1/15/2026

MEMORANDUM

TO: Director, Department of Planning and Budget and the Chairs of the House Appropriations and Senate Finance and Appropriations Committees.

                  The Honorable Luke E. Torian
                  Chair, House Appropriations Committee

                  The Honorable L. Louis Lucas
                  Chair, Senate Finance and Appropriations Committee

FROM: Eric Raff, Director
                  Virginia Department for the Deaf and Hard of Hearing

SUBJECT: Virginia Relay Digital Modernization

This report is submitted in compliance with the Virginia Acts of the Assembly – Item 270 (VDDHH) Social Services Research, Planning, and Coordination. HB1600 - Chapter 725, which states:

F.1. The Department for the Deaf and Hard-of-Hearing (DDHH) shall report on the anticipated statewide transition to Real-Time Text (RTT) and associated forms of digital telecommunication technology as related to relay services. The report shall include information on: (i) the features of RTT and any other digital telecommunication technology that is being considered for use as related to statewide relay services; (ii) the estimated cost for the Commonwealth to transition from analog to digital relay services and an accompanying explanation of the methodology used for the cost estimate; (iii) a six-year projection of anticipated operating costs for a statewide digital relay platform and an accompanying explanation of the methodology used for the cost estimate; (iv) a proposed

timeline for transitioning from analog to digital relay services and an operationalization plan for the agency's preferred digital relay platform; (v) a description of any potential legislative impacts or proposed changes associated with a transition to digital relay services; (vi) a description of any potential impact (including cost) to existing DDHH programming, including the Technology Assistance Program; and (vii) a description of any potential impact (including cost) to relay service providers, users, state agencies, or relevant third parties resulting from a transition to digital relay services. The department shall submit the report with all requested information by September 15, 2025, to the Director, Department of Planning and Budget and the Chairs of the House Appropriations and Senate Finance and Appropriations Committees. The department shall not initiate any transition from analog to digital relay services prior to submitting the above report, nor shall they do so without obtaining authorization from the General Assembly.

Should you have any questions or need additional information, please feel free to contact me at (804) 404-9090 or eric.raff@vdhh.virginia.gov

Pc: The Honorable Janet Kelly, Secretary of Health and Human Resources

Virginia Relay Digital Modernization Report

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Executive Summary

Pursuant to the General Assembly's directive (Item 270 F.1 of the 2025 Budget Bill), the Virginia Department for the Deaf and Hard of Hearing (VDDHH) has prepared this report on the anticipated statewide transition from analog Telecommunications Relay Services (TRS) to digital relay services based on Information & Communication Technologies (ICT). The report addresses seven key areas: technical features of new relay technologies, cost estimates and projections, timeline and implementation plans, legislative considerations, impacts on existing programs, and impacts on relay providers, users, state agencies, and other stakeholders. Key findings of this report include:

The features of RTT and any other digital telecommunication technology that is being considered for use as related to statewide relay services.

> Real-Time Text (RTT) offers real-time character-by-character text transmission over IP networks, enabling faster, more natural communication than traditional TTY devices. In addition to RTT, the VDDHH has reviewed other modern communication technologies that may enhance or supplement relay services. These include Direct Video Communication (DVC), which enables American Sign Language (ASL) users to connect directly with Commonwealth of Virginia state agencies' call centers; Communication Facilitators (CF), who provide live support for DeafBlind individuals; Remote Conference Captioning (RCC), which ensures full captioned access during conference and group calls; and emerging Artificial Intelligence (AI) technologies such as sign language recognition, haptic communications, and other modern solutions that can expand functional equivalency for users. Coordination with 911 call centers will also be essential to ensure that digital relay technologies, including RTT, are fully interoperable with Next Generation 911 systems and emergency response protocols.

(i) *The estimated cost for the Commonwealth to transition from analog to digital relay services and an accompanying explanation of the methodology used for the cost estimate*

The cost estimates account for infrastructure, training, vendor contracts, and operations associated not only with RTT but also with the integration of DVC, CF, RCC,

and future AI-based or digital communication technologies, along with training and system updates at 911 call centers to ensure they can receive digital relay services. The methodology includes capital costs, pilot testing, and projected implementation costs.

(ii) ***A six-year projection of anticipated operating costs for a statewide digital relay platform and an accompanying explanation of the methodology used for the cost estimate***
Virginia Relay's projected operating costs over the next six years consider declining use of legacy analog relay services, expected inflation, and the introduction of new technologies. These projections assume that while some cost savings will occur as analog usage drops, new initiatives and equipment upgrades will require sustained funding. Estimates incorporate anticipated usage trends, moderate annual inflation, and necessary technological upgrades to maintain service quality.

(iii) ***A proposed timeline for transitioning from analog to digital relay services and an operationalization plan for the agency's preferred digital relay platform***
Transitioning to digital relay services may necessitate amendments to current Code of Virginia statutory language to explicitly include relay services that are supported on a digital telecommunications infrastructure as opposed to an analog infrastructure. Impacts to VDDHH programming, including the Technology Assistance Program (TAP), are expected to be moderate, with adjustments required for device distribution and training. A phased transition plan will ensure continuity of service. The plan prioritizes extensive user education, upgrades to equipment for digital compatibility, and close coordination with relay providers. Analog relay services will remain in place until digital telecommunication and information technologies alternatives, e.g. broadband, Voice-Over Internet Protocols (VOIP), wireless/cellular are fully operational and adopted by telecommunication carriers and/or broadband providers, and users have been successfully transitioned, minimizing disruption to callers.

(iv) ***A description of any potential legislative impacts or proposed changes associated with a transition to digital relay services***
Transitioning to digital relay services may require updates to the Code of Virginia and Virginia Administrative Code. Statutory language should be modernized to explicitly include internet-based relay services and emerging new technologies. For example, using the term "Information and Communication Technology (ICT)" in place of

"telecommunications". Relay users will benefit from more reliable, faster, and modernized communications.

(v) *A description of any potential impact (including cost) to existing DDHH programming, including the Technology Assistance Program*
The transition to RTT and related digital relay technologies represents a necessary modernization of Virginia's telecommunications services for individuals who are Deaf, Hard of Hearing, Deafblind, or who have speech disabilities. VDDHH would modernize relay services using the existing appropriation levels however appropriation for the TAP will need to increase.

(vi) *A description of any potential impact (including cost) to relay service providers, users, state agencies, or relevant third parties resulting from a transition to digital relay services.*
Relay users will benefit from more reliable, faster, and modernized communications as the system transitions to digital. At the same time, users may need support in learning new technologies or obtaining updated devices. State agencies and other third parties, such as 911 emergency services, will require training and system updates to ensure they remain accessible and responsive to relay calls in the new digital environment.

The Commonwealth's transition to digital relay services is fully achievable within the current appropriation of approximately $2.06 million annually. Rather than expanding the budget, the transition strategy takes advantage of declining analog costs to create a fiscal cushion that supports investments in CF, DVC, and emerging technologies. By building on proven cost trends and carefully phased implementation, this transition achieves modernization while remaining firmly within the budget already established by the General Assembly. No additional funds will be required for execution of this plan.

In conclusion, the transition to RTT and emerging digital relay technologies represents a necessary modernization of Virginia's telecommunications infrastructure for individuals who are Deaf, Hard of Hearing, DeafBlind, or have speech disabilities. This report lays out a path forward that balances innovation with continuity, ensuring that no Virginians reliant on relay services are left behind during the transition from analog to modern communication.

(i) Features of RTT and Other Digital Telecommunication Technologies Considered

Overview of Telecommunications Relay Services

Telecommunications Relay Services (TRS) enable people who are deaf, hard of hearing, DeafBlind, or have speech disabilities to communicate over the telephone network through the assistance of a Communications Assistant (CA). When a TRS user places a call, a CA facilitates the conversation by converting text into voice and vice versa, depending on the user's communication needs and equipment used. For example, a Deaf person using a Text Telephone (TTY) can type their message, and the CA reads it aloud to the hearing person on the other end of the call. The CA then types the hearing person's spoken response back to the TTY user.

TRS offers an array of features to accommodate various communication needs, including:

- Teletypewriter or Text Telephone (TTY)
- Voice Carry Over (VCO)
- Hearing Carry Over (HCO)
- Speech-to-Speech (STS)
- Captioned Telephone Service (CTS)
- Remote Conference Captioning (RCC)

Under Title IV of the Americans with Disabilities Act (ADA), each state is required by the Federal Communications Commission (FCC) to provide access to relay services 365 days including holidays, 7 days a week, 24 hours a day.

Key mandated characteristics of TRS include:

- **State Responsibility**: Each state must offer TRS, either by operating its own program or contracting with a third-party provider (such as Hamilton Relay).

- **Availability**: TRS must be available 24/7, with no restrictions on the length or number of calls.

- **Accessibility**: TRS must be available to all eligible users and accommodate various modes of communication, including text-based relay (TTY and text messaging), STS for users with speech disabilities, and CTS for those with hearing loss.

- **Functionally Equivalent**: The service must allow users to communicate with voice telephone users in real time, with speed and accuracy that closely mirrors a typical phone call.

- **Funding**: Relay services are provided around the clock at no additional cost to the user. In many states, TRS is funded through a small line-item surcharge on telephone services bills paid by the subscribers and collected by the state into a state-managed fund. In Virginia, subscribers pay the "Communication Sales and Use Tax." Interstate and internet-based relay calls are supported federally via the Interstate TRS Fund, administered by the FCC.

- **Certification & Oversight**: States must be certified by the FCC every five (5) years to provide TRS and must submit regular reports demonstrating compliance with FCC rules. In Virginia, VDDHH is certified by the FCC as the Virginia TRS administrator responsible for overseeing the provision of relay services.

Historically, the administration of TRS at the state level has been supporting analog-based relay services, such as TTY-to-voice and CTS. These services involve traditional landline infrastructure and have long been the focus of state-managed relay programs. Newer relay technologies that use the internet, such as Internet Protocol Relay (IP Relay), Video Relay Service (VRS), and IP-based Captioned Telephone Service (IP CTS), have been funded and administered by the FCC at the federal level. This division means that historically, Virginia's state program has not directly provided these IP-based services, but this is changing as telecommunication services migrate to digital platforms.

Overview of Virginia Relay and Current Services

Established in 1991, Virginia Relay provides TRS for residents in the Commonwealth and is funded through a combination of federal and state funds, ensuring that it is provided at no cost to users beyond their standard telephone charges.

Virginia Relay operates 24/7 through a contract with a relay provider, Hamilton Relay, and is funded through the state's Communications Sales and Use Tax Trust Fund. This fund collects revenues from the statewide communications sales and use tax levied on all landline, wireless and VOIP subscribers. After Virginia Department of Taxation (VTAX) administrative costs are covered, the first distribution from the fund is allocated specifically to the Virginia Department for the Deaf and Hard-of-Hearing to support the operation of the telephone relay services and equipment distribution program, as outlined in the Code of

Virginia (§ 51.5-115). Only after this essential service is funded are the remaining revenues distributed to localities based on a formula set by the Commonwealth. This structure ensures that relay services are prioritized and consistently funded as a vital public service in communication access before other distributions are made to cities and counties.

Virginia Relay currently supports a range of relay call types to meet diverse user needs.

Table 1 below summarizes the major relay modalities offered and who typically uses them:

Type of Relay	Description	Used By
Teletypewriter or Text Telephone (TTY/TDD)	TTY/TDD utilizes an analog device that includes a keyboard for typing and a screen for reading the other person's response	People who are Deaf or Hard of Hearing and use text-based communication on the phone
Hearing Carry Over (HCO)	HCO users listen directly to the other party and through specialized equipment, type their responses which are relayed to the other party by a CA.	People who can hear but regularly or occasionally have difficulty speaking
Speech to Speech (STS)	STS involves specially trained CA's who are familiar with the speech patterns of a wide variety of individuals who have difficulty being understood	People who have difficulty speaking or being understood
DeafBlind Services (DBS)	DBS users type their messages and read the other party's response (typed by the CA) on their braille device	People with combined hearing and vision loss who can read braille
Voice Carry Over (VCO)	VCO users speak directly to the other party and through specialized equipment, read what is spoken by the other party (typed by the CA).	People who can speak but have hearing loss that prevents them from hearing and understanding conversations over the phone.
Captioned Telephone Services (CTS)	CTS users speak directly to the other party and listen to their responses while reading captions of what the other party has said.	People who have some degree of hearing loss or cognitive processing disorders make it difficult to understand what is being said over the phone.
Remote Conference Captioning (RCC)	RCC delivers word-for-word captions over the Internet to the RCC user, while others listen on the telephone. To use RCC, you need access to a conference bridge and to an Internet-connected computer, tablet or smartphone.	People who have some degree of hearing loss and need captioned support in a conference call.

All these relay services have historically relied on analog telephone infrastructure using the copper telephone network. Over the past decade, however, telecommunications have

rapidly shifted toward digital and internet-based solutions, prompting a need to modernize relay services.

The Rise of RTT and IP-Based Relay Technologies

RTT is a modern text communication protocol now built into many smartphones and telecommunications networks. Unlike TTY, which transmits characters via tones over an analog line, RTT sends text instantly as it is typed over internet or wireless IP networks. This character-by-character transmission allows conversation to flow more naturally, without the need to say "go ahead" or take turns as with TTY. In a relay context, RTT enables a text user to intermix typing and reading in real time, closely mimicking voice conversation. Virginia is considering RTT as a primary solution to replace legacy TTY for text-based relay users once telecommunication carriers retire analog lines. RTT functionality is already supported on most mobile devices and by national carriers, meaning many users can potentially use relay via RTT without additional specialized equipment beyond an enabled smartphone or tablet.

In addition to RTT, Virginia Relay is evaluating and promoting other IP-based relay technologies that are increasingly the standard nationwide:

- **Internet Protocol Relay (IP Relay):** A text-based relay service that operates entirely over the internet. Instead of using a TTY device and a phone line, a user can type and read conversations through a computer or mobile app. The conversation is relayed by a CA in real time, like TTY relay. Because it uses the internet, IP Relay offers mobility and flexibility (e.g. the user can be on a smartphone anywhere with data service).

- **Video Relay Service (VRS):** A relay service that allows a Deaf or Hard-of-Hearing person whose primary language is American Sign Language (ASL) to communicate visually through a remote sign language interpreter. The Deaf user signs via a webcam or videophone to the interpreter, who voices the message to the hearing party. The interpreter then signs the hearing party's response back to the Deaf user, enabling a faster and more expressive conversation than typing. VRS is funded federally and provided by FCC-certified VRS providers at no cost to users. As broadband internet becomes more widely available across Virginia including rural areas, many former TTY users who are fluent in ASL are expected to transition to VRS for a more natural communication experience. VRS has been transformative in allowing Deaf users to communicate in their native language rather than via text, and

its usage has grown steadily as infrastructure improves. Virginia Relay will support this transition by educating users about VRS options and ensuring that VDDHH programs, e.g. equipment distribution and outreach, include support for video communication needs.
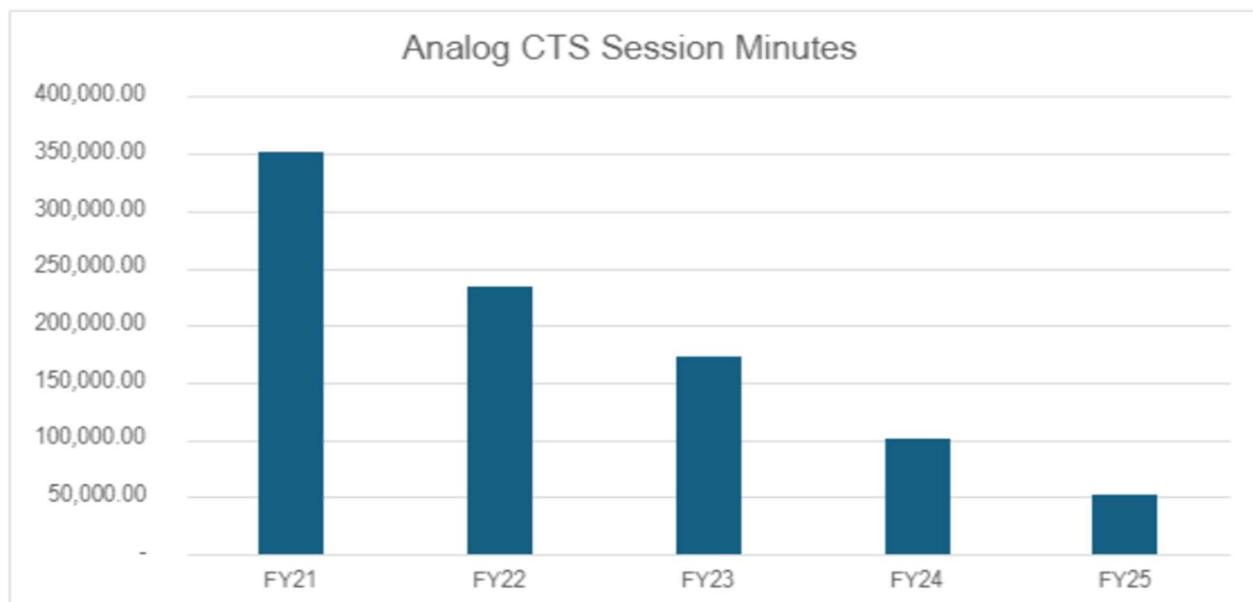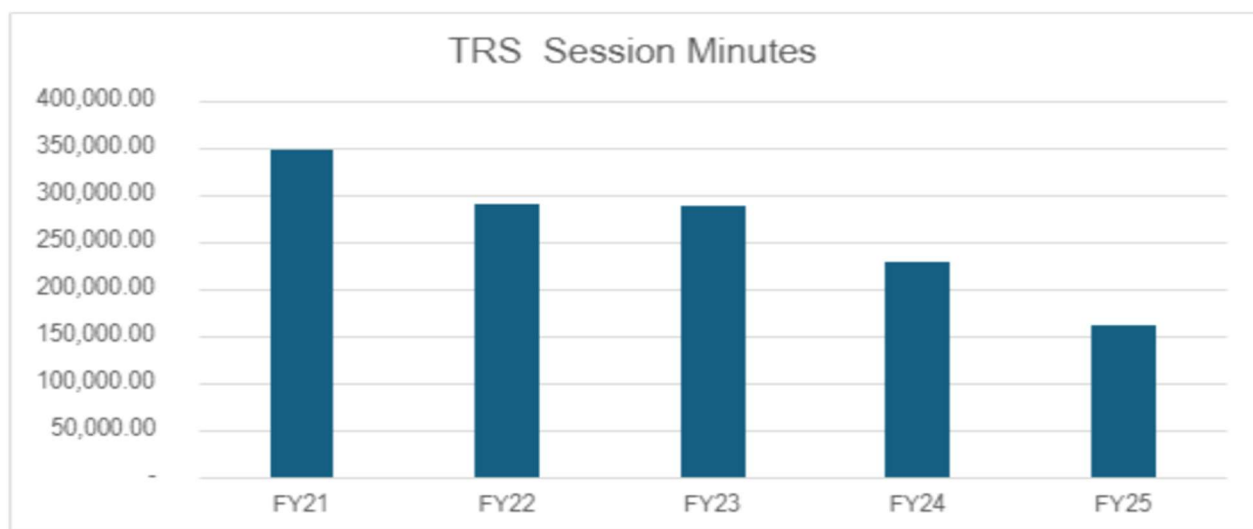
- **IP Captioned Telephone Service (IP CTS):** The modern form of CTS which uses an internet connection to carry the captioning data. A user with hearing loss can speak to the other party over a regular phone line (or VoIP line) and simultaneously receive captions over the internet on a screen. IP CTS phones or apps are provided by relay providers with FCC certification, and the cost of captions is covered by the Interstate TRS Fund. In Virginia, many analog CTS users have already migrated to IP-based captioned phones. The Virginia TAP under VDDHH has ensured that digital captioned telephone devices are available in its inventory for distribution to those who need them. As a result, the shift from analog to IP for captioned telephones has largely been accomplished in recent years, with no additional cost or disruption to users.

- **Remote Conference Captioning (RCC):** Already inherently an internet-based service, RCC will continue to be available as part of Virginia Relay's offerings. As communications evolve from telephone conference bridge to online meeting platforms, RCC is expected to remain a vital service for individuals with hearing loss who participate in conference calls or virtual meetings. The transition to a fully digital environment will only improve the ease of accessing RCC. For instance, integrating caption streams into video meeting software. RCC using an in-person captioner is more accurate than using 'Automated Speech Recognition' (ASR) which is more prone to errors.

In summary, the core feature of the new relay environment is the use of internet protocol (IP) technologies to carry over data, text, voice, and video in real time, rather than relying on the legacy analog telephone network. This transition brings improvements in speed, accessibility, mobility, and interoperability with modern devices. However, it also requires proactive planning and innovative solutions to ensure all current relay users can continue to communicate effectively.

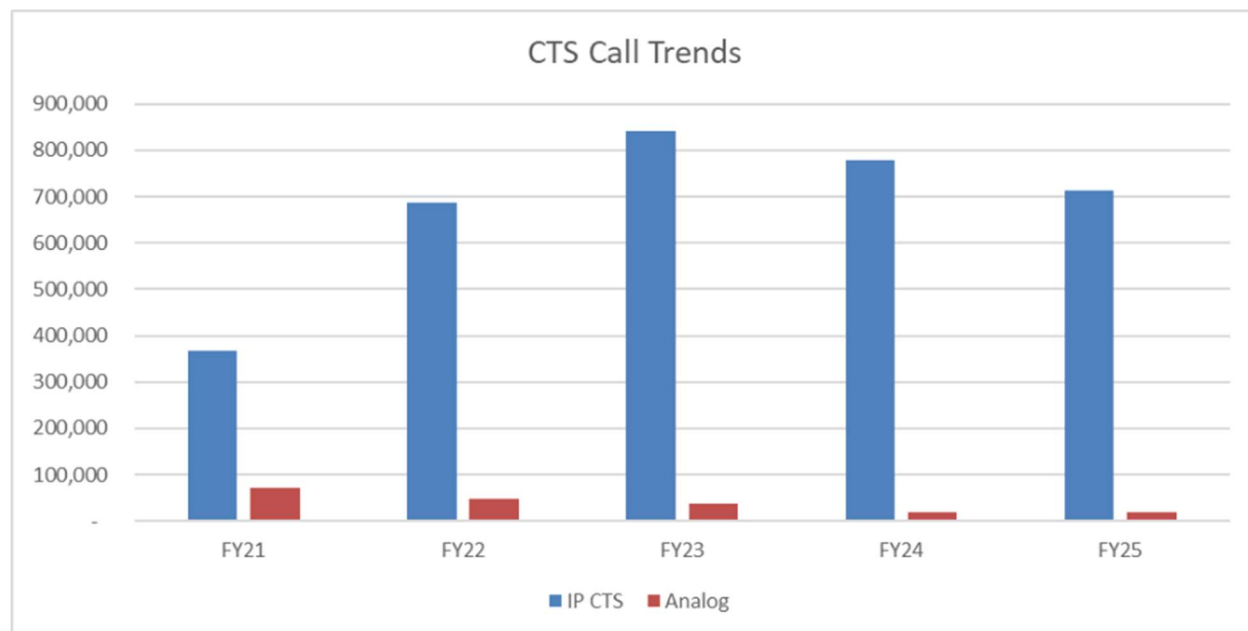## Declining Use of Legacy Relay and Need for Modernization

The move toward RTT and other digital relay solutions is driven in part by clear trends in relay usage. Over the past decade, Virginia Relay has experienced a steady decline in the use of traditional analog relay services (such as TTY-based calls and analog CTS calls). See the

downward trend on both charts based on Virginia's Annual Total TRS and CTS Session minutes. Session minutes refer to the total amount of time that relay calls are actively connected and handled by a communications assistant, and are the standard measure used to track overall relay service usage. Fewer minutes of relay service are being used each year, and the number of unique relay users has also dropped. This is largely because many individuals who once relied on relay have adopted mainstream communication alternatives (like texting, email, or video chat) or have switched to IP-based relay services (e.g. VRS and IP Relay) on their own.

TRS Session Minutes

Analog CTS Session Minutes

The following chart illustrates the trend in the transition from analog CTS calls to Internet Protocol (IP)-based CTS calls over the past five fiscal years. It highlights a clear shift in user

preference and technology adoption, reflecting the growing reliance on internet-based relay services as analog systems become increasingly outdated.

At the same time, we recognize that not all current relay users have transitioned yet. A segment of users still relies on TTY and other legacy services due to personal preference, lack of broadband access, or not being comfortable with newer technology. Virginia Relay's modernization efforts therefore must balance two goals: (1) facilitate and encourage the adoption of superior digital communication options for those who can benefit, and (2) continue to support legacy users until they can be safely and effectively transitioned to an appropriate alternative based on digital technologies.

Initial Modernization Efforts and Alternatives for TTY Users

Virginia Relay began planning for the analog-to-digital shift several years ago. One early initiative was an exploration of a dedicated RTT-over-IP platform for the state: in partnership with technology vendors nWise and Hamilton Relay, we considered developing an Over-the-Top (OTT) application that would allow existing TTY users to make relay calls over the internet through Virginia Relay's system. This platform's goal was to emulate the TTY experience in a modern app, providing a bridge for TTY users as landline infrastructure is retired.

However, after reviewing the vendor's proposal and cost estimates, the solution was deemed not cost-effective. The projected annual cost of the custom RTT solution up to $600,000 per year, a substantial expense. A key uncertainty was user adoption: it was difficult to predict how many current Virginia Relay TTY users would use the new OTT

application once their phone lines went digital. If only a small number of users took advantage of it, the cost per user would be extremely high. Given the steady decline in TTY usage, the Commonwealth could not justify such a large ongoing expenditure without clear evidence of need. The initial plan to fund this through a federal BEAD (Broadband Equity, Access, and Deployment) grant through the Department of Housing and Community Development (DHCD) was reconsidered considering more efficient alternatives.

Instead of building a proprietary Virginia-specific RTT platform, VDDHH has identified more effective and sustainable alternatives to support text-based relay communication:

- **Leveraging Existing IP Relay Services:** As mentioned, Virginia Relay is steering text relay users to IP Relay, an established service funded through the FCC. By promoting an existing nationwide solution, Virginia can ensure that text relay users have uninterrupted service as analog TTY is phased out, without incurring the high costs of maintaining its own text relay platform. Outreach efforts are underway to inform all current TTY users about how to sign up for and use IP Relay on their computer or mobile device. This approach provides continuity (the basic functionality of typing to a CA and getting responses remains the same) but takes advantage of an IP network for greater speed and availability.

- **Built-in Mobile RTT/TTY Features:** Modern smartphones often include built-in accessibility features such as RTT or even simulated TTY modes that work over cellular networks. Virginia Relay is educating users on how they can use mobile devices to dial 711 and communicate via text in real time. For instance, an iPhone or Android phone with RTT enabled will allow the user to conduct a relay call (711) where they type and read in real time, with the relay CA converting between voice and text. This method requires the user to have a compatible phone and service plan, but no additional hardware. It offers mobility and convenience, enabling users to place relay calls from anywhere without a special terminal. We are working with consumers to ensure they know how to activate and use these features, and with wireless carriers to verify support for 711/TTY/RTT calls on their networks.

- **Equipment Distribution of Tablets and Accessories:** Through VDDHH's TAP, Virginia Relay is expanding the types of equipment available to consumers. The TAP aka Virginia's equipment distribution program has begun providing tablets (such as iPads) paired with Bluetooth keyboards to eligible users who previously relied on TTYs. A tablet with an internet connection (or wireless service) can run IP Relay apps or access web-based relay services, effectively serving the role of a TTY in the digital age.

By supplying these devices and training users in their use, VDDHH ensures that even individuals without a modern computer or smartphone can migrate to an IP-based solution. This has been a critical step in reducing barriers: users get the expensive hardware they need at low or no cost, along with support to learn the new technology, so they can continue communicating as the landscape evolves.

Through these measures, Virginia Relay aims to maintain full text-based communication access for all current users, even as analog phone lines give way to broadband and wireless networks. Notably, these solutions (using existing IP Relay and consumer devices) can be deployed at a fraction of the cost of building a new platform, maximizing the use of both federal and state resources and existing consumer technology.

Future Service Enhancements and Accessibility Initiatives

Looking beyond replacing TTY functionality, Virginia Relay is also planning for new services and enhancements to meet needs that are not fully addressed by current relay services:

1. **Communication Facilitator (CF) Program:** One significant proposal is the creation of a CF program to support individuals who are DeafBlind or have more complex communication needs that make traditional relay (even with new technology) challenging to use independently. A CF is a trained professional who can accompany a DeafBlind person or others with multiple disabilities, assisting them in using communication devices and relay services. This might include physically dialing or connecting equipment, providing tactile or visual support (such as guiding a DeafBlind person's hands on a device or interpreting visual information on screens), and helping manage the flow of the call. At the same time, the CF is maintaining strict confidentiality and neutrality, just as a CA does. The CF does not replace the relay CA or interpret the call's content but rather helps the user interface with the technology and service.
   - o **How it works:** For a DeafBlind user, the CF might come to the user's location and set up a braille display or tablet, ensure the relay call is connected properly, and help the user know when the other party is responding (through tactile signals), etc. This kind of support can dramatically increase the ability of some individuals to make independent calls via relay, whereas they might otherwise struggle with the equipment or call setup.
   - o **Collaboration:** The CF program would be managed by Virginia Relay and coordinated with professionals and organizations serving DeafBlind individuals.

o **Projected cost:** Establishing and operating the CF program is estimated to cost approximately $150,000 to $300,000 per year, depending on the scale of implementation. This cost covers hiring or contracting CF providers across regions, training, program coordination and administration, and outreach to identify and serve eligible consumers. Initial startup costs may be slightly higher in the first year to develop training materials, purchase any necessary equipment for CFs, and conduct outreach and stakeholder engagement to launch the program. This investment is expected to greatly improve accessibility and reduce communication barriers for a small but highly underserved group of Virginians.

2. **Direct Video Calling (DVC) for ASL Users:** As a long-term goal, Virginia Relay is exploring opportunities to enable direct video calls between ASL users and certain Commonwealth call centers or customer services. For example, customer call centers could be staffed with ASL fluent agents who communicate directly in sign language, eliminating the need for a relay intermediary. This model, already promoted by the FCC in pilot programs for 911 services and national corporations, offers faster and more accurate communication in emergencies and daily interactions. Virginia has already seen the benefits of this approach when DVC was temporarily offered during the COVID pandemic through the Virginia Department of Health "Vaccinate Virginia" customer service, which allowed Deaf residents to connect directly in ASL for critical information and support.   VDDHH had received national recognition for this effort.

   o **Why it matters:** For Deaf residents, ASL is a primary language and not simply a communication tool. Traditional relay services add layers of translation and delay that can distort nuance or urgency. Direct Video Calling eliminates these barriers by allowing direct ASL communication. Studies and pilot programs show that accuracy improves, call times shorten, satisfaction rises, and agencies see fewer complaints. DVC also creates new employment opportunities by staffing DVC call centers with Deaf professionals and ASL proficient employees, increasing both access and inclusion.

   o **How it works:** DVC does not require a separate number. Consumers can connect through existing agency lines, web-based widgets, or QR code linking to a video portal. Calls are routed to ASL proficient agents working securely from either teleworking or office environments. The service is fully compliant with privacy and security standards and can include feedback tools such as post call surveys to measure quality.

- **Projected cost:** Ongoing DVC operations are expected to cost approximately $150,000 to $300,000 per year depending on the scale of adoption. This range covers staffing, training, platform support, and outreach. Initial startup costs may be higher for technological integration and promotion, but long-term expenses are stable and predictable. Importantly, Virginia's declining analog relay expenditures, which dropped from over $2.0 million in FY21 to about $1.58 million in FY25, created a fiscal cushion to invest in DVC without increasing overall appropriation for relay services.
- **Collaboration:** The program would be managed by Virginia Relay in coordination with state agencies and a DVC provider. Integration with Next Generation 911 planning will ensure Virginians also have access to direct ASL emergency services in the future.

3. **Emerging Technology in Relay Modernization:** Virginia Relay is preparing to incorporate emerging technology that can extend communication access well beyond current relay models. These innovations include artificial intelligence powered communication tools, sign language recognition systems, haptic communication devices, and other modern solutions that are becoming increasingly practical. While these technologies are still in development, their potential to transform communication access for Deaf, Hard of Hearing, DeafBlind, and speech disabled Virginians is significant.
    - **Why it matters:** Traditional relay services have always depended on human communication assistants to provide access. Emerging technology has the potential to reduce barriers even further by enabling more natural, flexible, and faster communication. Artificial intelligence can support real time translation, avatar-based communication in sign language, and intelligent captioning that adjusts to context. Sign language recognition systems can allow a person to sign directly to a device which then translates the message into text or voice. Haptic communication can provide tactile alerts and cues that expand accessibility for DeafBlind users. Together, these tools can enhance independence, reduce wait times, and provide options that fit the user's language and sensory preferences.
    - **How it works:** Emerging technologies would be introduced as complementary tools alongside core relay services. For example, a Deaf user could sign to a smartphone or tablet camera, with a recognition system converting the signs into spoken English for the hearing party. An AI powered avatar could then relay the hearing party's response back in sign language. Haptic devices might vibrate in distinct patterns to notify a DeafBlind user

when a caller is speaking, when a message is complete, or when urgent attention is needed. These tools can be integrated into consumer devices already distributed through the Technology Assistance Program or connected to agency call centers as part of digital modernization.

- o **Projected cost:** Costs for emerging technology are variable and depend on the speed of development and adoption. Early pilots are expected to range from 100,000 to 250,000 dollars annually. As tools mature and are scaled statewide, costs could reach the higher end of that range but will remain manageable within Virginia Relay's overall $2,062,834 annual budget, especially as analog relay expenditures continue to decline. Investments in these innovations are expected to pay dividends in efficiency, accessibility, and user satisfaction.

- o **Collaboration:** The program would be guided by Virginia Relay in partnership with universities, technology companies, and organizations. Pilot projects will be essential to test effectiveness, gather feedback from Deaf and Hard of Hearing consumers, and ensure that tools meet real accessibility needs.

4. **Next Generation 911 (NG911) Integration:** In parallel with relay modernization, Virginia is participating in the nationwide transition to NG911, which upgrades emergency call centers to handle text, video, and other data. An important aspect is ensuring that text-to-911 services (sending an SMS to 911) and eventual RTT-to-911 capabilities are in place, so that people who cannot voice call 911 have a direct text alternative in an emergency. Additionally, as mentioned, enabling three-way video calls involving a VRS interpreter for 911, or direct video, are being examined at the federal level. Virginia Relay's role is to collaborate with public safety agencies so that as relay users transition off analog (where they might have used TTY to call 911), they have reliable new methods to reach help. The integration of relay and NG911 systems will be critical for safety; for example, if a Deaf person using IP Relay contacts 911, procedures must ensure the call is routed correctly and handled without delay. Ensuring all relay users understand the best way to reach emergency services during and after the transition (whether via text, relay, or video) is a priority in our outreach efforts.

In summary, the features and technologies guiding Virginia's relay transition include RTT for swift text communication, IP-based relay services (text, video, and captioning) for modern accessibility, and supporting programs like equipment distribution and communication facilitators to fill any gaps. By embracing these technologies and supports, Virginia Relay

will move from an analog-based system to a statewide digital relay platform that is faster, more versatile, and more aligned with how people communicate today.

(ii) Estimated Cost to Transition from Analog to Digital Relay Services (and Methodology)

Transitioning Virginia Relay from an analog-based operation to a digital platform entails several cost components, but the approach chosen by VDDHH aims to minimize new expenses by leveraging existing funding, services and infrastructure. Below is an overview of the expected costs for the transition and the methodology used to arrive at these estimates:

One-Time and Upfront Transition Costs

- **Technology Platform Costs:** One major cost consideration was whether to develop or procure a new digital relay platform specifically for Virginia (for example, a custom RTT relay system to replace TTY). As detailed above, the VDDHH examined an OTT RTT solution with an annual cost of up to $600,000. After analysis, this approach was deemed not cost-justified due to uncertain user uptake and the availability of alternative solutions. By opting to utilize existing IP-based relay services, Virginia avoids the substantial expense of building and maintaining a proprietary platform. In essence, the state is not purchasing a new relay system, but rather redirecting users to federally supported systems. This strategic decision dramatically reduces the transition's direct technology costs.

- **Equipment Upgrades and Replacements:** Another upfront cost involves ensuring all user equipment provided through the TAP is compatible with digital networks. VDDHH conducted an inventory of devices distributed via the TAP to identify what needs upgrading. The primary items were traditional TTY machines and older analog captioned telephones. TAP has already begun replacing these with internet-capable devices (e.g., tablets, or IP caption phones). The cost of these equipment upgrades is currently managed within TAP's existing budget, which is funded at $500,000 per year from the Communications Tax Trust Fund. VDDHH would request an appropriation increase to the TAP budget of $750,000 beginning in FY27. By phasing in device replacements as needed and utilizing available special funding, we expect to absorb equipment costs without a large one-time spike. For example, the cost of providing a tablet and keyboard to a user in lieu of a TTY is expensive and yet, some of the devices have already been procured through TAP's annual funding. Our

methodology here was to estimate the number of remaining analog-dependent users and calculate the cost of providing each with a modern device or upgrade.

- **Outreach and Training Costs:** Educating users and stakeholders about the new relay technologies is a crucial part of the transition. There will be some costs for developing instructional materials, conducting training or workshops, and staffing outreach events. These costs are relatively low and will be covered by VDDHH's Technology Services budget. Methodologically, we estimated outreach costs by considering the number of user events and materials needed over the transition period. Many outreach activities can be completed by the dedicated Hamilton Outreach Coordinator, integrated into VDDHH staff duties or done in partnership with the TAP's contracted Deaf and Hard of Hearing Regional Specialists keeping additional expenses minimal.

- **Administrative/Contractual Costs:** As long as there are analog relay services, the VDDHH must administer the relay contract with Hamilton Relay. In fact, the current relay service contract was recently extended for two years to ensure continuity through the transition period. This extension came with an increased cost due to factors such as inflation and decreasing call volumes (which can drive up per-minute costs). The increased cost of Hamilton's two-year extension essentially represents a transitional expense, which means paying more to keep the legacy service operational until the analog telephone network is phased out and the new digital solutions are fully in place. We have accounted for this by using the existing appropriation levels to cover the contract extension. The methodology for this estimate was straightforward, relying on Hamilton's quoted rates for the extension period compared to the previous contract costs, acknowledging declining call volume and it has been incorporated into our budget forecasts.

In summary, by choosing a transition strategy that uses existing IP relay infrastructure and current funding mechanisms, Virginia expects the direct cost of transitioning to be modest. Unlike some technological transitions that require a large capital investment, our plan avoids a major upfront expenditure. The costs are spread out: gradual equipment updates via TAP, ongoing outreach efforts, and maintaining the old system for slightly longer than initially anticipated.

Methodology for Cost Estimation

To ensure realistic and evidence-based cost estimates, VDDHH employed the following methodologies:

- **Vendor Proposal Analysis:** We obtained cost proposals for potential technical solutions (e.g., the nWise/Hamilton RTT platform) to understand the price range and recurring costs of a dedicated digital relay service. This gave a high-end benchmark (the $350,000–$600,000 per year figure) which we could then evaluate against expected user numbers. By analyzing current TTY user statistics and consulting with other states and the National Association of State Relay Administrators (NASRA), we projected a likely usage scenario for such a platform. The result of this analysis showed a high cost per user, which influenced the decision to not proceed with that investment.

- **User Base and Usage Trend Analysis:** We reviewed Virginia Relay call volume data and unique user counts over the past five years. This historical data provided insight into how quickly analog relay usage is declining. For example, the steady drop in analog CTS minutes and the shift to IP CTS was quantified. We used these trends to forecast how many users might still require support in each of the next few years and what their needs would be. This directly informed cost projections for both the legacy service (e.g., contract costs are likely to decrease as minutes drop, though offset by higher price-per-minute (PPM) charges) and new services (e.g., CF or how many devices might be needed). Essentially, our cost model ties expenditures to user demand, which is expected to decrease for analog and increase for digital alternatives until most legacy services are phased out as new digital services are being utilized by a majority of users.

- **Consultation with Federal Programs:** Since much of the digital relay usage will leverage FCC-funded services (IP Relay, VRS, IP CTS), the FCC and relay providers are positioned to absorb additional Virginia users without cost to the state. These VDDHH-FCC discussions confirmed that the Interstate TRS Fund will cover the usage of Virginians on these services just as it does today for any American user. Thus, the state will not incur per-minute charges for IP-based relay, which is critical cost avoidance. Our cost estimate methodology therefore treats the shift of minutes from state-paid analog relay to federal funded IP relay as a cost reduction for the state, aside from minimal administrative overhead in guiding users to digital services.

- **Equipment Cost Calculation:** TAP's device replacement needs were calculated by identifying how many analog devices, such as TTYs and older captioned telephones, are still in active use by program participants. Modern equivalents, such as iPads with data plans or IP caption phones, were then specified and priced. By multiplying unit costs by the number of devices required, and factoring in bulk purchase discounts and existing inventory, a total expected equipment cost was determined. This was compared against TAP's annual funding. Some replacements had already been completed in prior years, as TAP has been distributing digital captioned telephones for some time. However, the number of users who still need new devices continues to grow. The cost for the remaining device upgrades is spread over FY24 and FY25 and fits within the current $500,000 annual TAP allocation. Even so, the allocation should be increased to $750,000 to provide the additional resources needed to manage the program's expansion.

- **Equipment Assessment, Installation, Training, Troubleshooting Services:** VDDHH contracts with nonprofit providers to deliver TAP services through part time Deaf and Hard of Hearing Regional Specialists. The Commonwealth is divided into eight regions, each budgeted at $40,000, except for Southwest Virginia which receives $80,000. At present, three regions do not have a Regional Specialist. Funding for these services comes from both TAP (non-GF) and Community Services (GF). We recommend increasing the allocation from $40,000 to $80,000 per region to improve recruitment and retention and to increase the likelihood of filling the uncovered areas. As an alternative, we also propose merging two regions into one position, rather than maintaining two separate positions, to strengthen recruitment efforts for regions that have remained vacant for an extended period.

- **Communication Facilitator Program Cost Methodology:** Though not strictly a cost of "transitioning the relay service" (it is a new program to improve access), we included the CF program in our financial planning for the coming years. The cost of $100,000 was itemized based on a pilot planning and implementation serving a certain number of regions/users. However, after launching the CF program, the cost to support the CF program will range from $150,000 to $300,000 annually. We mention this here because it will be part of the overall budget needs in the digital era. The methodology for estimating CF costs was to model projections for Virginia's needs based on similar programs in other states, such as Maryland Relay and Oregon Relay. This ensures the estimate is grounded in actual expected service levels.

- **Direct Video Calling (DVC) Cost Methodology:** To ensure realistic and evidence-based cost estimates for Direct Video Calling, VDDHH recommends a phased approach beginning with a pilot. In FY27, $100,000 would be allocated for planning and an initial launch with the Department of Social Services. This pilot would allow for evaluation of technology integration, staff training, and consumer use, while minimizing financial risk. Findings from this first phase will inform the expansion of DVC in FY28 to other state agencies, ensuring that technical and operational challenges are addressed before scaling. To prepare cost estimates, VDDHH met with two established DVC providers, including Communication Services for the Deaf (CSD) ASL Now and 360 Direct Access, to gather pricing information for per agency implementation. To preserve provider confidentiality, the projected cost range was developed by averaging the estimates received from both DVC providers. This methodology provides a balanced forecast that reflects market realities while maintaining neutrality toward individual providers.

- **Emerging Technology Cost Methodology:** To ensure realistic and evidence-based cost estimates for emerging technology, VDDHH recommends beginning with pilot projects before pursuing large scale adoption. In FY28, $100,000 within the existing budget should be allocated to support initial planning and testing of tools such as artificial intelligence communication systems, sign language recognition, and haptic communication devices. This timeline allows planning to begin after the CF and DVC programs are fully implemented. The pilots would focus on limited use cases with partner organizations to evaluate technical performance, user satisfaction, and operational feasibility. Based on the outcomes, the program could expand in FY29 to additional agencies and service areas with an annual budget of $150,000 to $400,000. This step-by-step approach ensures that new technologies are thoroughly tested, refined, and scaled only after demonstrating effectiveness and community acceptance.

  Overall, the Commonwealth's cost estimation approach for this transition has been conservative and data driven. By relying on known quantities and avoiding speculative large investments, we can confidently state that the transition from analog to digital relay can be achieved within the existing financial capacity of Virginia's relay program. In other words, no additional funding beyond what is already appropriated for relay services is anticipated for the execution of this transition plan.

(iii) Six-Year Projection of Operating Costs for a Statewide Digital Relay Platform (and Methodology)

With the transition to a modern relay framework, we have projected the operating costs for Virginia Relay over a six-year horizon (FY26 through FY31). This projection outlines expected expenditures for providing relay services in an increasingly digital environment, and it is accompanied by an explanation of how these figures were derived.

Year	FY26	FY27	FY28	FY29	FY30	FY31
TRS Minutes	155000	131750	111988	95189	80911	68774
TRS Rate	$ 4.50	$ 4.64	$ 4.77	$ 4.92	$ 5.06	$ 5.22
TRS Cost	$ 697,500.00	$ 610,661.25	$ 534,633.92	$ 468,072.00	$ 409,797.04	$ 358,777.31
CTS Minutes	50000	37500	28125	21094	15820	11865
CTS Rate	$ 1.85	$ 1.91	$ 1.97	$ 2.03	$ 2.09	$ 2.15
CTS Cost	$ 92,700.00	$ 71,610.75	$ 55,319.30	$ 42,734.16	$ 33,012.14	$ 25,501.88
RCC Minutes	32715	24536	18402	13802	10351	7763
RCC Free	10000	10000	10000	10000	10000	10000
RCC Billable	22715	14536	8402	3802	351	0
RCC Rate	$ 3.45	$ 3.55	$ 3.66	$ 3.77	$ 3.88	$ 4.00
RCC Cost	$ 78,389.47	$ 51,669.54	$ 30,761.80	$ 14,335.99	$ 1,364.23	$ -
CF	0	$ 100,000.00	$ 150,000.00	$ 187,500.00	$ 234,375.00	$ 292,968.75
DVC	0	$ 100,000.00	$ 150,000.00	$ 200,000.00	$ 250,000.00	$ 300,000.00
Program Reserve	$ 694,244.54	$ 378,892.46	0	0	0	0
Emerging Tech	0	0	$ 392,118.97	$ 400,191.85	$ 384,285.60	$ 335,586.07
Relay Total	$1,562,834.00	$1,312,834.00	$1,312,834.00	$1,312,834.00	$1,312,834.00	$1,312,834.00
TAP	$ 500,000.00	$ 750,000.00	$ 750,000.00	$ 750,000.00	$ 750,000.00	$ 750,000.00
Grand Total	$2,062,834.00	$2,062,834.00	$2,062,834.00	$2,062,834.00	$2,062,834.00	$2,062,834.00

Projected Operating Costs (FY26–FY31)

The six-year projection shows that annual operating costs for Virginia Relay are expected to remain relatively stable, with some adjustments in cost distribution as the program shifts focus from analog to digital support:

- **Analog TRS** – *15% annual decline.* TRS relay usage has been falling consistently. A five-year trend analysis using linear regression found that Virginia's analog TRS minutes have been dropping by roughly 15% per year. We carried this decline rate forward in the projections. This means each year from FY26 through FY31, the volume of billable TRS relay minutes is assumed to be the average of about 15% lower than the year before. This figure is supported by recent data. For example, Virginia's total traditional TRS usage and user counts have trended downward each year in tandem with the nationwide analog-to-digital shift. By extending the 15% annual drop, our

model captures the continued erosion of TRS relay demand until it reaches a minimal maintenance level.

- **Analog CTS** – *25% annual decline*. The use of analog captioned telephone service and related devices in Virginia is shrinking. Historical call volumes show a steady drop in analog CTS usage of on the order of 20–30% per year, as users migrate to Internet-based captioned phone or other modern solutions. We conservatively modeled this as a 25% yearly decline in analog CTS minutes/costs through FY28. This rate is justified by the sharp decrease in active analog CTS users over the past five years – for instance, the number of Virginia captioned phones in regular use plummeted from roughly 150 in early 2021 to only around 40 by early 2025 (a drop of about 25% each year). In the projection, we assume Virginia will continue to lose about one-quarter of remaining analog CTS traffic annually. Consequently, the budget allocated for CTS is forecast to shrink by 25% each year, until these costs are virtually eliminated.

- **RCC** – *25% annual decline*. RCC demand has likewise been decreasing as consumers turn to alternative captioning solutions and mainstream digital platforms. Virginia's spending reports reveal that RCC usage has dropped significantly year-over-year. For example, total RCC minutes fell from about 89,310 minutes in FY22 to 67,305 in FY23, which is roughly a 25% decline, and continued downward to 47,970 minutes in FY24. Based on this trend, the model applies a 25% annual reduction in RCC usage and costs moving forward. In practice, this means each successive year sees a quarter fewer RCC service minutes. We chose 25% as a middle-range estimate reflecting recent history (annual RCC usage reductions in the 25–30% range). This approach is also consistent with an expected tapering off state-provided RCC as other captioning technologies (including automatic transcription in virtual meeting platforms) gain traction.

- **TAP and Equipment Costs:** The projection maintains a steady investment in TAP at current levels with an increase to $750,000 annually starting in FY27 to cover ongoing equipment distribution and upgrades. In the initial years of the transition, a portion of TAP funds would be used for replacing TTYs with digital devices as discussed. In later years, we project the TAP budget would need to increase allowing for a transition to providing newer digital technology. For example, newer smartphone models and tablets, as needed to keep consumers connected. We assume a small increase in annual equipment costs due to inflation and the need to support emerging

technology. For instance, if new types of telecommunication devices are developed, TAP might include them.

- **CF Program Operating Costs:** The program begins with a $100,000 planning and pilot phase in FY2027, followed by full implementation in FY2028. Once implemented, the CF program adds an annual operating expense of about $150,000. This recurring cost is included in the projection, with gradual growth anticipated over six years as the program expands to additional regions and serves more clients. By FY31, the cost is projected to reach approximately $294,000. While this is a new expense not in the current analog relay budget, it will be offset as other costs decline to nearly zero once analog services are fully retired.

- **Outreach, Education, and Support Costs:** We anticipate maintaining robust outreach and user support efforts throughout the six-year period to ensure all current and potential relay users know about and can effectively use digital services. The projection allocates funds for outreach. Specifically, years 1–3 have a higher outreach budget (to conduct statewide trainings, publicize new services like RTT and IP Relay, and assist users one-on-one). By years 4–6, once most users are comfortable with the new technologies, outreach spending can taper to normal levels with a focus on ongoing education and reaching any remaining or new users.

- **Administrative and Miscellaneous Costs:** Administrative overhead for program management, monitoring, and reporting is expected to remain stable. VDDHH will continue to require staff to manage the relay contract, oversee TAP, and coordinate the new initiatives. The projection includes personnel cost increases (salary and, benefits) and inflation for administrative expenses. We do not foresee a need for a significant staff increase; rather, current staff roles will evolve to handle the digital services. For example, less time spent on TTY user complaints and more on IP Relay user support. Any training needed for staff to become knowledgeable about RTT, IP Relay, etc. is included in early years' costs.

In quantitative terms, if Virginia Relay's program including TAP currently costs roughly $2,062,834 as per the special fund appropriations in FY24–FY25, our projection shows this figure staying in the same range through the transition, with only slight fluctuations. By the end of the six-year period, the total cost might be reduced slightly or be reallocated: the spending on analog relay service fees drops off, but that budget is essentially redirected to the TAP and the CF programs and continued device support and training. Net change is minimal.

The operating forecast matches this timeline, with DVC shown at $100,000 in FY27 then $150,000, $200,000, $250,000, and $300,000 through FY31, the CF program shown at $100,000 in FY27 rising to approximately $293,000 by FY31, and emerging technology beginning in FY28 at just over $392,000 and tapering as pilots conclude and tools are absorbed into routine operations. Total spending remains $2,062,834 each year as analog relay costs decline, and funds are reallocated to these modern services.

Importantly, these projections assume no unexpected surge in relay usage. It is projected that analog usage will continue to drop, and while digital relay usage (IP Relay, VRS, etc.) may increase, the cost of that usage is funded by the FCC. The state's costs thus become more stable (programs, outreach, equipment, coordination) rather than the current variable per-call costs. We consider this a stable model; even if more people start using IP Relay or VRS, the state's costs do not spike, since we are not paying per minute for those digital services.

Methodology Used for Cost Projections

Our six-year projection methodology combined historical trend analysis with scenario-based forecasting:

- **Trend Analysis:** We looked at five-year historical financial data for Virginia Relay. This included expenditures from the Communications Sales and Use Tax fund for relay operations, TAP disbursements, and any general fund contributions. Notably, expenditures have been slightly declining in recent years in tandem with usage declines. We used linear regression and time-series methods on the minutes of use and user count data to extrapolate how much further analog relay usage might fall each year. For instance, if analog TRS minutes have been dropping by 15% annually, we extended that rate (tempering it as it approaches very low levels). We then translated minutes into cost, using current price-per-minute contractual rates. This gave us a baseline cost curve for the legacy service.

- **Introduction of New Costs:** On top of the baseline, we layered the new elements: the CF program, increasing demands for digital equipment, provision of DVC services, and enhanced outreach activities through contractors. Each of these was calculated as described earlier in the Projected Operating Costs section. We timed these additions in the model according to the implementation plan. For example, CF costs appearing in year 2 of the projection and increasing to full level by year 3.

- **Inflation and Contingency:** We applied a modest inflation factor (approximately 2-3% per year) to applicable cost categories, especially personnel-related and equipment costs. This accounts for expected increases in salaries, contract rate adjustments, and device prices. We also anticipate small contingencies in each year's projection to handle unforeseen expenses. This contingency is kept small and is meant to ensure our projection is not overly optimistic.

- **Federal Funding Assumptions:** A critical part of the projection methodology is assuming the continuation of federal funding for IP-based relay usage. We assume the FCC will continue to support IP Relay, VRS, and IP CTS as it does currently, and that Virginia users will have full access to those services without using state funds. Any changes at the federal level (for instance, if FCC policy shifted the costs to the states) would affect the projection. We judge this risk to be low for the projection period, given FCC's commitment to covering these IP-based relay services. Nonetheless, VDDHH will continue to monitor the FCC regulatory activities. In conclusion, the six-year operating cost projection for Virginia's digital relay platform is financially feasible and sustainable. By carefully planning the phase-in of new technologies and phase-out of old systems, the state can modernize its relay services without requiring additional funding beyond what is already dedicated to relay and TAP operations. The methodology used ensures that projections are grounded in real data and reasonable assumptions, giving confidence that the Commonwealth can support relay users throughout and beyond this transition period.

(iv) Proposed Timeline for Transition and Operationalization Plan for the Preferred Platform

Virginia Relay's transition from analog to digital services will be executed in a phased manner to ensure continuity of access and ample time for adjustment. The exact timeline may be influenced by external factors such as telephone companies retiring copper landlines, but the sequence and milestones below outline Virginia's approach. It also details the operationalization plan, which outlines how the preferred digital relay solutions will be rolled out and integrated into Virginia statewide relay program.

Transition Timeline (Phased Approach)

- **Preparation and Testing (2026 to 2027):** Virginia Relay will spend the initial period planning and conducting pilot activities. This includes testing RTT and IP Relay

options in real-world scenarios, identifying any remaining active TTY users, and beginning to distribute new digital equipment to those users. We will collaborate with the FCC and observe outcomes from other states' transitions during this phase. Beginning in Fiscal Year 2027, Virginia Relay will initiate two focused pilots. $100,000 will support planning and launch of DVC with the Department of Social Services. $100,000 will also support implementation of the CF program. These pilots provide an evidence-based start that aligns with the FY27 figures in the projection.

- Phase 1: **Public Awareness and Training (Mid 2026 through 2028)**: Upon submission of this report and pending Commonwealth of Virginia guidance in consultation with the Secretariat of Health and Human Resources (HHR), Virginia Relay will launch a comprehensive public awareness campaign. During this period:

  Hamilton Relay outreach coordinator, Deaf and Hard of Hearing Regional Specialists (TAP contractors) and VDDHH staff will offer workshops, both virtual and in-person (where possible), to demonstrate RTT calling, IP Relay apps, and other new technologies to consumers.

  - We will offer training to relevant professionals: audiologists, vocational rehabilitation counselors, and others who work with potential relay users, so they can help spread the word and assist their clients in the transition.

  - Internally, Virginia Relay will work with Hamilton Relay to ensure CAs are trained to handle RTT calls. For example, if a user calls 711 via a wireless carrier's RTT, the CA must know how to respond using compatible software.

  - Key milestone: By the end of Phase 1, every active Virginia Relay user should know about the transition and have either made the switch to a digital solution or have a clear path to do so. We expect that by late 2027, most of the daily relay traffic will already be happening on digital platforms (IP CTS, IP Relay, VRS), with only a small number of traditional TTY/analog calls still occurring.

- Phase 2: **Gradual Analog Service Decommissioning (Target: 2027–2028):** In this phase, Virginia users will begin phasing out the analog relay services, which the analog service continues until the last caller transitioned to digital relay:

  - Service types will be retired in an order that minimizes impact. For example, analog CTS calls might be the first to fully transition, since IP CTS is well-

established, and TAP already provides the devices. TTY-based outbound dialing through 711 can likely be retired once we are confident that either RTT/TTY via wireless or IP Relay covers all those users. We will likely maintain STS and HCO/VCO access through the VA Relay for a longer period if needed, but since those calls are actually handled by CAs and can continue with minor adjustments (just using digital routing rather than analog lines), they may not need to be "retired" so much as technically shifted to new infrastructure.

- o Throughout this phase, no relay service will be turned off until we are certain that equivalent or better alternatives are in place for all users who need it. This means some overlap will occur for instance, even if only a handful of people still use TTY relay, we must keep it operational a bit longer as safety net until they transition.

- o In FY27, Virginia Relay will conduct the DVC pilot with the Department of Social Services and begin limited CF operations. Findings will inform expansion in FY28 to additional agencies and regions. The projection reflects this with DVC growing from $100,000 in FY27 to $150,000 in FY28 and the CF program growing from $100,000 in FY27 to $150,000 in FY28.

- o **Key milestone:** The official sunset of analog relay in Virginia will be an event that we expect to occur in the near future. We will announce the cutoff date well in advance. On that date, functions like dialing 711 with an acoustic TTY coupler will be transitioned. Calls will be auto routed to IP Relay or an intercept message with instructions will play. We anticipate by then this will affect a very small group, if any, because of all the groundwork laid prior.

- Phase 3: **Post-Transition Optimization (2028 and beyond):** Virginia Relay will focus on optimizing the new systems:

  - o In FY28, Virginia will expand DVC to additional agencies and scale the CF program, while beginning pilots of emerging technology. The projection reflects $150,000 in FY28 for emerging technology planning and testing with annual costs rising into the range of $150,000 to $250,000 as initiatives expand in subsequent years.

o Any legislative changes (discussed in section v) that were enacted will be implemented administratively (e.g., updating regulations, documentation, and outreach materials to reflect new terminology or mandates).

o We will continue to monitor service quality of IP-based relay usage. Although those services are federal, VDDHH will gather user feedback from Virginians about IP Relay, VRS, etc., and coordinate with providers and the FCC to address any issues.

o Training efforts will shift towards state agencies and emergency services integration. By this stage, we expect NG911 to be operational in much of Virginia, so we will work closely with 911 centers to refine procedures for handling RTT or IP relay calls. Similarly, for state agencies, we'll ensure that things like accepting direct VP calls or using video relay interpreter services are standard practice.

o **Key milestone:** A fully operational digital relay ecosystem, where all users are on modern platforms, and Virginia Relay's role has transitioned to program oversight, user support, and inter-agency coordination. It should be noted that this timeline is flexible and can be adjusted if circumstances demand. For example, if the FCC sets a different required schedule or the accelerated pace of telecommunication carriers transition to digital networks. The overriding principle is that we will not abandon analog support until replacements are in place and users are transitioned.

Operationalization Plan for Virginia's Digital Relay Platform

The "preferred platform" for Virginia Relay moving forward is not a single piece of software or hardware, but rather a hybrid system that connects users to the best available service for their individual communication needs, under the coordination of VDDHH. Operationalizing this means establishing new procedures, partnerships, and support structures, detailed as follows:

1. Maintaining 711 as Universal Access Point: Even as we move away from an analog relay center, Virginia will maintain the familiar 711 dialing code as an entry point for relay services. The operational plan involves configuring the 711 system to recognize the mode of the incoming call and route it appropriately:

a. If a user dials 711 from a traditional telephone line, they will reach a Virginia Relay CA as they do today during the analog-to-digital transition. Post-transition, 711 calls from a landline might automatically forward to an operator or system that can assist the caller in connecting to an IP-based service or alternate solution.

b. If a user initiates a call via RTT or a carrier's text service by dialing 711, the telecommunications network will carry that as an RTT session to the relay provider. The relay providers' CAs and systems need to be capable of handling that natively.

c. 711 calls from a videophone typically used for VRS currently go to VRS providers, not the Hamilton Relay aka Virginia Relay. That arrangement continues; no changes needed except ensuring public education that VRS users can reach services directly.

Essentially, 711 remains the one-stop number. During the transition, we'll have live CAs at the other end. After transition, we may shift to a recorded menu or informational message for certain call types. For example, someone dialing 711 via TTY after sunset might receive a recording: "Virginia Relay has transitioned to RTT and other modern services. If you are using a TTY, please hang up and either use a TTY mobile app or call customer support at … for assistance." We will fine-tune these operational details to gracefully handle legacy attempts.

2. User Support and Customer Service: As part of operationalizing the new technologies, Virginia Relay will bolster its customer support infrastructure. This includes:

a. A helpdesk or customer service line specifically for assistive technology support, where relay users or new users trying IP Relay for first time can call for guidance. For instance, if someone is having trouble setting up their IP Relay app, they can reach out and get step-by-step help.

b. Printed and online how-to guides for using RTT on various devices, using IP Relay, connecting captioned phones to internet, etc. These guides will be made widely available.

c. One-on-one training opportunities: TAP already does training when they give someone a new device. We will ensure TAP Manager, Virginia Relay Manager, and Deaf and Hard of Hearing Regional Specialists (TAP contractors) are trained in all new relay features so they can effectively teach users. Operational success will be measured by how seamlessly users can adopt the new services. Our plan invests in making sure no one is left behind without understanding how to use the relay in its new form.

3. Collaboration with Relay Providers and Telecoms: On the back end, operationalizing the digital relay platform requires close collaboration with multiple parties:

a. **Hamilton Relay (or any contracted relay provider):** We are working with our provider to integrate IP-based call handling into their operations. While Hamilton currently handles our analog TRS and CTS calls, in the future their role may shift to handling mainly STS calls and possibly acting as a liaison to IP services. If Hamilton develops their own RTT solutions or partnerships, we will utilize those. We'll update contractual terms as needed to reflect changing duties.

b. **T-Mobile IP Relay, Nagish, and other IP providers:** Although these services are overseen by the FCC, we consider them part of our overall platform in that our users will be using them. For instance, we might establish a referral system where Virginia Relay can directly assist a user in registering for IP Relay and troubleshooting any issues. Regular meetings with these providers will be scheduled to discuss call volumes, any user complaints, and any emerging feature updates.

c. **Emergency Services (911 centers):** Operationalizing RTT and text for emergency calling is being tackled by the 911 community, but VDDHH will actively partake in planning to ensure compatibility. Before any major changes (like turning off analog), we will verify that every 911 center in Virginia has some means of accepting text-based communication (TTY, text-to-911, or RTT). Part of our plan is to provide information to 911 coordinators about the timeline and to ensure that, for example, if a Deaf person using RTT calls 911, either the 911 center can receive RTT directly or at least there's a procedure for a relay CA to voice it into the legacy 911 system. In short, we will not strand someone in an emergency. This operational detail is critical and will be double-checked region by region. VDDHH will also monitor the FCC regulatory activity pertaining to accessibility of emergency services.

4. Ensuring Device and Network Compatibility: From an operational/technical standpoint, we will ensure that all equipment and network interfaces are ready:

a. The relay providers will have upgraded systems that can handle incoming IP-based communications. Hamilton Relay is likely upgrading their platform to handle internet-originated calls (if they haven't already). As part of contract oversight, we require confirmation that their platform is RTT-compatible and that their CAs are trained for any new software.

b. TAP will maintain a stock of current-generation devices and peripherals to immediately provide to any user whose old equipment fails or is incompatible. This includes having a reserve of tablets in case a user's location transitions quickly, and they need a device on short notice.

c. On the network side, we're coordinating with United States Telecom Association (US Telecom), Telecommunications Industry Association (TIA), Competitive Carriers

Association (CCA), and telephone carriers to minimize any confusion. For example, if a carrier is ending analog service in an area, we want them to notify customers of TTY alternatives and ideally point them to VDDHH for assistance. We also ensure that carriers properly route 711 and 911 calls that originate as RTT or text.

5. Continuity of Services During Cutover: A big operational concern is the actual cutover period which is when analog lines go off or when we declare analog relay closed. We will have in place contingency measures:

- If any user is still on an analog device at cutover, Virginia Relay will continue to maintain a customer service line they can call for immediate assistance. For example, perhaps a TTY user who didn't transition finds their TTY doesn't work one day because the line is now digital, which now they could call us through a different means, and we would respond by dispatching someone to help. The goal is zero downtime for anyone.

6. Ongoing Operations in the Digital Era: Once fully operational on digital:

- Virginia Relay through VDDHH will focus on quality monitoring of the IP-based relay services. We can gather feedback from Virginia relay users and report issues to the FCC or relay providers. We will continue to have a role in ensuring relay users' functional equivalent access to telecommunication services. For example, if users report long wait times on IP Relay, we can flag it.

- In a digital relay environment, registration would be handled by the FCC. The FCC established a User Registration Database, which is a national database to prevent fraud in IP relay services. Operationally, this means advising new IP relay users that they might need to provide certain verification. The FCC URD requires IP relay users to verify their identity and address. VDDHH can assist users in navigating those requirements. That is part of VDDHH's operational support commitment.

- In summary, the operationalization plan is comprehensive: maintain access via 711, support users through education and devices, coordinate with providers and networks, phase out old technology only when ready, and then continue to monitor relay services for residents of the Commonwealth after the telecommunication infrastructure has been transitioned to digital.

User experience is the foundation of a customer-centered focus on the transition plan. From the user's perspective, the transition should feel gradual and supported: they receive new

equipment if needed, they learn about a new app or service, they get comfortable with it while still having the old one as backup, and eventually, they hardly notice when the old service is turned off because they have already moved on. Our timeline and operational steps are designed to achieve that ideal scenario. That is a seamless transition where the only obvious change for users is better, faster service, and more communication options than before.

(v) Potential Legislative Impacts or Proposed Changes

Transitioning Virginia Relay to a digital environment has some implications for Code of Virginia statutory and Virginia Administrative Code regulatory language, although the fundamental mandate to provide relay services remains unchanged. In reviewing the Code of Virginia and VDDHH's regulations, we have identified areas where legislative amendments to update or clarify would be beneficial to support and reflect the modernization effort:

- **Modernizing Terminology in Statute:** Virginia's statutes (e.g., Title 51.5, Chapter 13) currently use terms like "telecommunications" and refer to use of relay largely in the context of traditional telephone services. To ensure that the law encompasses internet-based communications, a change is recommended to adopt broader terminology. Specifically, we propose replacing references to "telecommunications" with "information and communication technology (ICT)" in the relevant sections. ICT is an increasingly used term at the federal level. The FCC use ICT in contexts pertaining to accessibility requirements to cover all forms of communication over any network. By defining ICT in Virginia law as including technologies, services, and devices that enable communication through voice, text, video, or data over any network, we ensure that relay services delivered via the internet have the same recognized legal status as those over traditional phone lines. This change would not alter the nature of services VDDHH provides, but it clarifies and anticipates the evolving communication landscape based on digital technologies, signaling legislative intent that access to functional-equivalent communications in a digital format are fully supported and authorized. It would incorporate emerging technologies such as AI, avatars, and hologram communications and ensure that deaf, hard of hearing, deafblind and people with speech difficulties would continue to have access to effective communication.

- **Explicit Inclusion of IP-Based Relay Services:** Along with terminology updates, a legislative tweak could explicitly name services like RTT relay, IP relay, and VRS in the

definition of TRS that the state is to provide or facilitate. Currently, the Code (§51.5-115) implicitly covers these by referring broadly to services for those who are deaf or hard-of-hearing but adding them would remove any ambiguity. Updating the Code to reflect current and emerging technology is preferable. It reassures all stakeholders including relay users that the Commonwealth's legal framework is flexible to keep pace with emergent technology. For example, language could be added stating that "*telecommunications relay services may be provided over any communication network and may include but are not limited to text-based relay services, video relay services, and other IP-based communication services that accomplish the function of connecting individuals with disabilities to people without disabilities.*"

- **Ensuring Programming and Budgetary Flexibility:** Statutory language is needed to allow VDDHH some flexibility in how it ensures relay services are provided through ICT. In the past, Virginia has met its relay obligation via a single contract with an analog relay provider. In the future, our model might involve multiple partnerships and multiple contracts, such as a contract to handle RCC and/or STS calls, establishing a CF program via multiple providers, contracting with a DVC provider, etc. This would allow VDDHH to pursue new endeavors without any programming and budgetary ambiguity. Our review suggests that the law simply requires VDDHH to provide relay and distribute equipment, how it does so is at the agency's discretion. The budgetary framework as established allows for the administration of Virginia Relay, provision of relay services and the distribution of equipment as three separate budgetary items. This framework needs to be reviewed to allow a multi-vendor environment for an array of multifaceted relay features and equipment technologies so VDDHH may be in a better position to adapt to changing technologies.

- **Approval for Transition Timing:** The budget language in Item 270 F.1 explicitly states that VDDHH shall not initiate any transition from analog to digital relay services prior to submitting this report, and not without obtaining authorization from the General Assembly. This implies that once the report is delivered, the Commonwealth of Virginia will need to provide guidance or direction to proceed. This could come in the form of budgetary language in the Appropriations Act or a separate resolution. We anticipate working with the Commonwealth of Virginia to clarify VDDHH authority to implement the transition plan. VDDHH could submit progress reports. This ensures policymakers are comfortable that all constituencies (especially more vulnerable users) telecommunication needs are being met.

- **No Change in Funding Source:** The current non-general funding for Virginia Relay comes from the Communications Sales and Use Tax Trust Fund. We do not propose any legislative change to this funding mechanism currently. Virginia Relay is presently sustainable under current appropriation levels, and our cost projections show it should remain so. For the scope of this transition, no immediate legislative action is needed on funding, but transparency about transition costs will help inform any future decisions. A possible agency's decision package to adjust the fixed amount for TAP ($750k) if the program needs additional funding.

- **Regulatory Updates:** Beyond statutes, VDDHH's regulations need updating. We anticipate updating regulations pertaining to Virginia Relay to incorporate digital services. For example, any Virginia Administrative Code sections that define relay could be revised to include ICT wording and list RTT, IP Relay, VRS, etc. This Fall, VDDHH will initiate the rule-making process to simplify the TAP regulations. VDDHH has been working with the Office of Regulatory Management (ORM) and drafted revisions to shorten the existing regulations and remove some discretionary requirements.

- **Emergency Communications and 800 Numbers:** We need to examine whether the Code of Virginia addresses public safety or emergency communications reference TTY specifically. The federal ADA requires emergency numbers, e.g. 911 call centers to have TTYs, as a legacy requirement. Should Virginia's statutes have mandates on maintaining TTY equipment at certain facilities, the Commonwealth of Virginia might consider amending those to allow for RTT or other modern equivalents. Currently, some state agencies reach out to VDDHH about ensuring they were complying to make their telephone services were equipped with TTYs and accessible. In summary, the primary impact of the relay transition is the necessity to update statutory language to recognize digital communications and to formally authorize the analog to digital transition. The recommended changes will not only facilitate the current transition but also position Virginia's statutes to accommodate future technological advances in communications accessibility.

VDDHH will draft and submit any specific proposed amendments for consideration and will work with the Secretary of Health and Human Resources and the Office of the Governor's policy staff as needed to incorporate these into the Administration's legislative agenda. No adverse legislative impacts have been identified, which we do not foresee that laws need to be repealed or that new regulatory burdens would be created by this transition beyond the language updates described. The transition is consistent with the ADA's intent and with

trends in emerging technologies and federal regulation, so state amendments are simply keeping Virginia aligned with best practices. One positive legislative outcome of this process is recognition that relay services are an evolving field; by codifying support for ICT-based solutions, the General Assembly will make clear that Virginia's commitment to its deaf and hard-of-hearing citizens is unwavering, regardless of how technology changes the mode of service delivery.

(vi) Impact on Existing DDHH Programs (Including Technology Assistance Program)

Modernizing Virginia Relay will have minimal impact on VDDHH's existing programs and services, except the TAP which provides telecommunications equipment to qualified Deaf, Hard of Hearing, DeafBlind, and speech-disabled residents. Overall, these impacts are expected to be manageable and moderate in scope, involving adjustments and enhancements to current programming. Key impacts on TAP and related DDHH programs are as follows:

- **Equipment Distribution (TAP):** TAP will continue to play a critical role by supplying users with the devices they need to access relay services. As the relay platform shifts to digital:

    o   TAP has expanded its inventory to include modern devices such as tablets and accessories like Bluetooth keyboards and screen enlargement or braille display devices for DeafBlind users. This ensures that individuals who previously relied on TTYs or other legacy devices can obtain a new device capable of running IP-based relay applications or utilizing RTT.

    o   **Impact:** The program has had to allocate funds to purchase these newer devices and retire legacy analog equipment. This is a reallocation of resources but within TAP's normal operation of refreshing technology. In the past few years, the cost impact was largely contained within TAP's previously annual $500,000 budget until now. Because TAP has been proactively adding digital devices over the past few years, it was an expected shift in inventory. The program will need to increase the annual budget to $750,000 to maintain a supply of compatible devices in the coming years, meaning TAP is phasing out analog equipment and stocking up on more digital equipment, tablets, for example. The modernization of TAP equipment is already happening, but more resources are needed to support TAP during the digital transition

- No user co-pay changes are anticipated, which TAP will continue to provide equipment at low, or no cost based on financial eligibility, as usual. The only difference is the type of equipment provided. In fact, many users may find the new equipment more useful beyond relay usage (e.g., an iPad can be used for many communication-related apps and services), thereby increasing the value delivered by TAP.

- TAP is also addressing home connectivity needs indirectly. While TAP doesn't pay for internet or broadband service, the distribution of devices implies the user must have internet or cellular data to use IP-based relay. We foresee increased assessments and referral through TAP to programs that help with internet access. TAP staff will routinely ask if the consumer has Wi-Fi or internet services and guide them accordingly. This is a new aspect of service but fits within TAP's mandate to ensure people can use the equipment provided. If it is identified that lack of internet is a barrier, VDDHH will coordinate with other agencies or funding sources to assist. For example, some might qualify for Lifeline service assistance for phone/internet service.

- **Training and Support:** TAP's role isn't just distributing equipment; it includes training recipients in how to use it. With new technology, the training component becomes even more crucial. TAP staff and Deaf and Hard of Hearing Regional Specialist contractors are being trained on IP Relay apps, RTT settings on phones, and other features so they can walk consumers through these. There is an impact in that training sessions would take longer or require more follow-up for some individuals who are not tech-savvy. TAP is adjusting by allowing for additional support time. In some cases, multiple visits or phone follow-ups are being done to ensure the person can confidently use their new device to make relay calls. This is a shift from the days of issuing a TTY (which many older users already knew how to use). However, the benefit is that once users learn, many find the new methods more convenient and need less ongoing assistance. We have budgeted staff time for this transitional training surge. Long term, as digital literacy improves, this impact will lessen.

- **Loan to Own Protocols:** VDDHH operates a TAP not only for permanent distribution but as a loaner so people can try the devices for 30 days. This way, someone can receive and try an iPad with a braille display to see how IP Relay works with it or try

using a smartphone's RTT feature before deciding whether the equipment meets their telecommunication needs. This continuation of the loan-to-own protocol help mitigate impacts by ensuring people make informed choices about their equipment. The programmatic impact is positive: we are ensuring consumers are receiving the right equipment for their needs.

- **Telecommunications Relay Center Operations:** Hamilton operates several relay call centers throughout the country. As analog relay usage diminishes, the relay call centers is experiencing reduced activity. There is an impact on Hamilton's staffing and operations. Hamilton has been adjusting CA staffing levels over time. The relay call centers will remain staffed 24/7 as required, but the number of CA, or operators, is gradually decreasing. Hamilton has indicated that they can handle this through attrition and reassigning some CAs to handle other types of relay calls. For example, Hamilton also processes some IP relay calls for the FCC. From the perspective as a state TRS administrator, VDDHH will ensure that if any Virginian needs to call 711 and get a CA, one is available. After transition, if 711 calls are primarily forwarded to other digital relay services, the need for analog relay services may cease. We will have plans to address the eventual wind-down of the current TRS contract so that relay services do not close until the telecommunication infrastructure has transitioned to digital throughout Virginia. There is no adverse impact expected on users since alternative services will be available, but there is an operational consideration for VDDHH to pivot from managing a TRS contract to managing CF, DVC, RCC and more outreach and equipment support. Internally, the Virginia Relay Manager job duties would shift somewhat: less time spent on contractual oversight and monitoring, more emphasis on managing CF, DVC, RCC and on consumer technical support and interagency collaboration & coordination.

- **Virginia Relay Partner service and Outreach activity:** VDDHH has a free service called "Virginia Relay Partner" aimed at educating businesses, employers, and agencies about relay and how to recognize and handle incoming calls as a relay call. The curriculum will be updated to reflect new technologies. For instance, where we used to show how a TTY relay call works, we will now demonstrate RTT relay or explain IP Relay. One specific initiative is training state agency call centers on recognizing and handling RTT or IP relay calls. VDDHH trained DSS call centers this last year. We have developed guidance to distribute to all agencies: e.g., "If you receive a call and the person says 'RTT Relay' or if you get a call from an unfamiliar number and there's a pause with an automated message, do not hang up as it could be a relay call via the internet," etc. We're incorporating this into our Virginia Relay Partners training

curriculum. It does mean staff time and resources are allocated to do training or webinars for agencies.

- **Technology Assistance Program (TAP) Applications and Eligibility:** The criteria for TAP (income limits, etc.) remain the same. However, we anticipate an increase in TAP applications as awareness of new digital equipment options spreads. Some individuals who previously did not apply for TAP equipment might now see value in getting equipment through TAP, like a high-quality tablet for IP relay on the go. VDDHH has the capacity to serve a growing client base and monitor the growth.

- **Staff Training and Workload:** Within VDDHH, staff who manage TAP and Virginia Relay have had to update their skill sets to handle IP-based technology. This internal impact has been addressed through training sessions on RTT, IP Relay registration processes, etc. However, we note that the workload has increased to handle both analog and digital technologies. In conclusion, the impact on existing VDDHH programming, including TAP, is largely positive and involve adaptation rather than disruption. TAP is an essential piece to the solution, providing new technology to consumers, and has been given the tools, but need more funding to do so. Outreach and training activities are flexing to cover new content but still fulfill the same intent. The transition is being implemented in such a way that no beneficiaries would lose service. For example, a person who got a captioned telephone from TAP will continue to get captions on calls; only the mechanism (IP vs analog) changes, and TAP already provided an IP-capable phone in preparation.

The moderate impacts are well within VDDHH's capacity to handle. The TAP will remain a linchpin of success, and it is prepared to absorb the demand for new devices and user support with the resources at hand. Even the addition of the CF program, while a new venture, complements TAP: TAP gives the device; CF might help the person use it in practice. Both aims to maximize independence.

The lingering concern is that funding for the Deaf and Hard of Hearing Regionalist Specialists for 8 regions is inadequate. Budgeting $40k per region only allows organizations to hire part-time employees when full-time positions are needed to sustain outreach and training activities. An increase to the amount allocated for TAP is necessary to sustain the transition to and growth of digital technologies.

(vii) Potential Impact on Relay Providers, Users, State Agencies, and Other Stakeholders

The statewide analog to digital transition to digital relay services and digital equipment will have a range of impacts on the various stakeholders involved in or served by Virginia Relay and the TAP. We have carefully considered these impacts to ensure they are addressed or mitigated. Below is a breakdown of potential impacts by stakeholder group, including any associated costs or benefits:

- **Relay Service Users (Consumers):**

  - **Impact:** For individuals who use Virginia Relay, the transition brings significant benefits but also some short-term adjustments. Users will enjoy more modernized communication options: faster text transmission via RTT, higher quality captions via IP CTS, and the ability to use off-the-shelf devices with apps to be downloaded for relay calls instead of specialized, often cumbersome equipment. Calls will, in many cases, connect faster. For example, IP Relay does not require dialing an access number and can indicate agent availability more quickly. Users who are Deaf and use ASL will likely benefit from increased encouragement and support to use VRS, which offers a more expressive and efficient communication experience than typing on TTY.

  - **Challenges:** Some users, particularly seniors who have used TTY or legacy equipment, i.e. captioned telephones, for decades, may face a learning curve with new devices or methods. There is potential frustration or anxiety about change. We anticipate that a minority of users might initially feel discomfort or mistrust of the new technology. For example, concerns about needing internet service or the privacy of IP communications. That's why the transition plan emphasizes greater outreach and training – to show these users that the new methods are reliable and secure.

  - **Mitigation:** Every user will have the opportunity for hands-on practice with new equipment and services well before any old service is discontinued. By providing devices and one-on-one training (as described in previous sections), we reduce consumer resistance. We are phasing in a manner that users can transition at their own pace to an extent. Some may switch to IP Relay months before TTY is turned off, others at the last moment, but all will have had time.

For DeafBlind users and others with specialized needs, the introduction of the CF program is a direct mitigation measure – it will support those for whom technology alone isn't sufficient, ensuring they can also benefit from the new digital environment.

- o **Costs:** For users, the direct cost of using relay remains zero (free). However, they may incur incidental costs like needing an internet connection or a broadband data plan. We recognize this: many relay users already have internet for other reasons, but for those who don't, this could be seen as a new cost. To minimize this impact, we guide users to low-cost internet programs. In some cases, if a user has absolutely no access, we would provide Wi-Fi connection option through TAP digital equipment for relay use. In general, most relay users are already connected, especially those who are deaf and use the internet for video calls etc.

- o **Benefit highlight:** After transitioning, users will likely experience improved independence and quality of communication. They won't be tethered to a TTY machine at home; they could make a relay call from their devices while out and about. This flexibility is a huge quality-of-life improvement reported in other states' experiences.

- **Relay Service Provider (Hamilton Relay and other providers):**

  - o **Impact:** Hamilton Relay, our current relay contractor, will see a decrease in call volumes handled through their call centers as TRS (TTY) and CTS calls decline. This could impact their revenue from the Virginia contract. They will need to adapt by possibly repurposing their relay center or scaling down operations. We have been communicating with them, so this comes as no surprise. Hamilton also provides relay services for other states and for the FCC (like IP CTS nationally), so they may shift its focus to a new business model. In terms of operations, Hamilton will need to invest in training their CAs on RTT and any new equipment at their relay call centers to interface with digital calls. They may need to adjust their technology. For example, ensure their systems can receive an RTT call via SIP or some protocol from wireless carriers. Hamilton has already been doing this in other states including Virginia and is equipped to handle it.

- o **Mitigation/Support:** With the recent contract extension, terms were adjusted to keep Hamilton whole during the necessary period. The price per minute has already increased for the next two years. We will continue to work with Hamilton on the Virginia Relay Partners and RCC offerings. Additionally, we are working with Hamilton to possibly incorporate them in a new role. For instance, Hamilton might be contracted to handle STS or other niche services via IP if needed, or to provide customer support for IP Relay sign-ups through a subcontract. In essence, we're exploring how Hamilton can remain a partner even as the scope of services changes.

- o **Other providers:** Conversely, IP-based providers like Nagish or T-Mobile (IP Relay providers) or Sorenson or ZVRS (VRS providers) might see an increase in Virginia users. This is beneficial for them in terms of usage but also means they need to be ready to serve more people. These are large companies whose business model is to scale with demand (funded through the FCC TRS Interstate Fund on a per-minute compensation basis), so they are prepared for growth. For VRS providers, more Virginia users just mean more calls, which are handled by their national pool of interpreters. No issues anticipated there beyond normal scaling.

- **State Agencies and Public Services:**

  - o **Impact:** State agencies that interact with the public by phone will need to be aware of new digital communications technologies. For example, a Department of Motor Vehicles (DMV) call center representative might receive an RTT call initiated through 711 or get a direct video call from an ASL user if such becomes available. Agencies must ensure their staff do not inadvertently hang up on or mishandle these calls. There's also an impact on equipment: agencies historically had TTY lines or devices to take calls from deaf individuals. With TTY being phased out, agencies should transition those dedicated TTY phone lines to either text-to-911 systems (for emergency agencies) or use of relay via voice/711. Essentially, agencies will stop maintaining TTY equipment (some have already, as they become less used) – this could be seen as a *positive* impact because TTYs and dedicated lines cost money and effort to maintain while seldom used. Instead, agencies will rely on relay services or direct text options.

- o **Mitigation and Training:** VDDHH is making itself available to provide training to agencies' call center staff on how to recognize and handle relay calls. We have updated the standard Virginia Relay Partner training curriculum for government customer service centers. We also encourage agencies to update their public contact information: many still list TTY numbers on websites. We advise them to list a general "Dial 711 for Virginia Relay" instead, which is simpler and ensures any kind of relay can be used. This change is in progress in many departments. Over time, this should improve accessibility because the old approach (needing separate TTY numbers) was not very effective since nobody monitors the TTY frequently. The impact on 911 centers is critical: as TTY use dwindles, 911 centers must have alternative accessible means. Virginia's 911 centers are upgrading to allow text-to-911. We consider text-to-911 a complement to relay: it's direct but only good for short emergency messages. For more complex situations or for ASL users, relay or DVC is still needed. Currently the FCC is reviewing possible new regulatory requirements to enhance the accessibility of 911 centers with these new features. VDDHH can offer technical assistance to implement any new regulatory requirements. We are ensuring through our collaboration that no 911 center will lose the ability to communicate with a deaf caller. Likely, centers will move from maintaining TTY machines (with periodic test calls etc., which are often neglected) to relying on text-to-911 and VRS or IP Relay calls. The cost impact on agencies is minimal; removing TTY lines might even save money on phone line charges. Training costs are mainly staff time, and VDDHH provides free training as part of our program. If any agency wants specialized equipment (like a videophone station with an interpreter on call), that could be a cost, but that's far beyond what's being mandated. No such mandates are in place yet, though we do encourage accessible activities such as placing a videophone at certain customer service counters, e.g. DMV offices.

- **Third Parties (Businesses, Organizations, Community):**

  - o **Impact:** For businesses and organizations in Virginia, the relay transition might largely go unnoticed except that they will encounter relay calls differently. For example, instead of a traditional "Virginia Relay CA #[number]" voice at the start of a call, they might now get a call from a regular out-of-state area code (since IP relay calls can originate from various numbers) with an automated short introduction or a CA typing rather than speaking. With RTT,

the CA might not voice at all if both parties can hear and it depends on the mode. We need businesses to still recognize these as relay calls and handle them appropriately. We anticipate impacts such as some businesses may need to update their training for receptionists to know the various types of relay calls. Also, businesses that have TTY lines for customer service (e.g. utility companies) will likely discontinue those in favor of relay.

- o **Mitigation:** Our outreach activities extend to businesses (Relay Partner Program), and we will spread information through chambers of commerce, etc., that "relay calls may come in new forms." Additionally, the FCC's outreach in the NASRA White Paper is aimed at making more businesses aware. Rolka Loube and NASRA's initiative to engage state programs is partly about improving reach to those who "are unaware" which includes potential relay users and hearing people who might not know about relay. As we partner with them, businesses will be informed. Cost-wise, businesses don't incur charges for anything; it's just awareness. For emergency services beyond 911, e.g., hospitals and poison control centers, similar considerations apply: ensure they can recognize and handle text or relay calls. We have already reached out to some critical service providers to remind them of 711 usages.

- **Deaf and Hard of Hearing Community Organizations:**

  - o **Impact:** Organizations such as the Virginia Association of the Deaf (VAD), Hearing Loss Association of America (HLAA) with 4 Virginia chapters, and the Virginia Association of the DeafBlind (VADB) are important major stakeholders. They are generally very supportive of the move to modern technology because their constituents often complain about legacy of analog technologies. The impact on these organizations is that they will likely get questions from community members during the transition. We are collaborating with these organizations to ensure they have accurate information. We've presented at their meetings about the forthcoming changes. They might also partner with us in providing training venues or spreading the word. No negative impact on their operations is foreseen; if anything, they benefit from their members having better access. One community, seniors with hearing loss who rely on captions, is represented by HLAA. We've made sure that CTS continuity is addressed so they aren't worried. We reassure with them that caption phones will still work via the

internet. HLAA members often are early adopters of IP CTS, so we don't expect issues there.

- o **Mitigation:** We keep open communication with these organizations. If any users have problems, these groups often feed that back to us, allowing quick resolution. For example, if a DeafBlind person is struggling even with CF support, the DB organization would inform us, and we'd tweak the program.

- **General Public:**

  - o It's worth noting the societal impact: the general hearing public might experience improved interactions. With faster, more efficient relay modalities, call times shorten, and confusion reduces. For example, an RTT call doesn't require saying "go ahead" or "stop" verbally, which often confused hearing people on the line. That friction will be less. As more Deaf and Hard of Hearing individuals choose to directly call (via VRS or direct video in future), hearing people will sometimes be communicating with interpreters directly rather than through a TTY relay, which may experience a more natural conversation. The public might not realize it, but accessibility improvements often lead to better service for everyone. For example, calls are completed faster, and emergency responses are quicker.

In summary, the transition's impacts are largely positive or neutral for most stakeholders, with careful management needed for those relay providers who operate the legacy systems and those users who are most accustomed to the old ways. By implementing comprehensive outreach, training, and support, we intend to ensure that:

- Users experience the change as an upgrade in their communication capabilities, without disruption.
- Providers adjust business models smoothly, with support from the state where appropriate.
- Agencies and third parties are prepared and maintain accessibility throughout.
- No significant new costs burden any stakeholder unfairly; costs are mainly covered by program funds or are part of the normal technological progression.

Virginia Relay and TAP modernization in tandem is a collaborative effort. As we have engaged stakeholders in the planning, we have built a network of informed partners. For example,

holding consumer focus groups and provider meetings. This network will remain in place through the transition, ready to address any unforeseen issues.

Ultimately, the broad impact is that Virginia's citizens who are Deaf, Hard of Hearing, DeafBlind, or speech-disabled will have a relay service that is keeping up with the times, enabling them to participate more fully in daily life and emergencies alike. This aligns with the Commonwealth's goal of ensuring equitable communication access for all, and positions Virginia as a leader in relay service innovation as we head into the future. The transition, while a substantial operational change, is being managed in a way that benefits stakeholders and avoids negative outcomes, fulfilling the mandate given by the General Assembly with the community's best interests at heart.

Equally important, the Commonwealth's modernization strategy is designed to remain within the current appropriation of approximately $2.06 million annually. By redirecting savings from declining analog expenditures, Virginia Relay creates a fiscal cushion to support new initiatives such as Direct Video Calling and Communication Facilitators while sustaining existing services. This conservative approach avoids speculative large investments and ensures that the entire transition can be achieved within existing resources, delivering a stable and forward-looking plan that secures modern communication access for all Virginians who rely on relay services.

Appendices

Appendix A: List of Abbreviations

ADA – Americans with Disabilities Act of 1990

AI – Artificial Intelligence

ASL – American Sign Language

CA – Communication Assistant

CF – Communication Facilitator (for DeafBlind users)

CTS – Captioned Telephone Service

DBS – DeafBlind Services

DVC – Direct Video Communication

FCC – Federal Communications Commission

HCO – Hearing Carry Over

HLAA – Hearing Loss Association of America

ICT – Information and Communication Technologies

IP – Internet Protocol

IP CTS – Internet Protocol Captioned Telephone Service

IP Relay – Internet Protocol Relay

NASRA – National Association of State Relay Administrators

NG911 – Next Generation 911

RCC – Remote Conference Captioning

STS – Speech-to-Speech Relay

TAP – Technology Assistance Program (Virginia)

TDD – Telecommunications Device for the Deaf

TRS – Telecommunications Relay Service

TTY – Teletypewriter or Text Telephone

VCO – Voice Carry Over

VDDHH – Virginia Department for the Deaf and Hard of Hearing

VRS – Video Relay Service

VoIP – Voice over Internet Protocol

Appendix B: Citations and References

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