely with the EHR, Records Management, and Administrative Systems Initiative teams to ensure that

VDH facilities are being scheduled for broadband upgrades prior to broadband-reliant system implementations.

- **Risk 2:** Sites are unique with varying access to broadband service. The initial plan assumes some degree of uniformity across all sites to identify likely candidates for fiber, wireless, or wireline broadband and the associated implementation complexity and costs; however, until individual site assessments are completed the exact needs at each site will not be known.

  o **Mitigation Strategy:** The initial site estimates will include high and low estimates of expenses, resources use, and time to complete to "plan for the worst" and build in contingency for unexpected outcomes from site assessments.

- **Risk 3:** VDH's reliance on broadband vendors for material and equipment procurement and installation exposes the agency to a variety of potential risks, such as contractor's experiencing unforeseen labor shortages, contractor's inaccurately estimating the schedule or cost of a project, or contractor's incorrectly installing upgrades, resulting in activation delays. These risks are outlined below for each service type:

  o Wireline Broadband – these upgrades require significant coordination with VITA/Verizon supplier and site to perform site assessments, Verizon local phone carriers, localities, and state agencies for major construction and VDH sourced providers upgrade for minor site improvements to include cabling and conduit.

  o Fiber Broadband – these upgrades will require coordination with local broadband engineers to bring fiber optic cable from the nearest network to the premises and to install the necessary hardware within the facility. Finally, the service provider will be engaged to activate the service.

  o Wireless Broadband – these upgrades require the least outside dependency, relying only on hardware installation and remote service activation.

  o **Mitigation Strategy:** Based on the results of the initial site assessment, the initiative team will coordinate with contractors to establish the scope and realistic timelines to complete the work with the available resources.

- **Risk 4:** There is another dependency on the availability of the hardware that is necessary to make the broadband upgrades at each site – if there are supply chain delays on inventory, which has the potential to impact the broadband upgrade progress.

  o **Mitigation Strategy:** The impacts of procurement delays to critical equipment and material deliveries can be mitigated through comprehensive planning and scheduling efforts through 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 5:** Monthly internet service costs may not be sustainable post-ARPA funding

    o Verizon (supplier) costs for secure gateway, and firewall configuration etc., could cause project delays if not implemented in a timely manner. There will need to be resource contingencies with the vendors, supplier, and sites due to COVID-19 related activities.

Change Management Considerations

VDH understands that transformation initiatives are successful not only with the right technology, processes, and resources, but also with people who are properly equipped for the changes. Successfully navigating transformation in a highly complex environment requires effective management of business process changes, communications, and stakeholder management to create buy-in at early stages.

Though the Facilities Broadband Initiative will not directly transform most business processes, VDH still plans to develop and implement an effective change management and communications strategy to establish employee understanding of the impacts and benefits of the facility broadband upgrades. The strategy will include communication of the goals of the upcoming changes, preparation and alignment of the changes, and an overall building of confidence in the benefits of the changes. The VDH team will establish a change control board to oversee the management and implementation of changes.

Project Budget

The following budget has modified the project categories defined in the work plans submitted on 9/30/2021. The wireline allocations have been moved to the Fiber Optic Internet budget category due to removing wired internet from the scope of this initiative. This change is reflected in the budget below.

Total Budget: $8,000,000

Cumulative Expenditures, Obligations, and Budget, through December 31, 2021

Project Group	Current Expenditures	Current Obligations	Projected FY22 Budget	Total Budget
Fiber Optic Internet	$0	$234,657	$1,380,000	$5,880,000
Mobile Internet	$0	$269,282	$690,000	$2,120,000
Total	**$0**	**$503,939**	**$1,840,000**	**$8,000,000**