mn COMMERCE DEPARTMENT

Telecommunications Access Minnesota

2019 Annual Report to the Public Utilities Commission
Docket Number P999/PR-20-5

January 31, 2020

Table of Contents

Executive Summary

In accordance with Minnesota Statutes section 237.55, "The commissioner of commerce must prepare a report for presentation to the Public Utilities Commission by January 31 of each year. Each report must review the accessibility of telecommunications services to persons who have communication disabilities, describe services provided, account for annual revenues and expenditures for each aspect of the fund to date, and include predicted program future operation." The Minnesota Department of Commerce created this report to comply with this requirement.

In order to provide equal access to the telecommunications network for people who are deaf, hard of hearing, speech disabled, or physically disabled, the Minnesota Legislature created what is known as the Telecommunications Access Minnesota (TAM) program. Minnesota Relay and the Telephone Equipment Distribution (TED) Program were established to achieve this objective. The programs are funded by a surcharge on all wired and post-paid wireless telephone access lines in Minnesota, and by a fee on each Minnesota retail transaction for prepaid wireless telecommunications services.

The current TAM surcharge is $0.07 per access line/retail transaction. By statute, the surcharge may not exceed $0.20 per access line/retail transaction.

Minnesota's procedures and requirements regulating Minnesota Relay, the TED Program, and the Telecommunications Access Minnesota fund are outlined in Minnesota Statutes sections 237.50 to 237.56, and Minnesota Rules chapter 8775.

> "In 2019, Minnesotans placed 266,933 relay calls for a total of 652,389 conversation minutes of use."

Minnesota Relay Calls Decline – Need Continues

Minnesota Relay is a free, federally mandated Telecommunications Relay Services (TRS) program that allows individuals who are deaf, deafblind, hard of hearing, or speech disabled to place and receive telephone calls. Minnesota Relay is also used by individuals and businesses to communicate by phone with people with a hearing loss or speech disability. The State of Minnesota contracts with Sprint Communications Company, L.P. for the provision of TRS in Minnesota. The contract is effective from July 1, 2014, through June 30, 2021.

In 2019, Minnesotans placed 266,933 relay calls for a total of 652,389 conversation minutes of use. Overall, Minnesota Relay experienced the following changes in call volume from 2018 to 2019:

- 6.9% decrease in text telephone (TTY) based relay calls
- 14.3% decrease in Speech-to-Speech relay calls
- 16% decrease in CapTel relay calls

In recent years, consumers have been migrating from relay services under the State's jurisdiction to internet-based relay services under the Federal Communications Commission's jurisdiction. Video

Relay Service (VRS), Internet Protocol (IP) Relay, and Internet Protocol Captioned Telephone Service (IP CTS) are internet-based relay services and they are paid for through a federal fund.

VRS, IP Relay, and IP CTS are fully accessible to Minnesota consumers, free of charge, through a number of providers who offer these services nationwide. Internet-based relay services tend to be easier to use, have additional features, and provide a more natural conversation flow than other available relay services. In addition, free relay applications that can be downloaded to wireless devices (such as smartphones and tablets), allow relay users to make calls from anywhere.

Although there is a notable shift to internet-based relay services, until all consumers have access to high-speed internet at an affordable price, there will still be many Minnesotans who rely on those relay services made available through the TAM program.

TED Program Numbers Decline – New Services to be Added in 2020

The TED Program is administered through a statutorily prescribed interagency agreement between the Department of Human Services (Deaf and Hard of Hearing Services Division) and the Department of Commerce (TAM program). In 2019, the TED Program served 297 new participants, 817 repeat participants, and distributed 991 telecommunications and auxiliary devices.

> "In 2020, the TED Program will implement three new program services."

The TED Program experienced the following changes from 2018 to 2019:

- 34% decrease in new program clients
- 23% decrease in repeat program clients
- 62% decrease in the number of devices distributed

In 2020, the TED Program will implement three new program services:

- Distribution of interconnectivity devices. These include accessories, devices, or applications (apps) for which the primary function is use with a telecommunication device. The purpose of this device is to provide increased access to the telephone by utilizing this secondary unit with a telephone. Examples of interconnectivity devices added to the program are Bluetooth enabled accessories, Smart Speakers for clients with physical disabilities, Smart Displays, universal hearing aid streamers, apps to be used with a tablet or smartphone, an electrolarynx to be used with a wired or wireless telephone for individuals with a speech disability, and Bluetooth enabled earphones.
- Assisting TED Program clients with completing telephone and internet service discount applications (e.g. Lifeline and the Telephone Assistance Plan).
- Assisting TED Program clients in determining what other assistive technology could benefit them.

Minnesota Relay and TED Program Outreach

TED Program staff provide outreach for both the TED Program and Minnesota Relay from Deaf and Hard of Hearing Services Division offices located in Duluth, Mankato, Moorhead, St. Cloud, and St. Paul. In 2019, TED Program staff performed 124 outreach activities reaching 6,545 Minnesotans.

Other Programs Funded Through TAM

In addition to Minnesota Relay and the TED Program, TAM funds six additional programs:
- The Department of Human Services – Rural Real-Time Captioning program has a maximum annual budget of $300,000.
- The Department of Employment and Economic Development – Accessible News for the Blind program has a maximum annual budget of $100,000.
- The Minnesota Commission of the Deaf, DeafBlind and Hard of Hearing (MNCDHH) receives $1,620,000 annually, which is a 38.5 percent increase from FY 2019 to FY 2020 (appropriation increased from $1,170,000 in FY 2019).
- Minnesota IT Services (MN.IT) receives $290,000 annually for coordinating technology accessibility and usability.
- MN.IT receives $50,000 annually for a consolidated access fund for other state agencies related to accessibility of their web-based services.
- The Legislative Coordinating Commission (LCC) receives $100,000 annually to provide captioning of live legislative activity streaming on the LCC's website.

TAM Fund Activity in Fiscal Year 2019

Surcharge Collection Change and Potential Impact to TAM Fund

The Eighth Circuit Court of Appeals affirmed the Federal District Courts decision that Voice over Internet Protocol (VoIP) telephone service provided by Charter Advanced Services is an information service and that the Federal Communications Commission's "policy of nonregulation" of these services pre-empted state law. *Charter Advanced Servs. (MN), LLC* v. *Lange*, 903 F. 3d 715, 718 (2018). Thus, VoIP services, where there is a net protocol conversion as occurs with Charter's VoIP telephone services, are no longer required to collect and remit the TAM surcharge.

> "VoIP services, where there is a net protocol conversion . . . , are no longer required to collect and remit the TAM surcharge."

Revenues

Total Revenue: $4,373,382
- Wired and Post-Paid Wireless Surcharge Revenue: $3,633,183
- Prepaid Wireless Retail Transaction Revenue: $716,487
- TAM Fund Interest: $23,712

Expenditures

Total Expenditures: $4,541,513
- TAM Administration: $126,211
- Minnesota Relay Services: $1,236,359
- TED Program: $1,225,259
- Rural Real-time Captioning: $290,242
- Accessible News for the Blind: $98,840
- MNCDHH: $1,170,000
- MN.IT (1): $272,902
- MN.IT (2): $21,700
- LCC: $100,000

TAM Program History

In 1987, the Minnesota Legislature passed legislation creating the Telecommunications Access for Communication Impaired Persons (TACIP) Board, which was tasked with ensuring that people who have difficulty hearing or speaking on the telephone have access to telephone service. Two programs were established to accomplish this goal: the Minnesota Relay, which began service on March 1, 1989; and the Telephone Equipment Distribution (TED) Program, which began as a pilot program on October 1, 1988.

Minnesota Relay is a federally mandated Telecommunications Relay Services (TRS) program that allows an individual who is deaf, hard of hearing, deafblind, or speech disabled to communicate over the telephone in a manner that is functionally equivalent to the ability of an individual who does not have hearing loss or a speech disability. Minnesota Relay must be in full compliance with the requirements and intent of Title IV of the Americans with Disabilities Act of 1990, United States Code, title 47, section 225, Code of Federal Regulations, title 47, sections 64.601 to 64.606, and Minnesota Statutes sections 237.50 to 237.56.

The TED Program provides specialized telecommunications equipment to enable persons who are deaf, hard of hearing, deafblind, speech disabled, or physically disabled to access telecommunications services. Program participants must meet eligibility requirements, including income, disability, and residency.

There have been significant changes and improvements to Minnesota Relay since it began operations. When Minnesota Relay began providing services in 1989, the state owned and maintained all of the relay equipment, and contracted with the Deafness, Education and Advocacy Foundation for the operation of the call center. Minnesota Relay services are now provided to the State of Minnesota under contract with Sprint Communications Company L.P.

Historical Program Highlights

- In 1995, the Minnesota Legislature eliminated the Telecommunications Access for Communication Impaired Persons board and transferred the responsibilities for administering the Telecommunications Access for Communication Impaired Persons fund and Minnesota Relay to the Department of Public Service.[1] The Department of Human Services (DHS), through an interagency agreement with the Department of Commerce (Commerce), administers the TED Program (Minnesota Statutes section 237.51, subd. 1).

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[1] The Departments of Public Service and Commerce merged on September 15, 1999.

- In 1996, the Minnesota Relay facility and its equipment had become severely outdated and beyond the point of overhaul. The Telecommunications Access for Communication Impaired Persons program decided to provide comprehensive and cost effective relay services in Minnesota using a qualified TRS vendor to furnish continually upgraded equipment and software, as well as specially trained call center staff.

- On July 1, 1996, the Telecommunications Access for Communication Impaired Persons program contracted with Communication Service for the Deaf (CSD) and Sprint Communications Company, L.P. (Sprint) for TRS. CSD's contract was for the provision of management, human resources, and outreach components for Minnesota Relay. Sprint's contract was for the provision of the call center facility, equipment and maintenance, and access to Sprint's fiber optic telecommunications network. Initially, Minnesota Relay traffic was forwarded to relay centers operated jointly by CSD and Sprint. The Minnesota Relay center, located in Moorhead, began processing calls on December 16, 1996.

- Effective August 1, 2002, the name of the Telecommunications Access for Communication Impaired Persons program changed to Telecommunications Access Minnesota (TAM). Commerce sought the name change at the request of consumers, who objected to the word "impaired" in the program name.

- In 2005, the Minnesota Legislature created two new state programs, Accessible News for the Blind and Rural Real-Time Captioning, both of which are funded via the TAM surcharge.

  The Accessible News for the Blind program provides an electronic information service (access to daily newspapers and magazines) for individuals who cannot read print materials due to vision loss, dyslexia, or a physical disability. This program is administered by the Commissioner of the Department of Employment and Economic Development (DEED), and has a maximum annual budget of $100,000.

- The Rural Real-Time Captioning program provides real-time captioning of certain live local television news programs in rural areas so that they are accessible to people who are deaf, hard of hearing, or deafblind. This program is administered by the Commissioner of DHS, and has a maximum annual budget of $300,000.

- On October 17, 2005, TAM issued a Request for Proposal for the provision of TRS and associated outreach. The TRS contract was awarded to CSD, with Sprint as a subcontractor, and was effective from July 1, 2006, through June 30, 2011, with the option to renew up to an additional 60 months. TAM extended the basic relay and captioned telephone relay services components of the TRS contract with CSD through June 30, 2014. The Minnesota Relay outreach component was not included in the contract extension.

- In 2006, the Minnesota Legislature appropriated $200,000 annually from the TAM fund to the Minnesota Commission of the Deaf, DeafBlind and Hard of Hearing (MNCDHH) for operational expenses. MNCDHH is a governor-appointed commission that advocates for equality of opportunity for Minnesotans who are deaf, deafblind, and hard of hearing.

- In 2007, the Minnesota Legislature appropriated an additional $100,000 annually from the TAM fund to MNCDHH (an increase of 50 percent), for a total direct appropriation of $300,000 annually.

- In 2008, the Minnesota Legislature provided for two direct appropriations from the TAM fund in FY 2009: $85,000 for a State Video Franchising study and $175,000 for a Broadband Mapping project.

- In 2009, the Minnesota Legislature provided for three one-time direct appropriations from the TAM fund in FYs 2010 and 2011. MN.IT (formerly the Office of Enterprise Technology) was appropriated $100,000 each year for technology accessibility and usability. The Legislative Coordinating Commission (LCC) was appropriated $100,000 each year for captioning of live streaming of legislative sessions. MNCDHH was appropriated $100,000 each year for American Sign Language website content.

- In 2010, the Minnesota Legislature approved transfers of $246,000 in FY 2010, and $270,000 in FY 2011, from the TAM fund to the General Fund.

- In 2011, the Legislature provided for one-time direct appropriations from the TAM fund to MN.IT, LCC, and MNCDHH in FYs 2012 and 2013. MN.IT received $230,000 each year for coordinating technology accessibility and usability. LCC received $150,000 each year to provide captioning of live streaming of legislative activity on the LCC's website and for a consolidated access fund for other state agencies. MNCDHH received $20,000 each year to provide information in American Sign Language on their website and to provide technical assistance to state agencies.

- In 2011, the Minnesota Legislature approved a transfer of $1,100,000 from the TAM fund to the General Fund. The transfer was processed in FY 2012.

- In July 2011, Commerce began contracting with DHS for the provision of Minnesota Relay outreach services. With this transition, outreach is provided from five regional Deaf and Hard of Hearing Services offices (in the past, Minnesota Relay outreach was provided from one office located in St. Paul). The contract saves the TAM fund thousands of dollars annually.

- In 2013, the Minnesota Legislature modified the direct appropriations from the TAM fund to MN.IT, LCC, and MNCDHH. In FY 2014, MN.IT's funding increased to $290,000 (an increase of 26.1 percent) and became a permanent annual allocation. The LCC's $150,000 appropriation also became a permanent annual allocation. MNCDHH's appropriation increased to $500,000 in FY 2014 (an increase of 56.3 percent) and to $800,000 in FY 2015 (an increase of 60 percent), and became a permanent annual allocation.

- Also in 2013, new legislation imposed a TAM fee on each retail transaction for prepaid wireless telecommunications services, in the amount of the monthly charge provided for by Minnesota Statutes section 237.52, subdivision 2. The prepaid wireless fee became effective on January 1, 2014.

- On March 5, 2014, Commerce issued a Request for Proposal for the provision of TRS. The TRS contract was awarded to Sprint Communications Company L.P. and is effective from July 1, 2014, through June 30, 2021.

- In 2015, the Minnesota Legislature modified the direct appropriations from the TAM fund to MN.IT and the LCC. In FY 2016, the $50,000 funding for a consolidated access fund to provide grants to other state agencies related to accessibility of their web-based services was moved from the LCC to MN.IT.

- In 2017, the Minnesota Legislature increased the direct appropriation for MNCDHH to $1,170,000 (an increase of 46.3 percent).

- In 2019, the Minnesota Legislature increased the direct appropriation for MNCDHH to $1,620,000 (an increase of 38.5 percent).

Telecommunications Access Minnesota (TAM)

TAM Administration

The Department of Commerce administers the TAM fund and manages vendor contracts and interagency agreements. Minnesota Relay services are provided to the State of Minnesota under contract with Sprint Communications Company L.P. The TED Program (including Minnesota Relay outreach services) and the Rural Real-Time Captioning program are provided through interagency agreements with the Department of Human Services. The Accessible News for the Blind program is provided through an interagency agreement with the Department of Employment and Economic Development.

TAM Funding

TAM Funding Sources

- Monthly surcharge on all wired and post-paid wireless telephone access lines in the state of Minnesota.[2]
- Fee on each Minnesota retail transaction for prepaid wireless telecommunications services.

TAM surcharge revenue is deposited into a dedicated account. The surcharge is capped at $0.20 per access line per month, or per retail transaction.

Current TAM Surcharge

In September 2019, the TAM surcharge increased from $.05 to $.07.

In May 2019, the Minnesota Public Utilities Commission (PUC) approved TAM's fiscal year 2020 Budget and increased the surcharge to $0.07 per wired and post-paid wireless access line and prepaid wireless retail transaction. The PUC concluded that an increase to the TAM surcharge was needed given anticipated TAM revenues, expenditures, and existing reserves in light of possible legislation that would appropriate an additional $450,000 from the TAM fund to the Minnesota Commission of the Deaf, DeafBlind and Hard of Hearing. The surcharge increase was effective on September 1, 2019.

TAM Surcharge Funded Programs

- Telecommunications Access Minnesota Program Administrative Expenses
- Minnesota Relay Services
- Minnesota Relay Outreach
- Telephone Equipment Distribution Program
- Accessible News for the Blind
- Rural Real-time Captioning

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[2] The Eighth Circuit Court of Appeals affirmed the Federal District Courts decision that Voice over Internet Protocol (VoIP) telephone service provided by Charter Advanced Services is an information service and that the Federal Communications Commission's "policy of nonregulation" of these services pre-empted state law. *Charter Advanced Servs. (MN), LLC* v. *Lange*, 903 F. 3d 715, 718 (2018). Thus, VoIP services, where there is a net protocol conversion as occurs with Charter's VoIP telephone services, are no longer required to collect and remit the TAM surcharge.

- The Minnesota Commission of the Deaf, DeafBlind and Hard of Hearing
- MN.IT (for coordinating technology accessibility and usability)
- MN.IT (for a consolidated access fund for other State agencies)
- Legislative Coordinating Commission (for captioning of live streaming of legislative activity)

Telecommunications Relay Services (TRS) Jurisdictional Separation of Costs

Minnesota's TRS program observes all jurisdictional separation of costs as required by Code of Federal Regulations, title 47, section 64.604 (c)(5), section 410 of the Communications Act of 1934, Minnesota Statutes section 237.10, and Minnesota Rules chapter 7810.6400. All Minnesota Relay intrastate and interstate minutes are reported separately and distinctly to the State and are included in monthly invoices from the TRS vendor.

Minnesota Relay local and intrastate minutes of service (including 49 percent of toll-free and 900 minutes, and 89 percent of two-line CapTel minutes) are reimbursed through the TAM fund. The Interstate TRS Fund reimburses Minnesota Relay interstate and international minutes of service (including 51 percent of toll-free and 900 minutes, and 11 percent of two-line CapTel minutes).[3]

Population Served

The Minnesota Relay and TED Program serve Minnesotans who have a hearing, speech, vision, or physical disability that makes it difficult or impossible to use standard telecommunications services and equipment. They also serve people who communicate by phone with these individuals.

Maps detailing where Minnesota Relay TTY/Speech-to-Speech calls and CapTel calls originated from in May 2019 are included in **Appendix A**.

Role of the Public Utilities Commission (PUC)

Under Minnesota Statutes section 237.55, Commerce "must prepare a report for presentation to the Public Utilities Commission by January 31 of each year. Each report must review the accessibility of telecommunications services to persons who have communication disabilities,

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[3] Interstate TRS is funded by contributions from every carrier providing interstate telecommunications services (including VoIP service providers) based on interstate end-user revenues. The fund administrator is currently Rolka Loube.

describe services provided, account for annual revenues and expenditures for each aspect of the fund to date, and include predicted program future operation."

Commerce must submit an annual budget and surcharge recommendation to the PUC for approval. The PUC reviews the recommendation for reasonableness, may modify the budget to the extent it is determined unreasonable, and sets the annual TAM surcharge amount (Minnesota Statutes section 237.52, subdivision 2).

Minnesota Relay Progress in 2019

Minnesota's Telecommunications Relay Services (TRS) Contract Extension

Minnesota's TRS contract with Sprint Communications Company L.P. was effective from July 1, 2014, through June 30, 2019. The terms of the contract provided an option to extend the contract for up to an additional five years.

There are currently only two vendors in the industry providing intrastate TRS services to states (Sprint and Hamilton). Because Minnesota has an in-state TRS center requirement (Minnesota Statutes section 237.54, subd.2), we have only received proposals from our current TRS provider for our past two request for proposal releases (2006 and 2014). As such, Commerce and the Department of Administration determined that if Minnesota were to release a request for proposal for TRS instead of extending our current contract, it is probable that we would only receive a proposal from Sprint.

Releasing a request for proposal would most likely not net the State any gain, so in March 2019, Commerce and the Department of Administration negotiated a contract extension with Sprint for an additional two years, with a contract expiration date of June 30, 2021. Prices for services increased with the extension as follows:

Service	Original Contract Prices	Contract Extension Prices
Captioned Telephone Service	$1.89 per conversation minute	$2.06 per conversation minute
Basic Relay Service (TTY-Based)	$1.78 per conversation minute	$2.16 per conversation minute
Monthly Recurring Fee	$12,400	$16,000

Audit by the Office of the Legislative Auditor

In March 2019, the Office of the Legislative Auditor (OLA) notified Commerce that it was planning an audit of services for persons with disabilities, including the Minnesota Relay program. The OLA conducted an internal control and compliance audit of Minnesota Relay program expenditures in March through June of 2019. To-date, Commerce has not yet received the OLA's Audit Report.

Sprint Telecommunications Relay Service (TRS) Service Enhancements

In 2019, Sprint made the following enhancements, improving services for Minnesota Relay users:
- Added a Speech-to-Speech call center in Austin, Texas.
- Upgraded all CapTel call center operating systems and switches.
- Converted TRS call centers from Time-Division Multiplexing to Session Initiation Protocol connections.
- Implemented system improvements for an upgraded Speech-to-Speech (STS) customer Experience (improved customer notes and support, call recognition, and added call reminders).
- Upgraded communications assistant workstations.
- Launched an Accessibility Kiosk six-month pilot project in a Washington D.C. Sprint Retail store. Customers who are deaf or hard of hearing and use American Sign Language can connect, via an iPad, to a Video Remote Interpreter to communicate with a Sprint sales representative.
- Installed new software and developed new procedures to help block robo-calls.

Anticipated Telecommunications Relay Services (TRS) Enhancements in 2020

Commerce is not aware of any TRS enhancements planned for 2020.

Minnesota Relay Services

Minnesota Relay is a free service that provides telephone accessibility to persons who are deaf, deafblind, hard of hearing, or speech disabled. A specially trained communications assistant (CA) facilitates the telephone conversation between a person who has hearing loss or a speech disability and other individuals. Calls can be made to anywhere in the world, 24 hours a day, 365 days a year, with no restrictions on the number, length, or type of calls. All calls are strictly confidential and records of conversations are not kept.

TAM and the TED Program aim to be proactive in monitoring trends and advances in telecommunications technology. The program strives to provide services and equipment that allow people with disabilities to independently access telecommunications services to stay connected with family, friends, businesses, and services.

Minnesota Relay Features

- *800/877/888 Numbers:* Minnesota Relay users are able to reach regionally-directed and regionally-restricted 800, 877, and 888 toll-free numbers and business offices of local telephone companies that have special prefixes, all of which would normally be accessible to consumers in their calling area.
- *Answering Machine Retrieval:* Text telephone (TTY) users can request the relay CA to retrieve messages from the user's voice answering machine or voicemail.
- *ASCII Split Screen:* Allows high-speed ASCII computer users and CAs to type and communicate more clearly and quickly. Similar to voice-to-voice conversation, ASCII Split Screen provides the relay user and the voice party the ability to interrupt when appropriate.
- *CA Gender Request:* The relay user can request the CA gender that they would prefer to handle their call (either on a call-by-call basis or permanently through their Customer Profile). Every effort is made by the relay service to fulfill this request.
- *Caller ID:* Calls placed through Minnesota Relay will provide the originating calling party number (ANI), or Caller ID information, through the local exchange carrier for all local and most long-distance calls. The relay provides the calling parties 10-digit telephone number to the called party (if not blocked by the calling party).
- *Customer Profile Database:* Offers relay users numerous automatic ways to expedite the initiation of custom calls. These pre-selected customer calling features include, but are not limited to, communication modes (TTY, voice, and ASCII), frequently dialed numbers, emergency numbers, and customer notes for call processing.
- *Directory Assistance:* A CA will relay directory assistance calls between a relay user and the Local Exchange Carrier directory assistance operator. Once the caller makes a request for directory assistance, the CA will contact a Local Exchange Carrier directory assistance operator. After obtaining the requested phone number, the caller may choose to place the call through the relay or dial it directly (i.e. TTY to TTY).
- *DeafBlind Transmission Speed:* This is a modification of the default transmission speed for Telebraille users. Relay users who are deafblind can set their transmission speeds anywhere from 15 through 60 words-per-minute.
- *Emergency Assistance:* Although relay users are discouraged from placing 911 calls through the relay, calls to 911 are placed at the caller's request. Through Sprint's E911 database, the CA uses a "hot button" to automatically place a call to the most appropriate Public Safety Answering Point.

- *Enhanced Turbo Code (E-Turbo™):* Allows a TTY user to automatically submit dialing and call set-up instructions when they call into Minnesota Relay. This significantly reduces the amount of time necessary for the CA to set up and process the outbound call. The result is that the TTY user is connected to their desired party at a speed that is more functionally equivalent to that of a non-relay call.
- *Error Correction:* This feature automatically corrects many typographical errors and spells out non-TTY abbreviations that may be used by the CA in voice-to-text transliteration.
- *Intelligent Call Router:* This technology automatically and seamlessly routes relay calls to the first available CA in the network.
- *Last Number Redial:* Allows the relay user to call the last person that he or she dialed through the relay, without having to provide the telephone number to the CA.
- *Recording Machine Capabilities:* Allows the CA to record and play back audio-text interaction messages to reduce numerous callbacks to convey entire messages to calling parties.
- *Three-Way Calling Feature:* Allows more than two parties to be on the telephone line at the same time with the CA.
- *Transfer Capabilities:* Allows the CA to transfer a caller to another form of relay service (i.e. CapTel, Hearing Carry-Over, Speech-to-Speech, etc.), to customer service, or to a relay center manager.
- *TTY to TTY Call Release:* Allows the CA to be "released" from the telephone line after the CA has set up a telephone call between an originating TTY caller and a called TTY party, such as when a TTY user must go through the relay to contact another TTY user because the other TTY party can only be reached through a voice-only interface, such as a switchboard.
- *Turbo Code Capability:* Allows users to send information at the same speed it is typed, resulting in a more natural conversational flow and the ability to interrupt one another.
- *Variable Time Stamp Macro*: This macro enables the relay caller to know when their called party has disconnected from the call.
- *Voice Carry-Over (VCO) Gated Calling:* Dedicated VCO and two-line VCO toll-free phone numbers, which provide significant improvements in service by directing VCO users to specifically trained VCO and two-line VCO CAs.
- *VCO-With-Privacy:* Allows a VCO caller to use the standard VCO feature without needing to say, "Go ahead" or "GA". Additionally, the CA does not listen to the VCO user's spoken words. Ordinarily, VCO users need to say "GA" so that the CA knows that it is the other party's turn to speak. The responsibility for taking turns when speaking rests entirely upon the calling and called parties because the CA does not hear what the VCO user says.
- *Voice Call Progression:* Allows voice or Hearing Carry-Over callers to listen during call set-up (i.e. ringing or busy).

Speech-to-Speech (STS) Features

- *Called Numbers:* STS users are able to store up to 30 frequently called telephone numbers in their Customer Profile. When the STS user calls into the relay center, he or she can provide the CA the name of the person he or she wishes to call.
- *Contact Information:* Communicating telephone numbers may be difficult for some STS users. This feature allows STS users to let friends, family, and others know to dial 711 to reach them. Once connected, the person can provide the STS user's name to the STS CA. The STS CA will use the STS user's profile information provided for this purpose to connect to the STS user based on the registered STS user's hours and days of availability.
- *Customer Service:* A dedicated customer support for STS users. Staff is available to assist STS users or organizations serving STS users with basic information about STS, filling out Customer Profiles, and other features designed to support STS customers and their callers. The Sprint STS *My Support* number is 1-877-787-1989 (available 24 hours a day, 7 days a week).
- *Email Set-Up:* STS users can email call instructions or information to the relay center 2 to 24 hours prior to the call. The email can include information such as the number to dial, the name of the person being called, the subject of the call, any special instructions, or anything that makes it easier for the STS user to complete the call.
- *Privacy Option:* STS users have the ability to communicate without the CA hearing the voice party. If this option is selected, the CA simply listens to the voice of the STS user and repeats messages according to the STS user's preference.
- *Saved Messages:* If the STS user dictates a message to the CA to use for a call, and the STS user is not able to complete the call due to a busy signal, or the called party is not available, the STS user can request that the STS CA copy the message onto the STS user's Customer Profile. When the STS user wants to place the call again, he or she simply redials STS and asks the CA to retrieve the saved message. After 24-hours, the message copied into the profile is automatically deleted from the system.
- *Wireless Access – STS (*787):* While the 711 dialing shortcut is available nationwide, it is often difficult or time consuming for consumers to reach STS when not at home. Sprint wireless customers are able to dial *STS (i.e., *787) to reach an STS CA quickly and easily from anywhere in the nation (this includes voice callers needing to place a call to an STS user).

Call Volumes

In 2019, Minnesota Relay processed 266,933 calls.

Service	Total Calls
Text Telephone (TTY) Based TRS[4]	84,362
Speech-to-Speech	6,669
CapTel	175,902

Overall, Minnesota Relay experienced the following changes in call volume from 2018 to 2019:
- 6.9% decrease in TTY-based relay calls.
- 14.3% decrease in Speech-to-Speech relay calls. (Minnesota Relay experienced a sharp decline in Speech-to-Speech use after the first quarter of 2018, due to a high-use consumer of this service passing away in April 2018.)
- 16% decrease in CapTel relay calls.

Telecommunications Relay Services (TRS) are currently split into two categories:
1. Those administered and funded on a state level, which include local and intrastate minutes of service for TTY-based, Speech-to-Speech, and CapTel relay services.

2. Those under the Federal Communications Commission's jurisdiction and paid for by the Interstate TRS Fund, including *all minutes* for internet-based relay services, which are composed of Video Relay Service, Internet Protocol Relay, and Internet Protocol Captioned Telephone Relay Service. The Federal Communications Commission authorized the recovery of the cost of both interstate and intrastate minute of use for internet-based relay services from the federal Interstate TRS Fund, but stated that the funding arrangement is temporary.

This category also includes interstate and international minutes of service for TTY-based, Speech-to-Speech, and CapTel relay services.

In recent years, consumers have been migrating from relay services under the State's jurisdiction to internet-based relay services under the Federal Communications Commission's jurisdiction. Video Relay Service (VRS), Internet Protocol (IP) Relay, and Internet Protocol Captioned Telephone Service (IP CTS) are internet-based relay services paid for through the Interstate TRS Fund.

VRS, IP Relay, and IP CTS are fully accessible to Minnesota consumers, free of charge, through a number of providers who offer these services nationwide. Internet-based relay services tend to be easier to use, have additional features, and provide a more natural conversation flow than non-internet based relay services. In addition, free relay applications can be downloaded to

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[4] Includes TTY, Voice Carry-Over, and Hearing Carry-Over relay services.

wireless devices (such as smartphones and tablets), allowing relay users to make calls from anywhere.

Although there is a notable shift to internet-based relay services, until all consumers have access to high-speed internet at an affordable price, there will still be many Minnesotans who rely on non-internet based relay services.

The following Minnesota Relay call charts can be found in **Appendix B**:
- 2019 Minnesota Relay Conversation Minutes by Type
- 2010 – 2019 Minnesota Relay Call Volume
- TTY-Based[5] Call Volumes
- Speech-to-Speech Call Volumes
- CapTel Call Volumes

Accessibility of the Telecommunications Network – Minnesota Relay Services

Uninterruptible Power System

Sprint utilizes both an Uninterrupted Power Supply (UPS) and backup power generator to ensure that all Data Centers and Sprint Relay Centers have uninterrupted power, even in the event of a power outage. UPS is used only long enough for the backup power generator to come on line – a matter of minutes. Backup power generators are supplied with sufficient fuel to maintain operations for at least 24 hours. Generators can stay in service for longer periods, as fuel availability permits.

In the event of a power outage, the UPS and backup power generator ensure seamless power transition until normal power is restored. While this transition is in progress, power to all basic equipment and facilities essential to the center's operation is maintained. This includes:

- Switch system and peripherals
- Switch room environmental factors
- Communication Assistant positions (consoles/terminals and emergency lights)
- Emergency lights (self-contained batteries)
- System alarms
- Call Detail Record recording

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[5] Includes TTY, Voice Carry-Over, and Hearing Carry-Over relay services.

As a safety precaution (in the event of a fire during a power failure), the fire suppression system is not electric powered. Once the back-up generator is on line, stable power is established and maintained to all TRS system equipment and facility environmental control units until commercial power is restored.

Switching System Configuration

All Sprint Relay call centers use a digital switching system that is an integral part of the Relay platform. The system offers availability in excess of 99.99%, redundancy of all major system components (including the Central Processing Unit) and catastrophic fault recovery that provides for call continuity in the event of a switch failure. Sprint's Intelligent Call Manager ensures that required levels of service are maintained in the event of a processor failure. If a center shuts down for any reason, all calls are automatically re-routed around the affected center to the remaining operating centers in the Sprint Network.

Sprint's switch is fully redundant to provide a non-stop environment for the relay call center. The switch is designed to allow maintenance without interrupting service and incorporates a back-up processor, memory, and disk subsystems. All Sprint Relay call centers also include fully redundant power systems incorporating a combination of battery and generator Uninterrupted Power Supply systems to condition and maintain electrical power in case of a power outage from the local electrical provider.

If a failure of the switch or supporting systems occurs, the Sprint Telecommunications Relay Services (TRS) dynamic call routing will, within seconds of detecting the outage, route all new Minnesota Relay calls to another call center until the failing system is repaired and the TRS call center is returned to service. Sprint's call center and Relay system design permits the maximum availability with minimal loss of service to users.

All of the system preventive maintenance functions can be performed online, with no effect on call processing. In addition, online and off-line diagnostic routines will identify system faults or failures at the individual board level. Diagnostic procedures are continually processed by the switching system software to detect defective components before they are used.

Manual online diagnostics can be launched at any time from the maintenance and administrative terminal located within the unit, without affecting call processing, calls in progress, or calls waiting in queue. The maintenance and administrative terminal includes a keyboard, screen, and printer capabilities.

Each Sprint relay call center and data center maintains a complete system's spare inventory to meet any malfunction or emergency . In addition to spares for switch components, spare units include communications assistant position units, computer desktop spares, and Local Area Network and modem equipment.

CapTel Switching System

Minnesota Relay's CapTel switching system, provided by CapTel, Inc., includes a redundant Central Processing Unit on "hot standby." This ensures that no calls are dropped due to processor failure.

CapTel, Inc. also provides a full maintenance and administrative terminal with keyboard, screen, and printer capabilities, on-line monitoring, real-time programming capabilities that do not take the system offline, the ability to perform preventative maintenance without taking the system off-line, and an inventory of spare critical components which are maintained on-site to ensure that the required levels of service are met.

Alternate Facilities

Sprint's network of Telecommunications Relay Services (TRS) call centers use three centralized Avaya Automatic Call Distributors. If the TRS platform experiences an outage situation with one of the Avaya Automatic Call Distributors, the Peripheral Gateways connected to the Avaya experiencing the issue would go offline notifying Intelligent Call Management to stop routing traffic to that Avaya Automatic Call Distributors. The traffic that was once being routed to that Avaya Automatic Call Distributor would be alternately routed to all other functioning Avaya Automatic Call Distributors.

> "Sprint TRS services are supported by six geographically dispersed centers, including the center in Moorhead, Minnesota."

Simultaneously, the Traffic Management Control Center contacts all other Sprint TRS centers notifying them of technical issues affecting other centers, and requests additional staffing at all other functioning centers. Any center employees who are conducting ongoing training or other meetings will be requested to return to the call center floor to assist in handling calls.

The Traffic Management Control Center will also notify the Program Management team so that all states impacted receive appropriate updates. The Call Center Service Assurance group manages the coordination of technical resolutions. The Call Center Service Assurance group will be notified via the Call Center Services alarming platform, which monitors the Avaya Automatic Call Distributors, and the Intelligent Call Manager platform.

Sprint TRS services are supported by six geographically dispersed centers, including the center in Moorhead, Minnesota. The TRS centers are managed by a 24/7 control center that dynamically monitors and manages the centers for all operational issues. If an event occurs which impacts a center's ability to handle TRS calls, the Control Center re-routes incoming traffic to other TRS centers. All re-routing is transparent to relay users.

In addition, Sprint provides a redundant CapTel solution with seven CapTel-dedicated call centers and four co-located CapTel centers with Business Continuity programs to ensure that any issues are resolved quickly with minimal customer impact.

Transmission Circuits

Sprint is a certified interexchange carrier in all 50 states. Using Sprint's nationwide all-digital fiber-optic network, transmission circuits meet or exceed, Federal Communications Commission and TAM intraexchange performance standards and ANSI T1.506-1990 Network Performance – Transmission Specifications for Switched Exchange Access Network standards for circuit loss and noise.

Sprint's Synchronous Optical Network (SONET), using four-fiber bi-directional line switched ring capability, allows automatic switching to alternate paths to provide for traffic rerouting in the event of a route failure. The SONET fiber optic backbone topology is currently designed with more than 100 overlapping rings to ensure sufficient alternate paths for total network survivability. As such, Minnesota Relay is linked to a coast-to-coast telecommunications route, which ensures voice, data, and video services without interrupting the call. This guarantees that Minnesota Relay calls are safeguarded by automatically rerouting service around disruptions in approximately 60 milliseconds.

711 Dialing Access

On August 9, 2000, the Federal Communications Commission released a *Second Report and Order*[6] concerning nationwide 711 dialing access to TRS. The Order required all common carriers, wireless providers, payphone vendors, and Private Branch Exchange (PBX) vendors to provide 711 dialing access to relay services on or before October 1, 2001. Relay users are also able to access Minnesota Relay by dialing the 10 digit toll-free access numbers.

Handling of Emergency Calls

Minnesota Relay encourages users to dial 911 or other existing emergency numbers directly in an emergency as using relay may result in a delay in getting their call through. However, some consumers are more comfortable using relay to access emergency services.

Minnesota Relay automatically and immediately transfers emergency relay calls to the

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[6] *In the Matter of the Use of N11 Codes and Other Abbreviated Dialing Arrangements*, Second Report and Order, CC Docket No. 92-105, released August 9, 2000.

appropriate Public Safety Answering Point (PSAP) that the caller would have reached by dialing 911 directly, or to a PSAP that is capable of dispatching emergency services in an expeditious manner. An emergency call is considered to be one in which the relay user indicates the need for police, fire department, paramedics, or ambulance. Minnesota Relay utilizes a standard E911 database that serves all of the United States.

Speed of Answer

Minnesota Relay meets the Federal Communications Commission's mandatory minimum standard for Telecommunications Relay Services (TRS) speed of answer (47 C.F.R. § 64.604), which states "TRS facilities shall, except during network failure, answer 85% of all calls within 10 seconds by any method which results in the caller's call immediately being placed, not put in a queue or on hold."

The chart below demonstrates the average speed of answer (in seconds), and the percentage of calls answered within 10 seconds (service level), for each type of Minnesota Relay call.

Service	Speed of Answer	Service Level
TTY-Based	2.2	95.3%
Speech-to-Speech	6.6	87.7%
CapTel	0.7	99.7%

Minnesota Relay is equipped with sufficient facilities to provide a Grade of Service (GOS) of P.1 or better for calls entering the relay call center(s) switch equipment.

Consumer Complaints

Minnesota Relay received no complaints in 2019.

Minnesota Relay users have many options for filing a complaint or commendation. The relay communications assistant has the capability to transfer the caller directly to the Sprint or CapTel 24-hour Customer Service departments, or the relay user may request to speak to a relay supervisor during or immediately after a call. Relay users may also file a complaint with the TAM administrator, Minnesota Relay outreach staff, or the Federal Communications Commission.

All complaints and commendations are recorded electronically by Sprint on a Customer Contact form. Sprint provides copies of each Customer Contact form to the TAM administrator monthly. In the event that TAM and the relay provider fail to resolve a Minnesota Relay complaint within 180 days after the complaint was filed, the Federal Communications Commission exercises jurisdiction over the complaint. Failure to meet the deadlines for complaint resolution may

adversely affect the continued certification of Minnesota Relay (47 C.F.R. § 64.606).

TAM submits an annual Complaint Log Summary to the Federal Communications Commission in accordance with Code of Federal Regulations, title 47, section 64.604 (c)(1).

Telephone Equipment Distribution Program

Telephone Equipment Distribution (TED) Program Administration

The TED Program is responsible for:
- Distributing specialized telecommunications devices and interconnectivity products to income eligible Minnesotans.
- Informing the public of services available through the program.
- Providing training for the use of distributed equipment.
- Assisting a person who is applying for telecommunication devices and products in applying for discounted telecommunications or internet services (when applicable).

The TED Program is administered through an interagency agreement between the Department of Human Services (DHS) and Commerce. The DHS Deaf and Hard of Hearing Services Division (DHHSD) has six regional offices around the state staffed with professionals experienced in working with people who are deaf, hard of hearing, deafblind, speech disabled, or physically disabled. TED Program services are provided through five of the DHHSD regional offices: Duluth, Mankato, Moorhead, St. Cloud, and St. Paul.

Authority to Provide Equipment

Minnesota Statutes section 237.51, subdivision 5(a)(3) provides DHS with the authority to establish specifications for telecommunications devices and interconnectivity products to be provided under section 237.53, subdivision 3.

The types of equipment distributed include:
- Amplified Telephones (Both Hearing and Voice)
- Bluetooth Cordless Amplified Phones
- Captioned Telephones
- Remote Control Speaker Phones
- Text Telephones (TTYs)
- Braille Phones
- Hearing Carry Over Phones

- Voice Carry Over Phones
- Amplified Cell Phones
- Basic Smartphone
- iOS Tablets and Smartphones (for Pilot Program)
- Smart Speakers
- Smart Displays
- Bluetooth Enabled Earphones
- Bluetooth Steamers to be Used With Hearing Aids
- Electrolarynx Used With a Landline or Cell Phone
- Wireless Accessories (Bluetooth Neckloop, Cell Phone Amplifier, and Visual Signaler)
- Ring Signaling Devices (Auditory, Visual, and Tactile)
- Special Needs Devices (for Multiple Disabilities)

Population Served

The TED Program serves a wide range of individuals with a variety of communication needs. Currently, the oldest TED Program participant is 106 years of age, and the youngest is age 24. The average consumer served is female, 82 years old, and hard of hearing. In 2019, 70 percent of TED Program participants were female and 70 percent lived outside of the seven-county metropolitan area. Fifty eight percent of clients were white and 2 percent served were persons of color.

Disabilities Served	Percentage of Program Participants
Hard of Hearing	70
Hard of Hearing With Vision Loss	17
Physical Disability	7
Other Disabilities (e.g. deafblind or speech disability)	5
Deaf	2

Many clients with multiple disabilities utilize the TED Program. In 2019, 23 percent of TED Program participants had two or more disabilities, such as a speech and physical disability or hearing loss and physical disability.

A large portion of Minnesotans with hearing loss (33 percent) are 65 years of age or older. It is expected that by age 65, one out of three people will have a hearing loss, and the number is expected to rise as the Baby Boomer generation matures.

Statistical Information

A report of TED Program activities is submitted quarterly to the Telecommunications Access Minnesota (TAM) administrator. The report documents outreach activity, the number of individuals served, and the types of equipment distributed. The charts provided in **Appendix C** demonstrate TED Program activities in 2019.

In 2019, the TED Program distributed 333 devices to 297 new program participants.

In addition, the TED Program provided services to 817 repeat program participants. Repeat service include providing further assistance to a Ted Program participant after equipment is initially distributed to them. Program participants often contact the TED Program to receive additional training, for repair/replacement of equipment, or to exchange equipment because their communication needs have changed (e.g. a person's hearing deteriorates and the equipment they initially received no longer meets their needs). Program specialists also provided information and referrals to 255 consumers and agencies, for a total of 1,369 Minnesotans receiving TED Program service in 2019.

Annual Comparison of Services Provided

	2018	2019	Increase/Decrease	Percent
New Program Clients	448	297	(151)	-34%
Repeat Program Clients	1,062	817	(245)	-23%
Devices Distributed	2,591	991	(1,600)	-62%
Information and Referrals	205	255	50	24%

TED Program Progress

TED Program's Outreach Metrics and What is Being Learned From Them

In January 2018, the TED Program implemented new outreach performance measures. The outreach activities that were measured were Presentations, Booths, Drop-Ins/Cold Calls, Mass Mailings, Advertisements, and In-Home Training on TRS equipment. Each TED Program application distributed had a specific code to track the effectiveness of the outreach effort. TED Program staff continued the same efforts in 2019.

Presentations

TED Program staff participate in presentations to inform service providers and potential clients about the services the TED Program offers. The performance measure for presentations was a short survey. In 2019, there were 1,031 total participants at presentations. The TED Program collected 297 surveys from participants (29 percent return rate).

Survey Questions	Number of Surveys Collected	Number of People Responding "Yes"	Percentage
Is the application process clear?	297	274	92%
Was the information provided helpful?	297	242	81%
Do you plan on applying or referring people?	297	149	50%

There were 930 TED Program applications distributed at presentations during the year. The number of applications returned was 33 that staff could track (4 percent return rate). Surveys may not have been passed out at every presentation, as the audience or location of the presentation may not have been a suitable fit. Even though this appears a low response rate, it is the highest response rate compared to other promotional efforts.

The TED Program intends to continue the distribution of a short survey in 2020, but will modify the questions for more meaningful results.

Booths

TED Program staff participate at booths to network with other service providers and interact with potential clients. There were 4,084 participants at booths in 2019, and 1,505 applications were distributed. The number of applications returned that could be tracked was 27 (2 percent). The most effective outreach activity at booths is networking with other service providers.

In 2018, staff distributed "Contact Me" cards to attendees who stopped by the TED Program booth. Questions included on the "Contact Card" were:
1. Do you want to be contacted to learn more about the TED Program?
2. Was the information helpful at the booth?
3. Do you plan on applying or referring the TED Program to others?

However, staff observed that attendees did not have the time or the patience to fill out the card (attendees are more interested in collecting swag or information they will read later). As such, the TED Program suspended distribution of "Contact Me" cards in 2019.

In 2020, the TED Program plans to network with service providers and offer future presentations at their staff meetings. Staff will have a signup sheet available for attendees requesting additional information. The cost of the booth will also be tracked to determine the staff's future participation.

Drop-Ins/Cold Calls

Drop-ins refer to TED Program staff stopping into a service agency and informing staff at the agency about TED Program services. The same occurs with a cold call, when a service agency is contacted on the telephone or via email with no pre-scheduled meeting.

- TED Program staff provided information to 79 service agency staff during drop-ins and cold calls.
- 120 applications were distributed as a result, and one application was returned that staff could track.
- The TED Program counted how many additional applications were requested after the initial contact. Three agencies requested more applications, which was a 4 percent return rate.

It is difficult to track the effectiveness of drop-ins and cold calls but staff feel this outreach activity provides positive collaboration with service providers with the same goal to provide a service that is beneficial for the audience we serve. Many times presentations are scheduled as a result of this outreach activity.

In 2020, the TED Program will no longer track the number of additional application requests. The number of drop-ins/cold calls conducted and audience count will be tracked.

Mass Mailings/Email Blasts

Mass mailings refers to letters and program brochures mailed out to service providers. The performance measure established was how many individuals requested additional TED Program applications after receiving the original mailing. The same performance measure was tracked in 2019.

- Number of participants receiving the mailings were 1,076
- Number of applications distributed were 1,222
- Number of applications returned from the mailing was nine
- Number of agencies requesting additional applications was four

There is a very low response rate (0.7 percent) with this outreach and it requires high effort. In 2020, the TED Program will no longer will be tracking additional application requests. The number of mass mailings/email blasts and number of participants will be tracked.

In-Home Training (Telecommunications Relay Services Equipment)

In-home trainings occur when non-TED Program clients request a demonstration or training of equipment that is used with relay services. These trainings are not requested often. There were three participants who received in-home training in 2019. The TED Program utilized a short feedback survey but none of the participants completed it.

The survey asked the following questions:
1. Was the process explained clear?
2. Was the information provided helpful?
3. I plan to refer another person to the TED Program.

The TED Program will not use the survey in 2020. The number of in-home trainings and participants will be tracked.

Print Advertisements

Advertisements are placed in various publications throughout the state. The TED Program tracks the referrals when someone calls for a TED Program application. Staff have to rely on the memory of the contact person calling to determine if the referral was from an advertisement. This is not always reliable because most of the clients are senior citizens and cannot accurately recall the publication.

- The estimated total circulation count per ad placement was 1,389,915. Some ads were placed multiple times throughout the year.
- 21 applications were mailed out.
- 19 applications were returned.

The response rate of advertisements is higher than other promotions but the cost of the ad is higher. The TED Program plans on conducting an analysis in 2020 by tracking the cost of ads to determine which provides the most results.

Lessons Learned From the Client Contact Surveys and the Resulting Program Changes

Due to limited staff in 2019, the TED Program was unable to conduct the client contact survey. This will occur in calendar year 2020.

The Numbers of Each Type of Equipment Purchased, Deployed, Returned, and Retired During the Year

Annually, the TED Program purchases new equipment, distributes equipment (new and refurbished), equipment is returned (under warranty, disposal, or refurbished services), and equipment becomes retired (recycled or disposed). This is a standard circulation cycle for equipment. Below are charts that summarize the number of purchased, distributed, returned, and retired devices per equipment type.

Purchase of New Equipment

Equipment Type	Pieces of Equipment
Amplified Telephones	404
Captioned Telephones	79
Auxiliary Equipment (ringers, neckloops, switches)	192
Speaker Phones	10
iPads	0
iPhones	1
Cell Phones	75
TTYs	13
Other (Telitalk Emote, Echo Dot, VCO, Braille)	23
TOTAL	**797**

Total Distributed Equipment (New and Refurbished)

Equipment Type	Pieces of Equipment
Amplified Telephones	534
Captioned Telephones	155
Auxiliary Equipment (ringers, neckloops, switches)	191
Speaker Phones	14
iPads	10
iPhones	8
Cell Phones	63
TTYs	5
Other (Telitalk Emote, VCO, Braille)	11
TOTAL	**991**

Returned Equipment

Equipment Type	Pieces of Equipment
Amplified Telephones	493
Captioned Telephones	143
Auxiliary Equipment (ringers, neckloops, switches)	134
Speaker Phones	16
iPads	5
iPhones	9
Cell Phones	29
TTYs	16
Other (Telitalk Emote, VCO, Braille)	5
TOTAL	**850**

Disposed/Recycled Equipment

Equipment Type	Pieces of Equipment
Amplified Telephones	374
Captioned Telephones	114
Auxiliary Equipment (ringers, neckloops, switches)	107
Speaker Phones	14
iPads	0
iPhones	2
Cell Phones	19
TTYs	12
Other (Telitalk Emote, VCO, Braille)	4
TOTAL	**646**

Wireless iPad/iPhone Pilot Phase Two

A second iPad/iPhone pilot program was implemented on March 15, 2019. The purpose of the second pilot was to further evaluate if the use of accessible application on advanced wireless devices increased telecommunication access for people with disabilities. The second pilot differed from the first pilot by evaluating a smaller participant size, collecting measurable data, having a shorter pilot length, creating stricter criteria to participate, and requiring a higher level of accountability on the client.

The questions measured during the pilot were:

1. What are the needs for deaf, hard of hearing, deafblind, speech and physically disabled persons to use advanced wireless devices?

2. How do tablets and smartphones impact telecommunication access for people who are deaf, hard of hearing, deafblind, speech and physically disabled?
3. Which applications do deaf, hard of hearing, deafblind, speech and physically disabled person prefer to access telecommunication services?
4. Do advanced wireless devices provide a better functional equivalent experience to people with disabilities?
5. What benefits and disadvantages does advanced wireless devices have accessing telecommunication services?
6. Should the TED Program add tablets and smartphones to their wireless program?

There were 18 participants in the second pilot and the length of the pilot was three months. The device was "locked" and was pre-loaded with telecommunication apps only. Applicants were pre-screened with strict criteria to become a participant. Each month the TED Program contacted the client to check-in on their use of the device. Also, the participant was required to complete three surveys each month to understand their use of the apps.

A report of the findings was submitted to Commerce in November 2019. In 2019, the Office of the Legislative Auditor (OLA) conducted an internal control and compliance audit of the TED Program. Commerce notified the TED Program that it would like to place further discussion and determination regarding adding iPads and iPhones to the TED Program on hold until after the OLA Audit Report is released, so that findings from the audit can be understood first. After these findings are known, Commerce will provide feedback to DHS and continue analysis.

TED Program Legislative Changes

In 2019, three new services were approved by the legislature and added to the TED Program statute:

1. The TED Program can distribute interconnectivity devices. These include accessories, devices, or applications (apps) for which the primary function is use with a telecommunication device. The purpose of this device is to provide increased access to the telephone by utilizing this secondary unit with a telephone. Examples of interconnectivity devices added to the program are Bluetooth enabled accessories, Smart Speakers for clients with physical disabilities, Smart Displays, universal hearing aid streamers, apps to be used with a tablet or smartphone, an electrolarynx to be used

The TED Program will add three new services in 2020:
- Distribution of interconnectivity devices.
- Assisting clients with completing telephone and internet service discount applications.
- Assisting clients in determining what other assistive technology could benefit them.

with a wired or wireless telephone by individuals with a speech disability, and Bluetooth enabled earphones.
2. Assist TED Program clients with completing telephone and internet discount applications. This includes Lifeline and the Telephone Assistance Plan.
3. Assist TED Program clients in determining what other assistive technology could benefit them through a questionnaire.

TED Program Database Development

The TED Program launched a new database September 10, 2018. The database is now centralized verses using multiple systems. It includes the functionality of storing paper applications, client data, equipment inventory and circulation changes, of order equipment from vendors, recording agency contacts, and information and referral tracking.

In 2019, staff utilized the Agile Apps database and recorded improvements needed for phase two development. In December 2019, the TED Program began the development of phase two. There will be many enhancements that will improve the efficiency of the database and the program's data collection methods.

Outreach

Minnesota Relay Outreach

Minnesota Relay outreach is provided under an interagency agreement with the Department of Human Services – TED Program. Outreach staff is responsible for providing a comprehensive statewide outreach program to educate people about Minnesota Relay services. Outreach personnel distribute informational pamphlets, train consumers and businesses, make presentations, staff exhibitions, and perform other similar forms of consumer contacts.

Outreach staff and the TAM administrator serve as points of contact for Minnesota consumers who have questions, concerns, complaints, or commendations. Outreach efforts are tailored to target appropriate demographics, including consumers who are deaf, deafblind, hard of hearing, late deafened, or speech disabled, as well as hearing consumers and businesses.

Outreach Activities primarily include:
- Staffing a booth at exhibitions, seminars, and fairs.
- In-person visits to provide training on Telecommunications Relay Services.
- Presenting at senior centers, health care facilities, and social service agencies.
- Providing brochures, instruction sheets, and informational videos.

TED Program Outreach

The Department of Human Services Deaf and Hard of Hearing Services Division is responsible for the promotion and education of TED Program services. Activities and metrics for success were described in the previous section. While websites, emails, and telephone calls can be an efficient, effective, and convenient way of providing information, TED Program specialists find that many clients are more receptive if services are provided in person. As such, TED Program specialists often travel to client homes to conduct equipment needs assessments, set up equipment, and provide training on the complexity of the device. In-home visits help eliminate apprehension and result in a more personal, relaxed, and productive experience for the client.

Outreach includes:
✔ *In-Home Visits*
✔ *Booths*
✔ *Presentations*
✔ *Mass Mailings*
✔ *Drop-In Visits*
✔ *Cold Calls*
✔ *Advertisements*

In addition to in-home client visits, 2019 outreach efforts included:
- Staffing a booth at senior exhibitions, health fairs, and conferences.
- Presentations at senior apartments, health care facilities, and social services agencies.
- Mass mailings (postal and email) to current clients, social workers, public health workers, audiologists, hearing aid dispensers, senior centers, assistive living facilities, nursing homes, Salvation Army locations, Family Pathways, and Tribal offices.
- Drop-in visits and cold-calls to social services, businesses, senior housing, and health care professionals.
- Advertisements in the *Senior Perspective*, *Sun Newspaper*, *Senior Bluebook*, and *Twin Cities Senior Housing Guide*.
- TV advertisements on Hubbard Broadcasting (Channel 45).

Telephone Directories, Bill Inserts, and Newsletters

Annually, the TAM administrator sends a letter to all telephone companies serving Minnesota consumers to remind them of their responsibility to ensure that customers are aware of the availability and use of all forms of Telecommunications Relay Services (TRS) as required by Code of Federal Regulations, title 47, section 64.604(c)(3). In addition to the federal requirement regarding public access to TRS information, Minnesota Rule 7812.1000 requires local service providers to provide their customers with an *Annual Notice of Customer Rights*, which must include information on programs for people who have hearing loss.

TAM provides carriers with a sample *Annual Notice to Customers* for carriers to use in their telephone directory, bill insert, and/or newsletter. TAM also makes a document available with information that carriers should include in their annual notices if they elect not to use the sample annual notice. TRS annual notice information is available on Commerce's website

(mn.gov/commerce/industries/telecom/mnrelay/) so that carriers have access to up-to-date information on Minnesota Relay and TED Program services.

TAM requests that carriers complete and return a *Compliance Form for Annual Notices to Customers* to demonstrate compliance. By requesting that carriers complete and return a compliance form and copies of TRS material(s) distributed to their consumers, TAM attains a higher rate of compliance, and is able to identify which carriers are not distributing TRS materials, or are distributing incorrect and/or incomplete information to consumers. When TAM receives a copy of a carrier's directory page, newsletter, or bill insert and the item does not comply with annual notice requirements, TAM submits a letter to the carrier notifying them of their deficiency.

DHHSD Regional Advisory Committee Meetings

DHHSD has established six advisory committees throughout Minnesota. Each advisory committee meets quarterly and serves as a venue to provide information to, and gather information from, the community. Advisory committee meeting minutes are provided to the TAM administrator and TED Program administrator so that issues, questions, and concerns regarding Minnesota Relay and the TED Program may be addressed.

The TAM administrator attends the Metro advisory committee meetings, and TED Program staff attend a minimum of one advisory committee meeting per region, per year.

2019 Minnesota Relay and TED Program Outreach

In 2019, TED Program staff performed 124 Minnesota Relay and TED Program outreach activities reaching 6,545 Minnesotans. Reports containing outreach efforts are compiled monthly by the TED Program and sent to the TAM administrator.

Date	Type of Outreach	Name or Location of Event	City	Attendees
01/14	Presentation	Ecumen of Litchfield	Litchfield	32
01/15	Presentation	Caregiver Professionals Networking Meeting	Sartell	14
01/16	Presentation	Donut Talks	Crystal	55
01/25	Booth	Information Booth at Columbia Apartments	Virginia	6
01/29	Presentation	Metro Elderly Senior Services Networking	Woodbury	30
01/31	Presentation	Pioneer Manor	White Bear Lake	3
02/05	Presentation	Hear for the Health of It and TED Program	St. Paul	13
02/07	Presentation	Peace Villa	Norwood Young America	6
02/13	Presentation	Grace Living Community of GlenOaks	New London	8
03/01	Booth	MN Hearing Healthcare Providers Inc. Convention	Minnetonka	150
03/06	Booth	Lobby Day At the Capitol	St. Paul	250
03/13	Booth	Information Booth at Alice Nettell Tower Apartments	Virginia	10
03/14	Booth	Health Fair	New Hope	4
03/19	Booth	Information Booth at Good Samaritan Society	International Falls	8
03/20	Booth	Information Booth at Westgate Apartments	Hibbing	10
03/27	Presentation	Foster Grandparents Program	Princeton	34
04/02	Booth	St. Paul Senior Workers Association Conference	Arden Hills	150
04/08	Presentation	Rollag Lutheran Church	Hawley	21
04/09	Booth	ASL & Interpreting Career Fair	St. Paul	20
04/09	Presentation	Westchester Apartments Resident's Meeting	Pine City	31
04/10	Booth	Case Managers Association	Brooklyn Park	290
04/10	Booth	Beyond the Yellow Ribbon Resource Fair	Hibbing	100
04/10	Presentation	Hear for the Health of It and TED Program	Richfield	9
04/12	Booth	MN Gerontological Society Conference	Brooklyn Center	45
04/16	Presentation	Harmony River - Staff Meeting	Hutchinson	6
04/17	Presentation	Senior Network Providers Meeting	Big Lake	28
04/17	Presentation	Senior Community Center	Alexandria	9
04/18	Presentation	Prairie Five Community Action Council - Staff Meeting	Appleton	6
04/18	Presentation	VA Speech/Language Pathology Staff Meeting	Minneapolis	4
04/23	Presentation	Central MN Council on Aging Network Meeting	Sartell	14
04/24	Presentation	Excuse Me, What Did You Say?	St. Paul	6
04/26	Booth	Deaf Awareness - Metro Deaf School	St. Paul	32
04/26	Presentation	MN Nursing Home Social Workers Association Meeting	Virginia	6

Date	Type of Outreach	Name or Location of Event	City	Attendees
04/27	Booth	Deaf Awareness Fair	Oak Park Heights	1000
04/27	Booth	Anoka County Senior Expo	Ramsey	120
04/30	Presentation	Aural Rehab Class	St. Paul	6
05/01	Presentation	Oxbowl Bend Apartments	Coon Rapids	20
05/02	Booth	Shoreview YMCA Senior Resource Fair	Shoreview	67
05/09	Presentation	Palo-Marham Senior Citizens	Aurora	20
05/10	Booth	American Case Management Association Conference	Brooklyn Park	101
05/15	Booth	Promotional Event at Senior Apartment	Bemidji	6
05/15	Presentation	Comunidades Latinas Unidas En Servicio	West St. Paul	22
05/15	Presentation	Beltrami County Health & Human Services	Bemidji	13
05/16	Presentation	Beacon Hill - The Commons	Minnetonka	10
05/23	Booth	Thrive Over 65 Expo	Maplewood	38
05/29	Booth	Promotional Event at Senior Housing	Alexandria	3
06/06	Presentation	Deaf Culture for Community Panel	Minneapolis	25
06/11	Booth	Technology Fair - Vision Loss Resources	St. Paul	30
06/13	Booth	Resources to Remain Living at Home	Roseville	22
06/19	Booth	Senior Carnival	Eveleth	300
06/19	One-on-One Training	Person's Home	Hutchinson	3
06/20	Presentation	Hear for the Health of It and TED Program	St. Paul	13
06/21	Presentation	Support Group Meeting - Laryngectomy Patients	St. Paul	8
06/22	Booth	Grand Portage Health Fair	Grand Portage	150
06/24	Presentation	Renville County Public Health Staff Meeting	Olivia	15
06/27	Booth	TRIADS Senior Expo	Alexandria	42
06/27	Presentation	Ecumen	Alexandria	7
07/11	Presentation	Friendship Club	Grove City	33
07/15	One-on-One Training	Person's Home	Richfield	2
07/16	Presentation	Shelly Senior Center	Shelly	11
07/17	Presentation	State Services for the Blind Staff Meeting	St. Paul	19
07/18	Booth	Senior Fair	Fergus Falls	15
07/24	Booth	Community Picnic	Grand Rapids	25
08/05	Presentation	Hear for the Health of It and TED Program	Maple Grove	4
08/06	Booth	National Night Out & Health Fair	Aurora	150
08/06	Presentation	Prairie Five Community Action	Canby	23
08/07	Presentation	United Hospital Case Managers & Coordinators Staff Meeting	St. Paul	21
08/08	Presentation	Community Education - Coffee and Conversation	Sartell	8
08/14	Presentation	Hear for the Health of It and TED Program	Mounds View	13
08/15	Booth	Senior Citizen's Day	Alexandria	20
08/15	Presentation	Hear for the Health of It and TED Program	St. Paul	17
08/16	Booth	Community Picnic	Grand Rapids	513

Date	Type of Outreach	Name or Location of Event	City	Attendees
08/21	Presentation	St. James Manor	Perham	10
08/23	Booth	Duluth Veteran's StandDown	Duluth	275
08/26	Presentation	Ecumen - Lamplighter Manor	Detroit Lakes	11
08/28	Presentation	Hear for the Health of It and TED Program	Mahtomedi	8
08/29	Presentation	Benet Place	St. Cloud	8
09/09	Booth	MN Social Workers Assoc. Supervisors Conference	Breezy Point	27
09/11	Booth	Fall Festival	Minneapolis	100
09/11	Presentation	Dept. of Natural Resources Accessibility Coordinators Staff Meeting	St. Paul	13
09/11	Presentation	OK Club Seniors	Duluth	35
09/12	Presentation	Meeker County Care Connection	Litchfield	23
09/12	Presentation	Fairway View Senior Communities	Ortonville	16
09/19	Presentation	Hear for the Health of It and TED Program	St. Anthony Park	10
09/24	Booth	McLeod County Senior Expo	Hutchinson	12
09/24	Booth	Hubbard County Senior Fair	Park Rapids	27
09/24	Booth	American Indian Mental Health Council Conference	Tower	175
09/24	Booth	Active Life Expo	Shoreview	35
09/25	Booth	Veterans StandDown	Bemidji	15
10/01	Presentation	Grand Itasca Clinic/Hospital Occupational & Nurses Staff Meeting	Grand Rapids	13
10/04	Booth	Hospital Vendor Fair	St. Cloud	32
10/04	Booth	Case Management Society Conference	Minneapolis	88
10/08	Booth	Community Event	Clarkfield	9
10/08	Presentation	Hear for the Health of It and TED Program	St. Paul	93
10/16	Booth	Sandwich Generation Booth	St. Paul	34
10/16	Presentation	Sherburne County Network Meeting	Big Lake	17
10/17	Booth	Operation Community Connect	Milaca	26
10/17	Presentation	Health Partners - New Users of Hearing Aids	St. Paul	6
10/18	Booth	Scott County Senior Expo	Prior Lake	56
10/18	Booth	Minnesota Registry of Interpreters for the Deaf/Minnesota Association of Deaf Citizens Conference	Faribault	210
10/18	Presentation	Aging with Attitude	Sauk Centre	23
10/25	Booth	Minnesota State Academy for the Deaf Transition Fair	St. Paul	25
10/28	Booth	Catholic Charities Foster Grandparent Program	Princeton	12
10/30	Presentation	Hear for the Health of It and TED Program	Maplewood	13
11/06	Booth	Mille Lacs County Community and Veteran Services Provider Fair	Milaca	8
11/06	Booth	DHS Community Support and Health Care Administrations Open House	St. Paul	11
11/06	Presentation	Humphrey Manor	Wadena	7

Date	Type of Outreach	Name or Location of Event	City	Attendees
11/08	Presentation	Villa St. Vincent	Crookston	10
11/12	Presentation	Sanford Health Community Event	Canby	15
11/12	Presentation	Town Square Promotional Event	East Grand Forks	1
11/12	Presentation	Canby Assisted Living Facility	Canby	10
11/13	Presentation	Excuse Me, What Did You Say?	St. Paul	13
11/15	Booth	Community Health Fair	St. Cloud	15
11/18	Presentation	Minnehaha Senior Living	Minneapolis	18
11/19	Presentation	Prince of Peace	Hutchinson	12
11/20	Presentation	Caregivers Support Group	Aurora	6
11/22	Presentation	Silver Lake Pointe Mini Informational Event	Mounds View	1
11/25	Presentation	Let's Promote Good Hearing Day	Sauk Rapids	6
11/26	Presentation	Caregivers Support Group	Virginia	8
12/04	Presentation	MN Speaking DeafBlind Group Meeting	Conference Call	4
12/09	Booth	Association of MN Counties Conference	St. Cloud	600
12/16	Presentation	Wadena Senior Center	Wadena	8
12/18	One-on-One Training	Person's Home	Park Rapids	2

TAM Fund Budget Summary

REVENUE	FY 2019 Actual	FY 2020 Budgeted
Per Wired/Post-Paid Wireless Customer Access Line (FY 2019=$0.05; FY 2020=$0.05 for 2 months and $0.07 for 10 months)	$ 3,633,183.33	$ 4,652,834.20
Prepaid Wireless Retail Transactions	$ 716,487.14	$ 894,627.26
TAM Fund Interest	$ 23,711.64	$ 27,653.17
Total TAM Fund Revenue	$ 4,373,382.11	$ 5,575,114.62

EXPENDITURES	FY 2019 Actual	FY 2020 Budgeted
TAM Program Administration	$ (126,210.60)	$ (142,050.00)
Telecommunications Relay Services	$ (1,236,359.06)	$ (1,315,500.00)
DHS-TED Program	$ (1,225,258.98)	$ (1,545,640.00)
DHS-Rural Real-Time Captioning	$ (290,242.32)	$ (295,051.00)
DEED-Accessible News for the Blind	$ (98,839.88)	$ (100,000.00)
MN Commission of the Deaf, DeafBlind and Hard of Hearing	$ (1,170,000.00)	$ (1,620,000.00)
MN.IT Services (1)	$ (272,902.46)	$ (290,000.00)
MN.IT Services (2)	$ (21,700.00)	$ (50,000.00)
Legislative Coordinating Commission	$ (100,000.00)	$ (100,000.00)
Total TAM Fund Expenditures	$ (4,541,513.30)	$ (5,458,241.00)

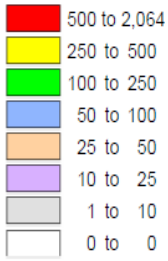| REVENUE VS. EXPENDITURES	FY 2019 Actual	FY 2020 Budgeted
	$ (168,131.19)	$ 116,873.62

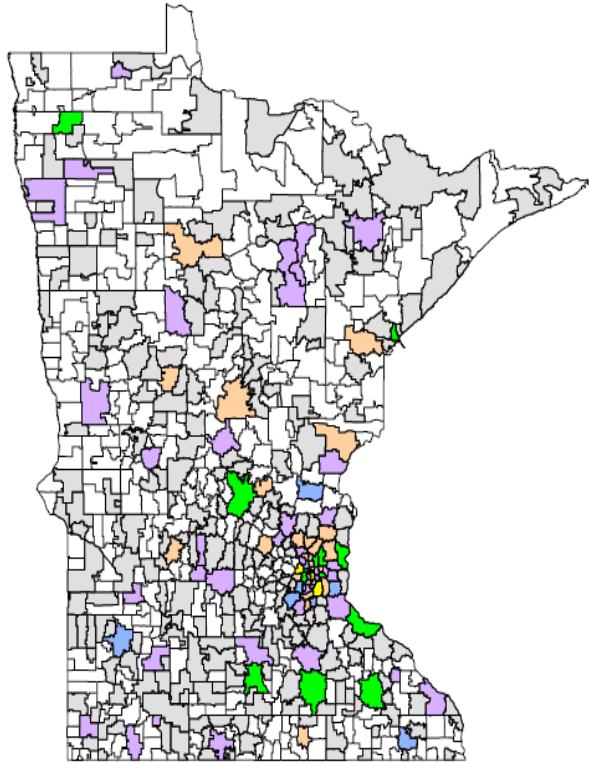| STATEMENT OF TAM FUND BALANCE	FY 2019 Actual	FY 2020 Budgeted
TAM Fund Balance at Beginning of Fiscal Year	$ 1,909,985.89	$ 1,388,358.34
TAM Fund Revenue & Interest	$ 4,373,382.11	$ 5,575,114.62
TAM Fund Expenditures	$ (4,541,513.30)	$ (5,458,241.00)
TAM Fund Balance at Close of Fiscal Year	$ 1,741,854.70	$ 1,505,231.96

Appendices
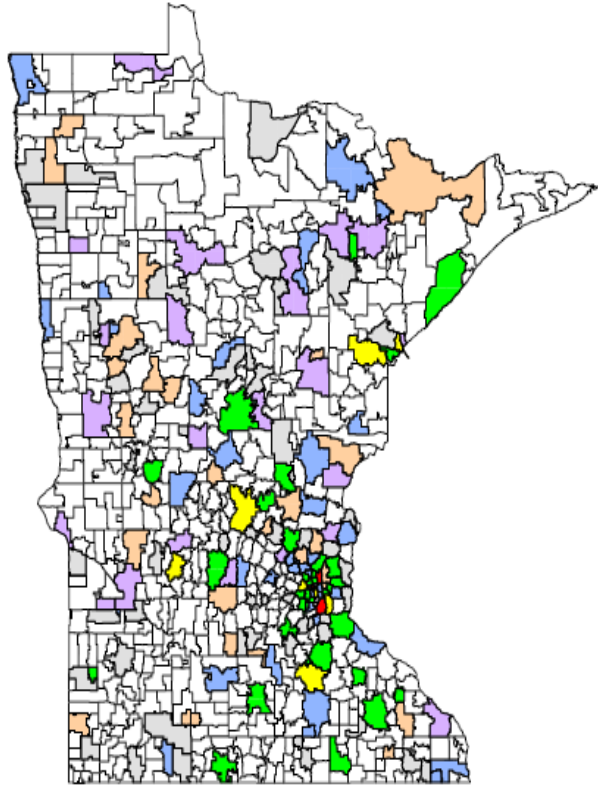
Appendix A – Minnesota Relay Call Origination Maps

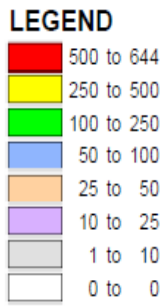# Minnesota Relay
TTY and Speech-to-Speech Calls
May 2019

LEGEND

🟥	500 to 2,064
🟨	250 to 500
🟩	100 to 250
🟦	50 to 100
🟧	25 to 50
🟪	10 to 25
⬜	1 to 10
⬜	0 to 0

LEGEND

Color	Range
🟥	500 to 644
🟨	250 to 500
🟩	100 to 250
🟦	50 to 100
🟧	25 to 50
🟪	10 to 25
⬜	1 to 10
⬜	0 to 0

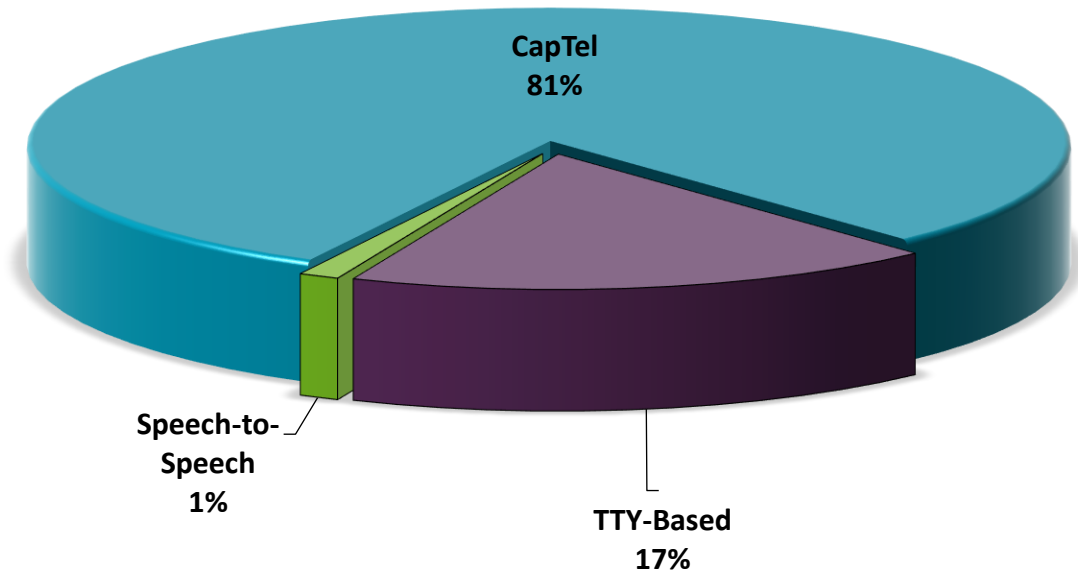# Minnesota Relay CapTel Calls
May 2019

Appendix B – Minnesota Relay Call Charts

2019 Minnesota Relay Conversation Minutes by Type

CapTel
81%

Speech-to-Speech
1%

TTY-Based
17%

2010 - 2019 Minnesota Relay Call Volume
(total number of TTY-Based, STS, and CapTel calls)

Year	Call Volume
2010	788,555
2011	682,646
2012	678,918
2013	624,286
2014	558,538
2015	466,626
2016	405,510
2017	344,422
2018	307,707
2019	266,933
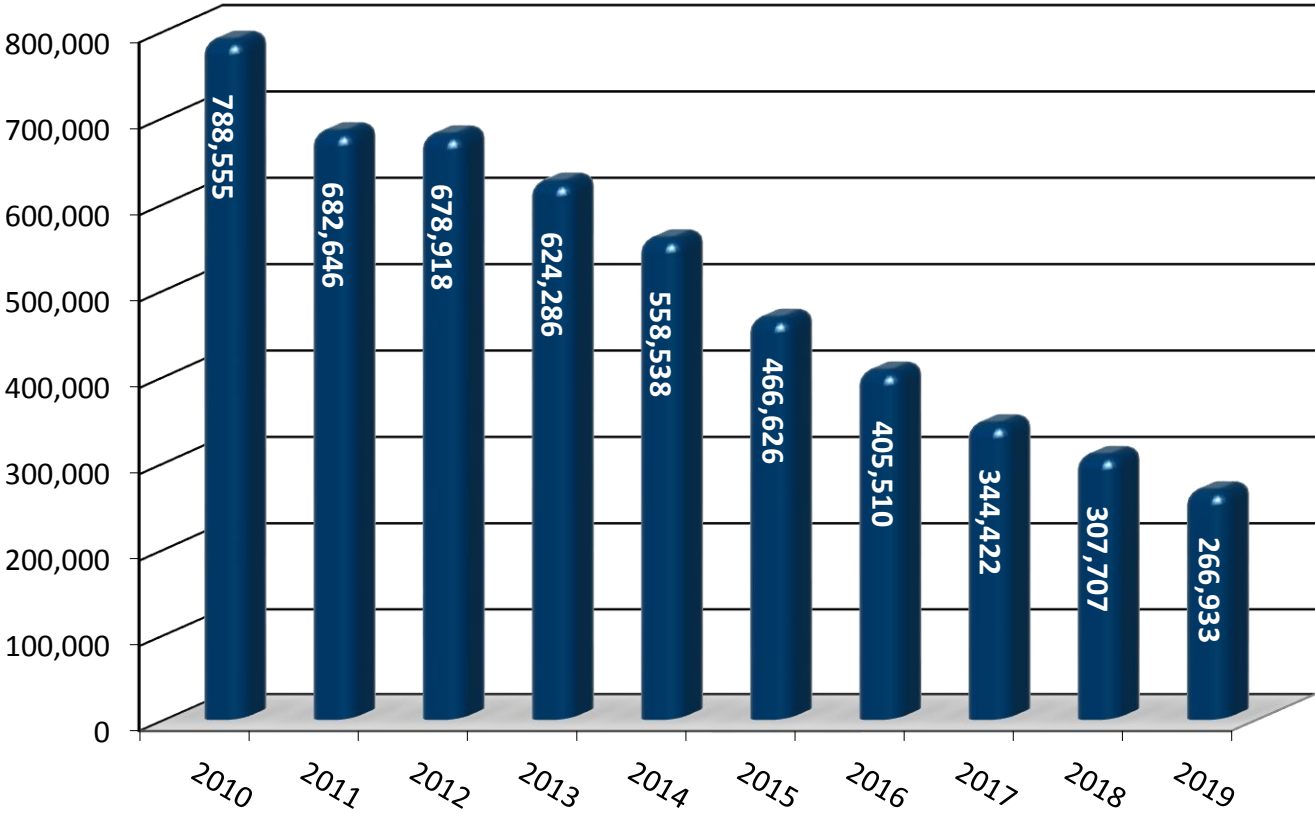
TTY-Based TRS Call Volumes

■ Total Calls ■ Conversation Minutes

- 2017: Total Calls 98,694; Conversation Minutes 168,244
- 2018: Total Calls 90,642; Conversation Minutes 154,922
- 2019: Total Calls 84,362; Conversation Minutes 119,410

Speech-to-Speech Call Volumes

◪ Total Calls　　◪ Conversation Minutes

Minnesota Relay experienced a sharp decline in Speech-to-Speech use after the first quarter of 2018, due to a high-use consumer of this service passing away in April 2018.

Year	Total Calls	Conversation Minutes
2017	12,760	33,765
2018	7,781	14,417
2019	6,669	8,156

CapTel Call Volumes

Legend: ◩ Total Calls ◼ Conversation Minutes

Chart data:

Year	Total Calls	Conversation Minutes
2017	232,968	722,643
2018	209,284	641,924
2019	175,902	524,823

Appendix C – TED Program Activities

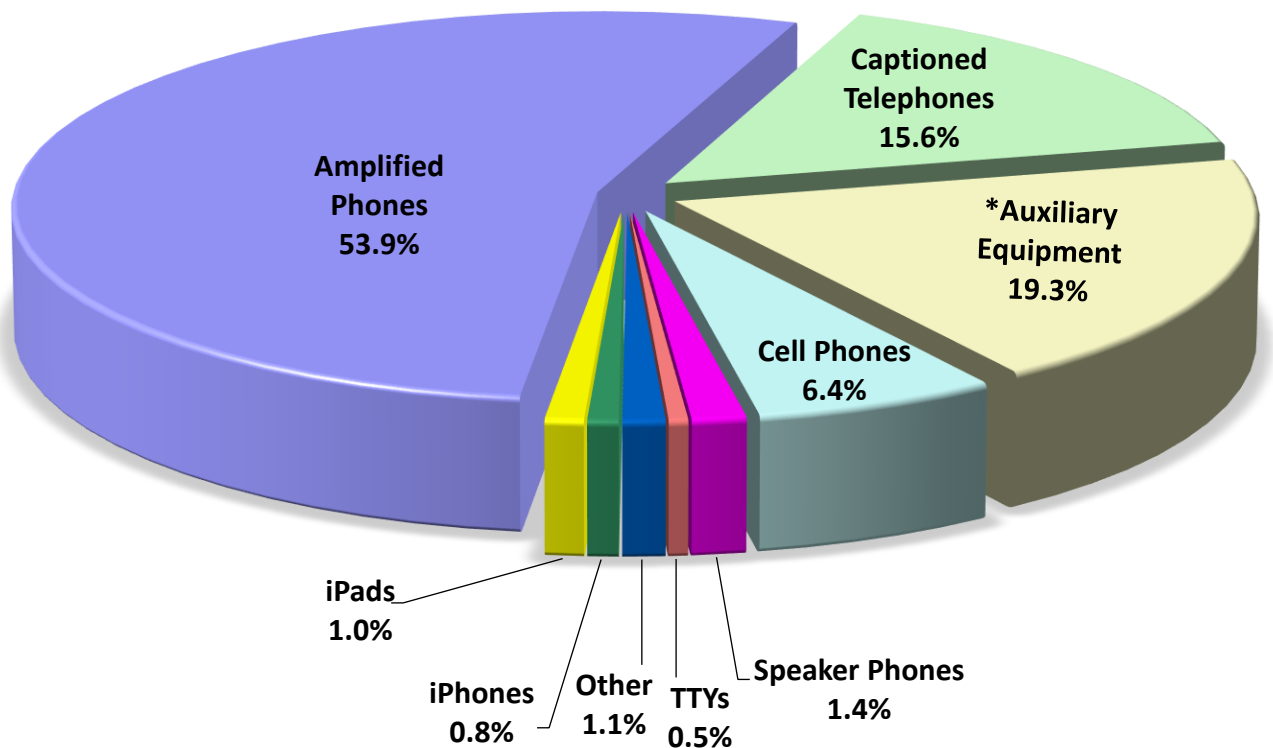# 2010 - 2019 New TED Program Participants

■ New Program Participants Served ■ Devices Distributed to New Program Participants
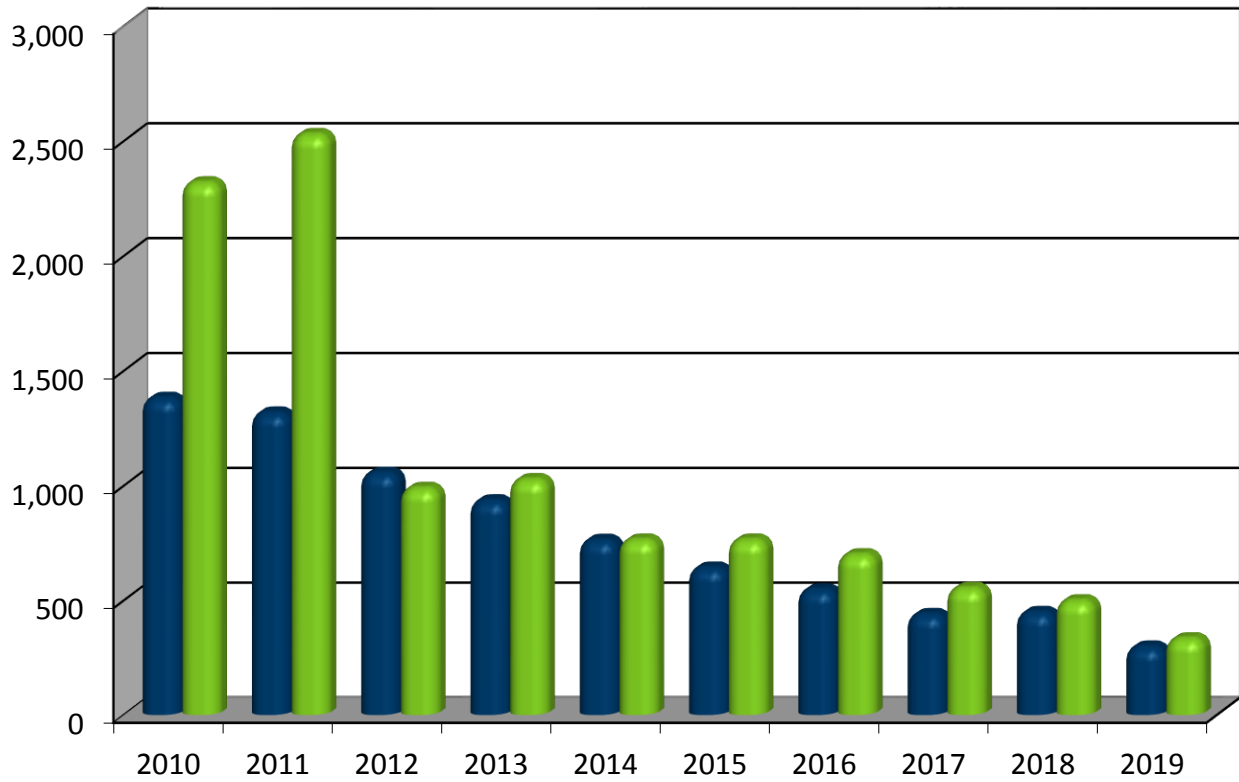
TED Program
Types of Equipment Distributed in 2019

Amplified Phones 53.9%

Captioned Telephones 15.6%

***Auxiliary Equipment 19.3%**

Cell Phones 6.4%

iPads 1.0%

iPhones 0.8%

Other 1.1%

TTYs 0.5%

Speaker Phones 1.4%

*Auxillary equipment includes ring signalers, neck loops, headsets, pendants, switches, etc.

Minnesotans Being Served by the TED Program in 2019

Outreach Participants at
Presentations & Booths
4,411 (76%)

Information &
Referrals
255 (5%)

New Program
Participants
297 (5%)

Repeat Program
Participants
817 (14%)