Telecommunications Access Minnesota

2017 Annual Report to the Public Utilities Commission
Docket Number P999/PR-18-5

January 31, 2018

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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 presently 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 wireless telephone access lines in the state of Minnesota, and by a fee on each Minnesota retail transaction for prepaid wireless telecommunications services.

The current TAM surcharge is $0.05 per access line; by statute, the surcharge may not exceed $0.20 per access line.

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

The State contracts with Sprint Communications Company, L.P. for the provision of Telecommunications Relay Services (TRS) in Minnesota. The contract is effective from July 1, 2014, through June 30, 2019. In 2017, Minnesotans placed 344,422 relay calls for a total of 924,652 thousand conversation minutes of use. Overall, Minnesota Relay experienced the following changes in call volume from 2016 to 2017:

- 12% decrease in TTY-based relay calls
- 0.1% decrease in Speech-to-Speech relay calls
- 17% decrease in CapTel relay calls

The migration to internet-based relay services, which are under the Federal Communications Commission's (FCC) jurisdiction and paid for through a federal fund, continues to grow as consumers gain access to high-speed internet. Internet-based relay services tend to be easier to use, have additional features, and provide a more natural conversation flow than analog-based relay services. In addition, free relay applications can be downloaded to wireless devices, such as smartphones and tablets, allowing relay users to make calls from anywhere. There are currently no internet-based Speech-to-Speech relay services available, which may explain why use of this service remains steady on the state-funded level.

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 traditional relay services. Since many of the Minnesotans served by relay and the TED Program might be vulnerable or isolated due to disability, income, or geography, it is critical that they have access to affordable telecommunications services that are similar to telephone services.

The TED Program is administered through an interagency agreement between the Department of Human Services – Deaf and Hard of Hearing Services Division and the Department of Commerce – TAM program. In 2017, the TED Program served 439 new participants, 1,186 repeat participants, and distributed 3,567 telecommunications and auxiliary devices.

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 2017, TED Program staff performed 145 outreach activities reaching 2,430 Minnesotans.

In addition to Minnesota Relay and the TED Program, TAM funds six additional programs:

- The Department of Employment and Economic Development – Accessible News for the Blind program has a maximum annual budget of $100,000.
- The Department of Human Services – Rural Real-time Captioning program has a maximum annual budget of $300,000.
- The Commission of Deaf, DeafBlind and Hard of Hearing Minnesotans (MNCDHH)[1] receives $1,170,000 annually.
- 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 2017

Revenues

- Wired and Post-Paid Wireless Surcharge Revenue: $3,706,642
- Prepaid Wireless Retail Transaction Revenue: $642,341
- TAM Fund Interest: $21,472

Expenditures

- TAM Administration: $115,498
- Minnesota Relay Services: $1,661,315
- Minnesota Relay Outreach: $0
- TED Program: $1,553,470
- Rural Real-time Captioning: $295,940
- Accessible News for the Blind: $99,216
- MNCDHH: $800,000
- MN.IT (1): $275,582
- MN.IT (2): $49,277
- LCC: $100,000

[1]Effective August 1, 2008, the Minnesota Legislature passed legislation to change the name of the Minnesota Commission Serving Deaf and Hard-of-Hearing People to the Commission of Deaf, DeafBlind and Hard of Hearing Minnesotans. The Commission uses the acronym MNCDHH.

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 section 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 Deafness, Education and Advocacy Foundation for the operation of the call center.

Program Highlights

- In 1995, the Minnesota Legislature eliminated the TACIP board and transferred the responsibilities for administering the TACIP fund and Minnesota Relay to the Department of Public Service.[2] The Department of Human Services (DHS), through an interagency agreement with the Department of Commerce (Commerce), administers the TED Program (Minnesota Statute 237.51, subd. 1).

- In 1996, the Minnesota Relay facility and its equipment had become severely outdated and beyond the point of overhaul. TACIP 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.

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

- On July 1, 1996, the TACIP 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/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, that are funded via the TAM surcharge. Accessible News for the Blind provides an 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.

  Rural Real-time Captioning 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 Communication Service for the Deaf (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 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, 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, LLC, 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 in 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 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 and to $800,000 in FY 2015; the FY 2015 funding level 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, 2019.

- 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.

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 under contract with Sprint Communications Company L.P. The TED Program, 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 by an interagency agreement with the Department of Employment and Economic Development.

TAM Funding

TAM Funding Sources

- Monthly surcharge on all wired and wireless telephone access lines in the state of Minnesota, including managed/fixed voice over internet protocol (VoIP) service.[3]
- 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 Surcharge

In June 2017, the PUC approved TAM's fiscal year 2018 Budget and Surcharge Recommendations and accepted TAM's recommendation to retain the surcharge of $0.05 per wired and post-paid wireless access line, and prepaid wireless retail transaction.

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 our TRS vendor.

[3] Cable companies that offer telecommunications services provide a managed VoIP service offering. The service is fixed, as it is only available to the customer's premise. Managed VoIP services are not transported over the public internet.

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. 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) are reimbursed by the Interstate TRS Fund.[4]

Programs Funded

- 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
- Commission of Deaf, DeafBlind and Hard of Hearing Minnesotans
- 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)

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. These programs also serve the people who communicate with these individuals.

Role of the Public Utilities Commission

Under Minnesota Statutes 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, 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 also submit an annual budget and surcharge recommendation to the Public Utilities Commission (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 237.52, subd. 2).

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

Minnesota Relay Progress in 2017

Long Distance Billing and Carrier of Choice Changes

On August 24, 2016, the FCC issued an *Order*[5] granting temporary waivers of the following requirements for traditional (text-based) TRS, Speech-to-Speech relay service (STS), and captioned telephone relay service (CTS/CapTel):

- "…The equal access requirement as applied to traditional TRS, STS, and CTS, provided that they do not assess separate charges on TRS users for long distance service. This temporary waiver will expire two years from the date of this Order, or on the effective date of a Commission rulemaking or other decision as to the continuing application of the equal access requirement to traditional TRS, STS, and CTS, whichever is earlier."
- "…The billing options requirement as applied to traditional TRS, STS and CTS, provided that they do not assess separate charges on users of these services for long distance calls. In other words, petitioners need not provide the same billing options (e.g., sent-paid long distance, operator-assisted, collect, and third party billing) traditionally offered for wireline voice services if they do not assess charges for long distance calling. This temporary waiver will expire two years from the date of this Order, or on the effective date of a Commission rulemaking or other decision as to the continuing application of the billing options requirement to traditional TRS, STS, and CTS, whichever is earlier. "We caution, however, that Sprint and Hamilton must continue to handle and complete TRS calls from inmates of correctional facilities."
- Permissibility of Free Long Distance Calling "…Given the widespread bundling of long distance with local calling, we find no basis to conclude that, in today's environment, offering free long distance calling to TRS users would provide an impermissible incentive for them to make long distance calls."

In light of these waivers, effective June 1, 2017, the following now applies to Minnesota Relay calls:

- Minnesota Relay users will no longer be assessed toll charges for long distance traditional TRS, STS, and CapTel calls. This includes all outbound intrastate, interstate, international, and payphone calls, as well as inbound intrastate and interstate calls.
- Directory Assistance will be provided through traditional TRS, STS, and CapTel at no charge to the end user.
- Operator Services and Operator Services for the Deaf (TTY access) will be decommissioned, as end users will no longer have a need for billing support through the relay service.
- Consumers placing *inbound* international calls (i.e. a call placed from outside of the U.S.to a number within the U.S.) will be assessed toll charges.
- Because relay is not involved in long distance for two-line CapTel calls, two-line CapTel users may be billed by their long distance providers for the voice portion of the call.

[5] *See Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities,* Order, CG Docket No. 03-123, released August 24, 2016.

- Minnesota Relay will continue to process calls to pay-for-service access numbers. The service provider may assess fees directly to the relay user.
- Minnesota Relay will process calls from inmates at correctional facilities without charge. Inmate calling services providers may assess fees directly to inmate relay users – as is done for traditional phone users (i.e., non-relay callers).

Transition from TTY to RTT

In December 2016, the FCC released a *Report and Order and Further Notice of Proposed Rulemaking*[6] regarding the transition from legacy TTY technology to Real-Time Text (RTT) for communications using wireless internet protocol technologies. TTY use has been declining for quite some time, mainly because the technology is cumbersome and slow, is difficult to use, requires costly equipment, and requires an analog telephone line. The FCC goal is for RTT to replace TTYs.

RTT sends and receives each text character in near real time and does not require the user to press send or to take turns, which provides a more conversational communication flow. In addition, RTT does not require specialized equipment, and allows for simultaneous voice and text on the same line. RTT users will be able to communicate directly with other RTT users, as well as with TTY users (including 911 centers and relay services). Wireless service providers can choose to offer RTT as an alternative to TTY calling.

Timeline for RTT Compliance

- By December 31, 2017, each Tier I Commercial Mobile Radio Service (CMRS) provider and, by June 30, 2020, each non-Tier I CMRS provider (except resellers) choosing to support RTT shall support RTT either:
  (1) through a downloadable RTT application or plug-in that supports RTT; or
  (2) by implementing native RTT functionality into its core network, offering at least one handset model that supports RTT, and including support for RTT in future design specifications.
- By December 31, 2019, each Tier I CMRS provider and, by June 30, 2021, each non-Tier I CMRS provider (including resellers) choosing to support RTT shall support RTT for all new authorized user devices.
- Covered manufacturers that *choose* to support RTT, instead of TTYs, shall implement RTT in newly manufactured equipment by December 31, 2018, if readily achievable or unless not achievable.

RTT Launch

On December 11, 2017, AT&T became the first wireless provider to launch RTT. AT&T's RTT service works on Apple or Android smart phones with updated operating systems. Initially, AT&T RTT users will only be able to communicate with other users on AT&T's network. In the future, more carriers will deploy the service enabling communication between networks.

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[6] See *Transition from TTY to Real-Time Text Technology*, CG Docket No. 16-145*; Petition for Rulemaking to Update the Commission's Rules for Access to Support the Transition from TTY to Real-Time Text Technology, and Petition for Waiver of Rules Requiring Support of TTY Technology,* GN Docket No. 15-178, *Report and Order and Further Notice of Proposed Rulemaking*, released December 16, 2016.

Limitations of RTT

- Currently not available through all wireless providers and on all devices.
- Not integrated into TRS operations.
- Not able to text to wireline phones.
- Wireless phone service is not available in some rural areas.
- Wireless phone service is not affordable for all consumers.
- Incompatible with Braille and other assistive technologies.

Text-to-911

In December 2017, Minnesota deployed statewide text-to-911 service. This service will allow Minnesotans who are deaf, deafblind, hard of hearing, or speech disabled to contact emergency services via text instead of using a friend or family member, a TTY, relay service, or a "silent call". To use the service, the user enters 911 into the number field, and then types the exact location and the nature of the emergency.

Limitations of Text-to-911

- Texting does not provide precise location information.
- There can be a lag before the text reaches the 911 center.
- Texting takes longer than a voice call.
- Texts may appear out of order or may not be received.
- Text-to-911 does not work if the phone is roaming on another carrier's network.

Decommission of 900 Access Number

On December 31, 2017, Sprint decommissioned Minnesota Relay's 900 access number for pay-per-call services. Because pay-per-call vendors have migrated to 8XX numbers, 9XX call paths are no longer necessary. Minnesota Relay consumers will be able to use pay-per-call services by dialing 711 or Minnesota Relay's toll free number and providing the relay communications assistant with the 8XX number of the pay-per-call service.

Anticipated TRS Enhancements in 2018

Migration of Sprint Relay Network to IP-Based Solution

Sprint will migrate their current relay network to an IP-based solution with implementation targeted for early 2018. The transition to an IP-based solution will change how toll-free calls will be carried. Sprint has completed test calls to ensure Quality Assurance standards are met and exceeded. Sprint has also thoroughly tested the ability for end users to complete N11 calls (e.g. 311 or 511), including 911 emergency calls.

Sprint stated that the transition will be seamless and will not adversely impact Minnesota Relay users. The upgrade is anticipated to result in the following benefits:

- All call paths will continue to be geographically redundant and monitored.
- The technology upgrade will allow sustainability and longevity for the TRS platform.
- The transition is the first step to enable additional services, such as RTT.

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 rapid 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:* 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 ways to automatically 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, HCO, 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.

- *VCO Gated Calling:* Minnesota Relay has 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 HCO callers to listen during call set-up (i.e. ringing or busy).

Speech-to-Speech 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 advise friends, family, and others to dial 711to 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 be dialed, 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 be used 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. Minnesota Relay has implemented a national wireless short code for STS to make it easier to place or receive STS calls (this service is only available on the Sprint wireless network at this time). 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 2017, Minnesota Relay processed 344,422 calls.

Service	Total Calls
Traditional (TTY-Based) TRS	98,694
Speech-to-Speech	12,760
CapTel	232,968

Overall, Minnesota Relay experienced the following changes in call volume from 2016 to 2017:

- 12% decrease in TTY-based relay calls.
- 0.1% decrease in Speech-to-Speech relay calls.
- 17% decrease in CapTel relay calls.

Telecommunications Relay Services are currently split into two categories:

1. Those administered and funded on a state level, which include local and intrastate minutes of service for traditional (TTY-based) relay, Speech-to-Speech relay, and Captioned Telephone relay services.

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

   This category also includes interstate and international minutes of service for traditional (TTY-based) relay, Speech-to-Speech relay, and Captioned Telephone relay services.

The migration to internet-based relay services, which are under the FCC's jurisdiction and paid for through a federal fund, continues to grow as more and more consumers gain access to high-speed internet. Internet-based relay services tend to be easier to use, have additional features, and provide a more natural conversation flow than analog-based 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. There are currently no internet-based Speech-to-Speech relay services available, which may explain why use of this service remains steady on the state-funded level.

The following Minnesota Relay call charts can be found in **Appendix A**:

- 2017 Minnesota Relay Conversation Minutes by Type
- 2008 – 2017 Minnesota Relay Call Volume
- Traditional (TTY-based) TRS[7] 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 ensures 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

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.

[7] Traditional TRS includes TTY, VCO, and HCO relay services.

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 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 on-line, with no effect on call processing. In addition, on-line 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 situation. In addition to spares for switch components, spare units include CA position units, computer desktop spares, and Local Area Network and modem equipment.

CapTel Switching System

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

CTI 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 TRS call centers use three centralized Avaya Automatic Call Distributors. If the TRS platform experience 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.

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 six CapTel-dedicated call centers and two 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 FCC released a *Second Report and Order*[8] 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.

In 2017, an average of 48 percent of Minnesota Relay calls were placed using this dialing shortcut. 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 appropriate Public Service 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 FCC mandatory minimum standard for 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." Minnesota Relay's average speed of answer and service levels are:

	Service Level	Speed of Answer
Traditional TRS	1.0	97
Speech-to-Speech	10.3	87
CapTel	1.3	97

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.

[8] *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.

Consumer Complaints

In 2017, Minnesota Relay received complaints on 0.006 percent of relay calls; 344,422 calls were relayed and 20 complaints were filed.

Minnesota Relay users have many options for filing a complaint or commendation. The CA has the capability to transfer the caller directly to the Sprint or CapTel 24-hour Customer Service department, 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 FCC.

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 FCC 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 FCC in accordance with Code of Federal Regulations, title 47, section 64.604 (c)(1).

Outreach

Minnesota Relay Outreach

Minnesota Relay outreach is provided under an interagency agreement with the DHS – 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, commendations, etc. Outreach efforts are tailored to target appropriate demographics, including consumers who are deaf, deafblind, hard of hearing, late deafened, speech disabled, hearing consumers, and businesses.

Outreach activities primarily include:

- Staffing a booth at exhibitions, seminars, and fairs.
- Presenting at senior centers, health care facilities, and social services agencies.
- Providing brochures and instruction sheets.

In 2017, staff performed 103 Minnesota Relay outreach activities reaching 2,263 Minnesotans. Reports containing Minnesota Relay outreach efforts are compiled monthly and sent to the TAM administrator.

2017 Minnesota Relay Outreach Activities

Date	Type of Outreach	Location	City	Participants
1/12	Presentation	Northfield Manor	Northfield	8
1/18	Presentation	Senior Center	Eagle Bend	30
1/31	Presentation	Yellow Medicine Family Services	Granite Falls	1
1/31	Presentation	Lyngblomsten Care Center	St Paul	25
2/15	Presentation	Blue Cross Blue Shield/Thomas Allen, Inc.	Burnsville	17
2/16	Presentation	Alternative Senior Care	Sauk Centre	20
2/20	Presentation	MN Prairie County Alliance - Steele	Owatonna	11
2/21	Presentation	North Park Plaza Apartments	New Hope	12
2/22	Presentation	Chippewa County Family Services	Montevideo	1
3/1	Presentation	The Garden Place	Bagley	5
3/3	Booth	MN Hearing Healthcare Providers, Inc.	Minnetonka	100
3/6	Presentation	Traverse County Senior Coordinator	Wheaton	8
3/8	Booth	Grove City Care Program	Grove City	16
3/13	Presentation	Housing & Redevelopment Authority	Clarkfield	11
3/18	Booth	Wellness Expo	Sartell	18
3/20	Presentation	St. Paul Community Education	St. Paul	8
3/22	Presentation	Senior Citizens Center	Breckenridge	7
3/23	Presentation	Sommerhill Coop	Eden Prairie	12
3/24	In Home Training	Client's House	Waite Park	2
3/29	Presentation	Warroad Senior Living Center	Warroad	5
3/30	Presentation	Oak Crest Senior Housing	Roseau	23
4/3	Booth	Northern Lights Event Center	Walker	18
4/6	Booth	Whitney Senior Center	St. Cloud	28
4/12	Booth	Shoreview Community Center	Shoreview	28
4/22	Booth	Anoka County Senior Expo	Ramsey	125
4/25	Booth	Stand Down - Brainerd	Brainerd	19
4/28	Booth	Stand Down - St. Cloud	St. Cloud	27
5/3	Presentation	Centracare	St. Cloud	17
5/4	Presentation	DHHS "Dispelling the Myths" Training	St. Cloud	1
5/4	Booth	Eagle Club	Wahpeton	20
5/9	Booth	Senior Expo	Mankato	51
5/13	Booth	St. Thomas the Apostle	Minneapolis	12
5/15	Presentation	Prairie Ridge Hospital & Health Services	Elbow Lake	9
5/18	Presentation	Senior Citizen's Center	Wadena	17
5/23	Booth	Stand Down Southeast - MACV	Mankato	17

Date	Type of Outreach	Location	City	Participants
5/24	Presentation	Town Square Apartments	East Grand Forks	8
6/7	Presentation	Polk County Social Services	Crookston	22
6/8	Presentation	Central MN Association for Owners and Managers	St. Cloud	14
6/8	Booth	Lutheran Social Services Senior Nutrition	Bemidji	27
6/14	Booth	Wisdom Steps	Mahnomen	23
6/19	Presentation	Senior Center	Karlstad	3
6/23	Booth	Hmong MN Senior Center, Inc.	St. Paul	95
7/18	Presentation	Diamond Willow Assisted Living	Detroit Lakes	5
7/19	Presentation	Mary Ann Young Senior Center	Blaine	5
7/20	Booth	Land of the Dancing Sky Area Agency on Aging	Warren	25
7/24	Presentation	Galeon Senior Living	Osakis	1
7/25	Presentation	Arbor Lake Commons	Maple Grove	15
7/25	Presentation	Southwest and West Central Community Meeting	Olivia	15
7/27	Booth	Comprehensive Health Services - NW Health Fair	Red Lake	13
8/1	Presentation	Apollo High School	St. Cloud	4
8/1	Presentation	PCs for People	St. Paul	1
8/9	Presentation	Silver Lake Pointe	Mounds View	8
8/9	Booth	Forest Lake Senior Center	Forest Lake	79
8/9	Presentation	Alexandria Senior Community Center	Alexandria	10
8/16	Presentation	Senior Network	St. Cloud	17
8/16	Presentation	Lakewood Health Center - Assisted Living	Baudette	10
8/17	Presentation	Alternative Senior Care	Sauk Centre	14
8/22	Presentation	SEMCIL	Rochester	4
8/24	Booth	SEMCIL's "Thursdays on First" Event	Rochester	180
8/30	Booth	Lutheran Social Services	Detroit Lakes	41
8/31	Booth	Bemidji State University	Bemidji	31
9/1	Presentation	Community Action Partnership	St. Paul	52
9/12	Booth	St. Joseph's Health	Park Rapids	38
9/12	Booth	Eastside Neighborhood Services	Minneapolis	55
9/12	Booth	MN Supervisors Conference Association	Warren	22
9/14	Booth	American Indian Elder Picnic	Minneapolis	28
9/16	Booth	Can Do Canines	New Hope	25
9/18	Presentation	Ecumen Parmly Lakeview Apartments	Chisago City	22
9/20	Presentation	Real Life Cooperative	Mounds View	17
9/26	Booth	McLeod County Senior Expo	Hutchinson	20
9/26	Presentation	Essentia Health ALS Support Group	Duluth	4

Date	Type of Outreach	Location	City	Participants
9/29	Presentation	Villa St. Vincent & Summit Assisted Living	Crookston	12
10/4	Booth	MN Nursing Home Social Workers Association	St. Cloud	48
10/6	Booth	Centracare	St. Cloud	21
10/11	Booth	MN Statewide Activity Professionals Conference	St. Cloud	34
10/16	Booth	Trust, Inc. - Health Fair and Immunization Clinic	Minneapolis	24
10/17	Booth	Perham Living Care	Perham	40
10/18	Presentation	Senior Network	St. Cloud	23
10/18	Presentation	New York Mills Senior Citizens Center	New York Mills	34
10/18	Presentation	Barrett Care Center	Barrett	12
10/20	Booth	Alternative Senior Care - Aging with Attitude	Sauk Centre	32
10/20	Booth	Scott County Senior Expo	Shakopee	45
10/23	Presentation	State Services for the Blind	St. Paul	12
10/23	Presentation	Birchview Gardens	Hackensack	8
10/24	Booth	Project Connect	Waite Park	30
10/24	Presentation	St. Paul Community Education	St. Paul	15
10/24	Booth	Wisdom Steps	Mahnomen	10
10/27	Presentation	St. Joseph Catholic Church	Moorhead	7
10/28	Booth	Paul Bunyan Education Cooperative	Brainerd	5
11/2	Presentation	Prairie Pines Assisted Living	Fosston	8
11/3	Presentation	Cornerstone Residence	Bagley	8
11/4	Booth	The Arc	Rochester	37
11/8	Presentation	Guardian Angels (Pine Cone & Pine Tree Manors)	Zimmerman	5
11/8	Public Training	Deaf and Hard of Hearing Services Division	Mankato	19
11/14	Booth	StandDown Southcentral - MAVC	Mankato	41
11/15	Presentation	Guardian Angels	Elk River	22
11/15	Presentation	Houge Estates/Clay County Housing & Redevelopment Authority	Dilworth	8
11/28	Presentation	Guardian Angels (Woodbiar)	Becker	2
11/28	In-Home Training	Client's House	Elk River	2
11/30	Presentation	Benet Place South	St Cloud	12
12/5	In-Office Demo	Deaf and Hard of Hearing Services Division	St. Cloud	1
12/5	Presentation	Veterans Services Office	Waite Park	1
12/12	Presentation	Jordan Towers	Red Wing	3

DHHSD Regional Advisory Committee Meetings

The Department of Human Services – Deaf and Hard of Hearing Services Division 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 a Minnesota Relay Outreach/TED Program staff person attends one meeting per region, per year.

Telephone Equipment Distribution Program

TED Program Administration

The TED Program is responsible for:

- Distributing specialized telecommunications devices to income eligible Minnesotans.
- Informing the public of services available through the program.
- Providing training for the use of distributed equipment.

The TED Program is administered through an interagency agreement between 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 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
- Amplified Cell Phones
- Basic Smartphone
- Wireless Accessories (Bluetooth neckloop, cell phone amplifier, and visual signaler)
- Ring Signaling Devices (auditory, visual, and tactile)
- Text Telephones (TTYs)
- Braille Phones
- Hearing Carry Over Phones
- Voice Carry Over Phones
- Special Needs Devices (for multiple disabilities)
- iOS Tablets and Smartphones (for pilot program)

Population Served

The TED Program serves a wide range of individuals with a variety of communication needs. Currently, the oldest TED Program participant is 107 years of age, and the youngest is age 8. The average consumer served is female, 78 years old, and hard of hearing. In 2017, 67 percent of TED Program participants were female and 71 percent lived outside of the seven-county metropolitan area. Eighty-six percent of TED Program participants are hard of hearing, six percent are deaf, five percent are physically disabled, and three percent have other disabilities (deafblind or speech disabled).

Many clients with multiple disabilities utilize the TED Program. In 2017, 27 percent of TED Program participants had two or more disabilities, such as a speech and physical disability or a loss of hearing and vision.

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.

Program Outreach

DHHSD is responsible for the promotion and education of TED Program services. 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, to set up equipment, and to provide training of the complexity of the device. In-home visits help eliminate apprehension, and result in a more personal, relaxed, and productive experience for the client.

In addition to in-home client visits, 2017 outreach efforts included:

- 64 presentations statewide to groups of professionals and potential consumers.
- 44 booths at health fairs and senior expos to professionals and potential consumers.
- 37 visits to different agencies were completed to share information about the TED Program throughout the state.
- Ads in the following publications: Age Odyssey Conference program booklet, Sjoberg CableVision (Baudette), MN Telecom Alliance directory, Care Options Network senior directory, Minnesota Social Service Association Conference program booklet, and Senior Perspectives (41 counties).
- Networked with social service providers by becoming a member of the Senior Workers Association, and shared resources with the Jewish Family Community Services, PC for People, and UCare.
- Booths at Deaf Awareness Day, the DHS Health Care Administration/Consumer Support Administration/Housing Administration open house, and the MN Hearing Healthcare Providers Inc.
- National conferences attended were the National Digital Inclusion Conference and the Telecommunication Equipment Distribution Program Association (TEDPA) Conference.
- The Alcohol and Drug Abuse Division of the Department of Human Services distributed TED Program brochures at their conference.
- Email newsletters were sent to contacts at LeadingAge Minnesota, social workers, and veteran associations.
- Mass mailings were sent to Tribal Library Directors, Minnesota Council of Nonprofits, Minnesota Healthcare Providers, and Nursing Assistant training sites.

Statistical Information

The chart below lists the number of new program participants served by the TED Program, as well as the number of devices distributed to new program participants for calendar years 1998-2017.

Year	Number of New Program Participants Served	Number of Devices Distributed to New Program Participants
1998	2,069	2,120
1999	2,141	2,340
2000	2,105	2,695
2001	1,882	2,431
2002	1,913	2,584
2003	1,906	2,337
2004	1,988	2,485
2005	1,872	2,405
2006	1,976	2,081
2007	1,771	2,073
2008	1,566	1,820
2009	1,638	2,728
2010	1,381	2,319
2011	1,317	2,529
2012	1,055	989
2013	935	1,027
2014	763	764
2015	642	764
2016	547	700
2017	439	553

The TED Program provides repeat service to equipment recipients who need further assistance after equipment is initially provided to them. Program participants often contact the TED Program to receive additional training, 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).

This past year the TED Program served 1,186 repeat participants in addition to the 439 new participants. TED Program specialists also provided information and referrals to 183 consumers and agencies, for a total of 1,808 Minnesotans receiving service in 2017.

A report of TED Program activities is submitted quarterly to the TAM administrator. The report documents outreach activity, the number of individuals served, and the types of equipment distributed. The charts provided in Appendix B demonstrate TED Program activities in 2017.

TED Program Progress

TED Modernization Legislative Report

In 2017, legislation was passed requesting that the Department of Human Services' Deaf and Hard of Hearing Services Division (DHHSD) work in consultation with the Commission of Deaf, Deafblind and Hard of Hearing Minnesotans to provide a report including recommendations to the Minnesota Legislature on how to modernize the TED Program. The report is due to the Minnesota Legislature in January 2018. A facilitator was hired to conduct a workgroup and to draft a final a report. The workgroup was formed with staff from DHHSD, the TED Program, the MNCDHH, and the Department of Commerce to discuss current and future trends. This report was completed and submitted to the Minnesota Legislature (https://mn.gov/dhs/assets/2018-01-modernizing-TED-report_tcm1053-323922.pdf).

Some of the modernization recommendations from the report require statute changes and some do not. The DHHSD will work with DHS to consider whether a proposal could be included in the Governor's budget for the Fiscal Year 2019 legislative session.

The report will recommend statutory changes so that the TED Program can:

1. **Distribute up-to-date, functional equivalent devices**: This refers to devices that interconnect or act as a bridge with another device to improve communication for the user with a disability. Examples of these devices are Bluetooth headsets that connect to hearing aids, streaming devices, and communication apps to be used with smartphones.

2. **Distribute multi-functional safety devices**: Have the TED Program distribute multi-functional alerting devices that include a telephone signaler and also a doorbell, weather alert, carbon dioxide or smoke detector, etc. The TED Program would provide the multi-functional device signaler but not all the receivers that are not telecommunications related.

3. **Introduce and educate clients on their assistive technology options**: During home visits, the TED Program specialist will use an assessment tool to assist the client to determine what other assistive technology (not just limited to telecommunications) they may need. If the client is interested in where to purchase these devices, or needs financial assistance, they will be referred to the DHHS specialist. Since this requires TED Program staff time, legislative language is required to allow for this.

4. **Assist people who are eligible for TED in applying for discount telephone programs:** TED Program specialists will help applicants navigate and explain telephone discount program options. This also includes helping clients fill out applications for Lifeline, TAP, or other discount programs.

The report states that the TED Program will do the following things but these do not require statutory changes:

1. **Update and more effectively use a TED Program website**: DHHSD will create a new stand-alone website in an effort to more effectively address issues that TED Program users encounter often. A budget will be requested by Commerce to build more advanced accessible features. This would include videos for training on devices options, demonstrating installation, educational videos on assistive technology, and an explanation of services from the TED Program.

2. **Develop an online application to interface with the new Agile Apps database:** The TED Program is half way through the development stages of an Agile Apps database, which is used to centralize operational functions of the program. An online form will be developed for the public to fill out the application and include verifications. Once submitted, the information will enter directly into Agile Apps as a new applicant.

3. **Improve communication to the public about the range of services the TED Program offers:** The TED Program will strengthen statewide coordinated outreach efforts by improving collaboration between the central office and regional TED Program staff. Clear branding will be developed to make sure a consistent, clear message is being communicated to the public. This may include creating a new position to manage this or utilizing existing staff.

4. **Create new measures to assess program effectiveness:** The TED Program will implement new outreach performance measures statewide starting January 1, 2018. Other measures that will be developed in 2018 will include how to evaluate the success of the program.

5. **Continue to examine the possibility of a hybrid program that includes vouchers and long-term equipment loans:** It may benefit the TED Program in the future to provide vouchers to some clients who know what they need for telecommunication access. Other clients, like seniors, would benefit from the long-term equipment loan model. Both models focus on a person-centered approach depending on the client. The TED Program will continue to look at ways to improve the program.

Three Year Follow-up Project

To comply with findings from the TAM audit, one of the recommendations was to follow-up with TED Program clients on a scheduled basis to determine if they are still using their TED Program equipment. Policies and procedures were established in 2016 and clients were contacted by letter and phone in 2017. Clients that had been served three years ago were contacted. The results of those contacts are:

- 26 percent of clients are using the equipment and it is still in working condition
- 10 percent of the clients have passed away
- 11 percent of clients needed some kind of follow-up service, i.e., needed a reassessment, additional training, or the device was broken
- 16 percent of clients were unable to be reach
- 35 percent of clients did not reply
- 6 percent of clients no longer needed the device

In 2017, the TED Program will follow-up with clients receiving assistance two years ago with modified procedures based on what was learned last year.

Outreach Performance Measures

As a secondary finding from the TAM audit, the TED Program created new performance measures to evaluate outreach efforts. The outreach being measured includes a variety of outreach activities completed statewide. Each type of outreach will be measured from the start of the outreach event through receiving equipment from the program. The tracking of the new measures will begin in January 2018. These measures will be reported to the Department of Commerce monthly and annually.

Wireless iPad/iPhone Pilot Phase Two

The iPad/iPhone pilot program ended on February 27, 2017. A report was written explaining the results of the pilot and the TED Program recommendations. The TED Program met with the Department of Commerce to discuss feedback about the pilot report findings. Commerce's feedback was that the TED Program did not collect adequate and reliable data to prove that consumers with disabilities experience greater independence and increased access to telecommunications when using an iPad or iPhone. In addition, Commerce recommended that stronger controls needed to be implemented to ensure that clients fulfilled their role in the pilot. It was recommended that the TED Program consider creating a revised pilot program with a smaller sample size of participants, stronger controls, and more measureable outcomes.

At this time, a revised proposal for phase two of the pilot is being reviewed within DHHSD with the goal of submitting this revision to Commerce for feedback and approval in early 2018. The TED Program's plan is to start with clients from the phase one pilot waiting list to screen them with specific criteria to determine if they meet the eligibility criteria to participate in a revised phase two pilot program.

A report on the results of the revised pilot will be developed and shared with Commerce and DHS. Depending on the results of the report, a discussion about whether the TED Program should create a full distribution program for enhanced wireless devices will take place to determine future service delivery of the device(s).

TAM Fund Budget Summary

REVENUE	FY 2017 Actual	FY 2018 Budgeted
Per Wired/Post-Paid Wireless Customer Access Line (FY 2017 = $0.05; FY 2018 = $0.05)	$ 3,706,642.20	$ 3,688,437.00
Prepaid Wireless Retail Transactions	$ 642,341.07	$ 837,141.00
TAM Fund Interest	$ 21,472.09	$ 19,624.00
Total TAM Fund Revenue	$ 4,370,455.36	$ 4,545,202.00

EXPENDITURES		
TAM Program Administration	$ (115,498.49)	$ (138,900.00)
Sprint (TRS)	$ (1,661,314.79)	$ (1,523,500.00)
Minnesota Relay Outreach	$ 0.00	$ (1,000.00)
DHS-TED Program	$ (1,553,470.00)	$ (1,705,000.00)
DHS-Rural Real-time Captioning	$ (295,939.55)	$ (300,000.00)
DEED-Accessible News for the Blind	$ (99,216.48)	$ (100,000.00)
MNCDHH	$ (800,000.00)	$ (1,170,000.00)
MN.IT Services (1)	$ (275,582.21)	$ (290,000.00)
MN.IT Services (2)	$ (49,276.97)	$ (50,000.00)
Legislative Coordinating Commission	$ (100,000.00)	$ (100,000.00)
Total TAM Fund Expenditures	$ (4,950,298.49)	$ (5,378,400.00)

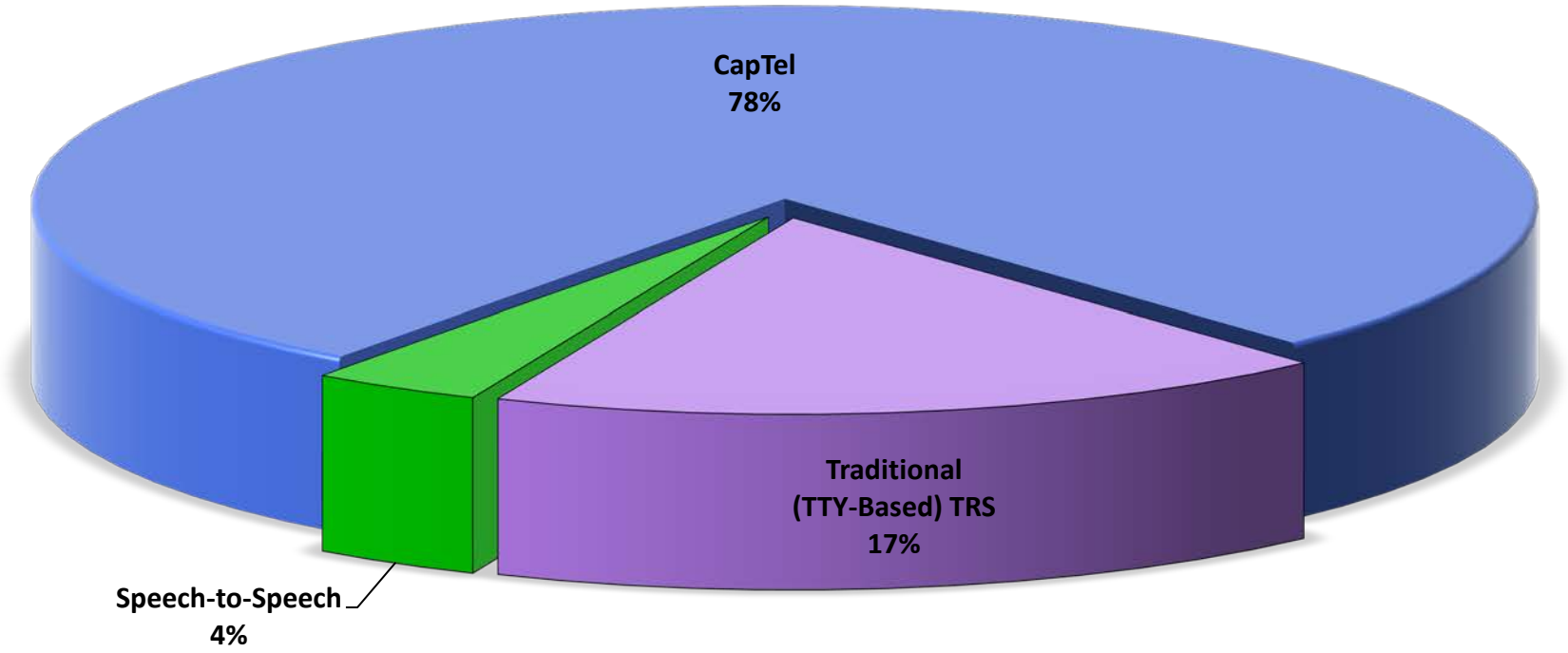
REVENUE VS. EXPENDITURES	$ (579,843.13)	$ (833,198.00)

STATEMENT OF TAM FUND BALANCE		
TAM Fund Balance at Beginning of Fiscal Year	$ 3,178,046.29	$ 2,603,742.14
TAM Fund Revenue & Interest	$ 4,370,455.36	$ 4,545,202.00
DHS-TED Program Cash Advance	$ (200,000.00)	$ (200,000.00)
DHS-Minnesota Relay Outreach Cash Advance	$ (500.00)	$ (500.00)
Return of DHS-TED Program Cash Advance	$ 200,000.00	$ 200,000.00
Return of DHS-Minnesota Relay Outreach Cash Advance	$ 500.00	$ 500.00
TAM Fund Expenditures	$ (4,950,298.49)	$ (5,378,400.00)
TAM Fund Balance at Close of Fiscal Year	$ 2,598,203.16	$ 1,770,544.14

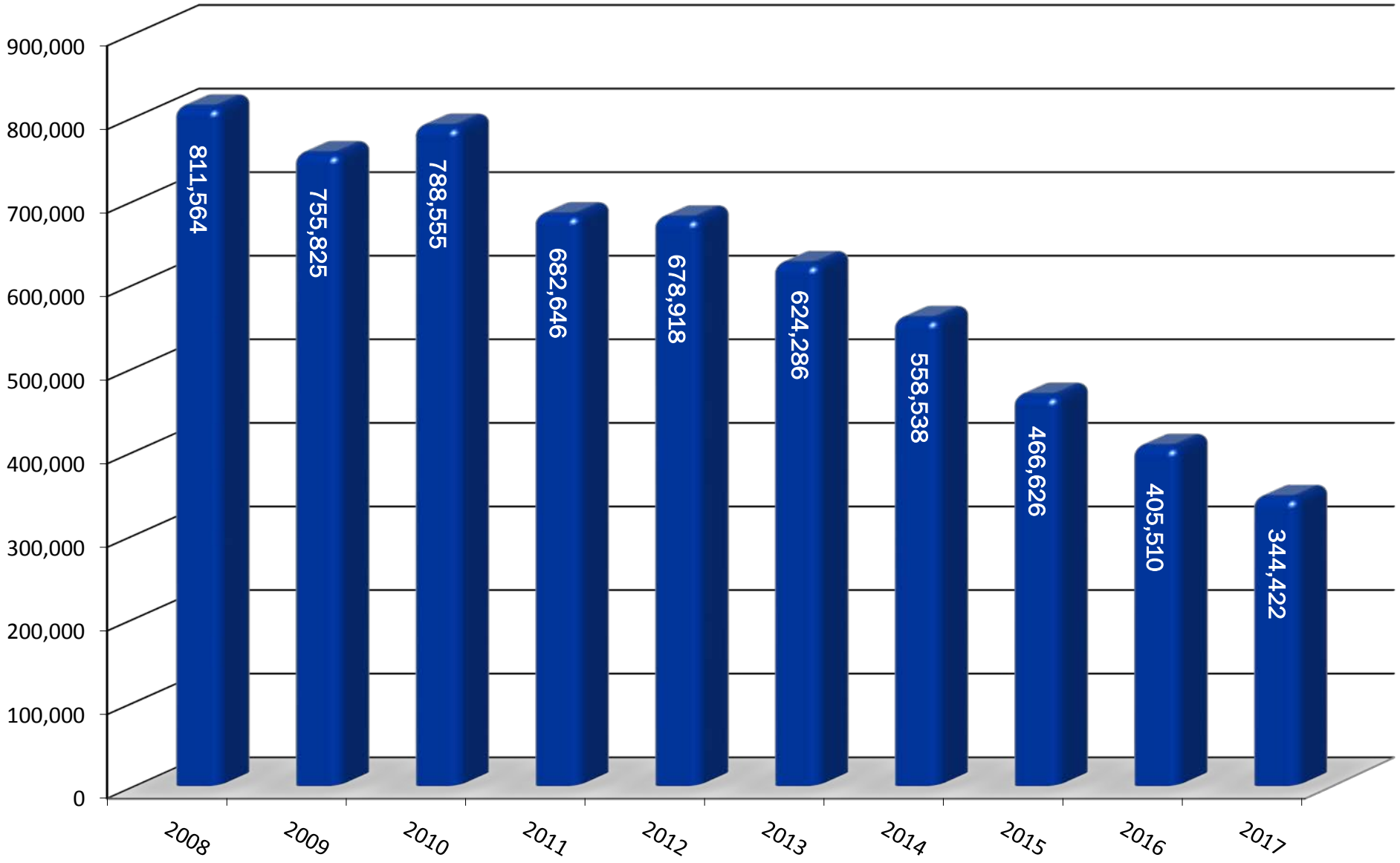
Appendices

Appendix A - Minnesota Relay Call Charts

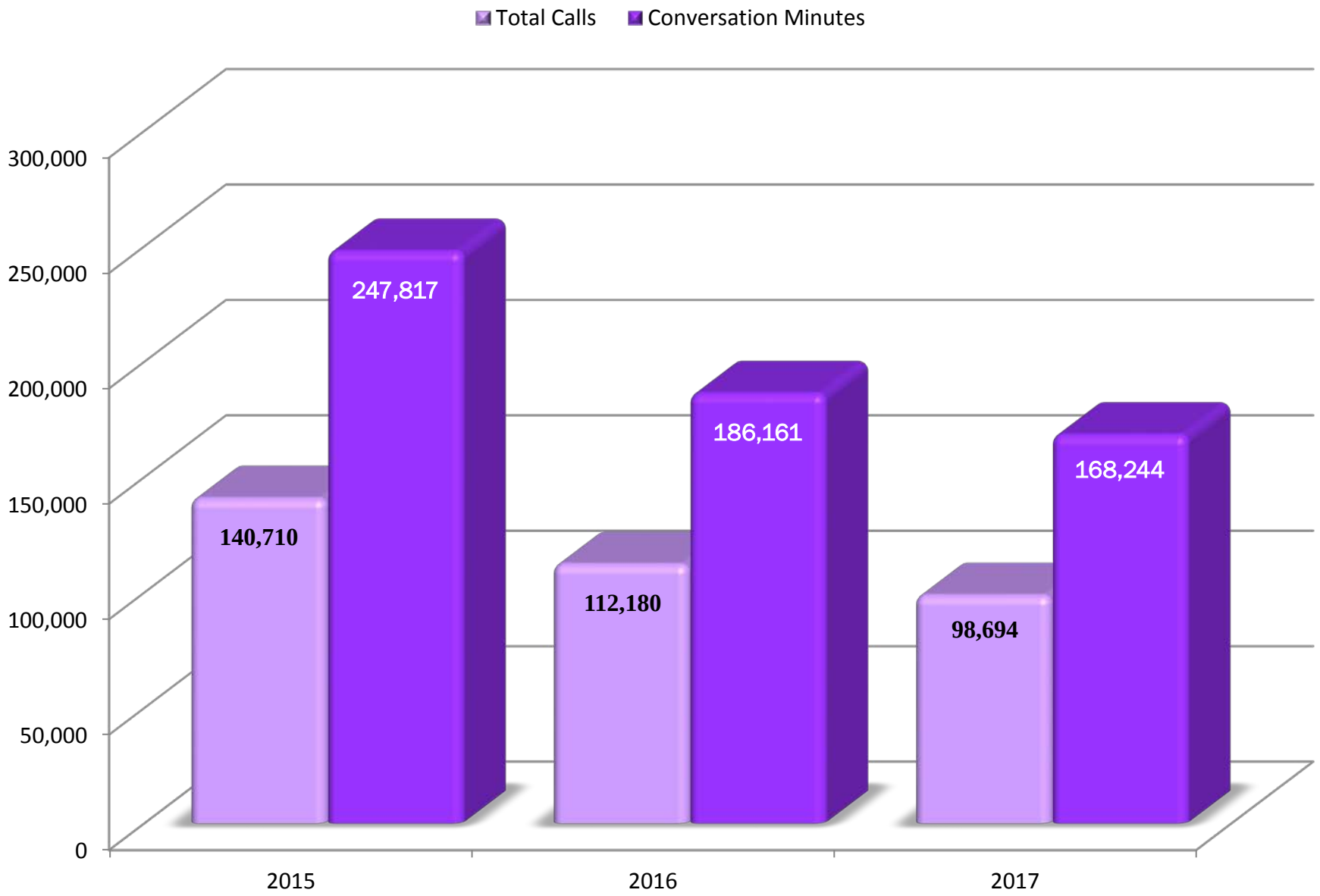
2017 Minnesota Relay Conversation Minutes by Type



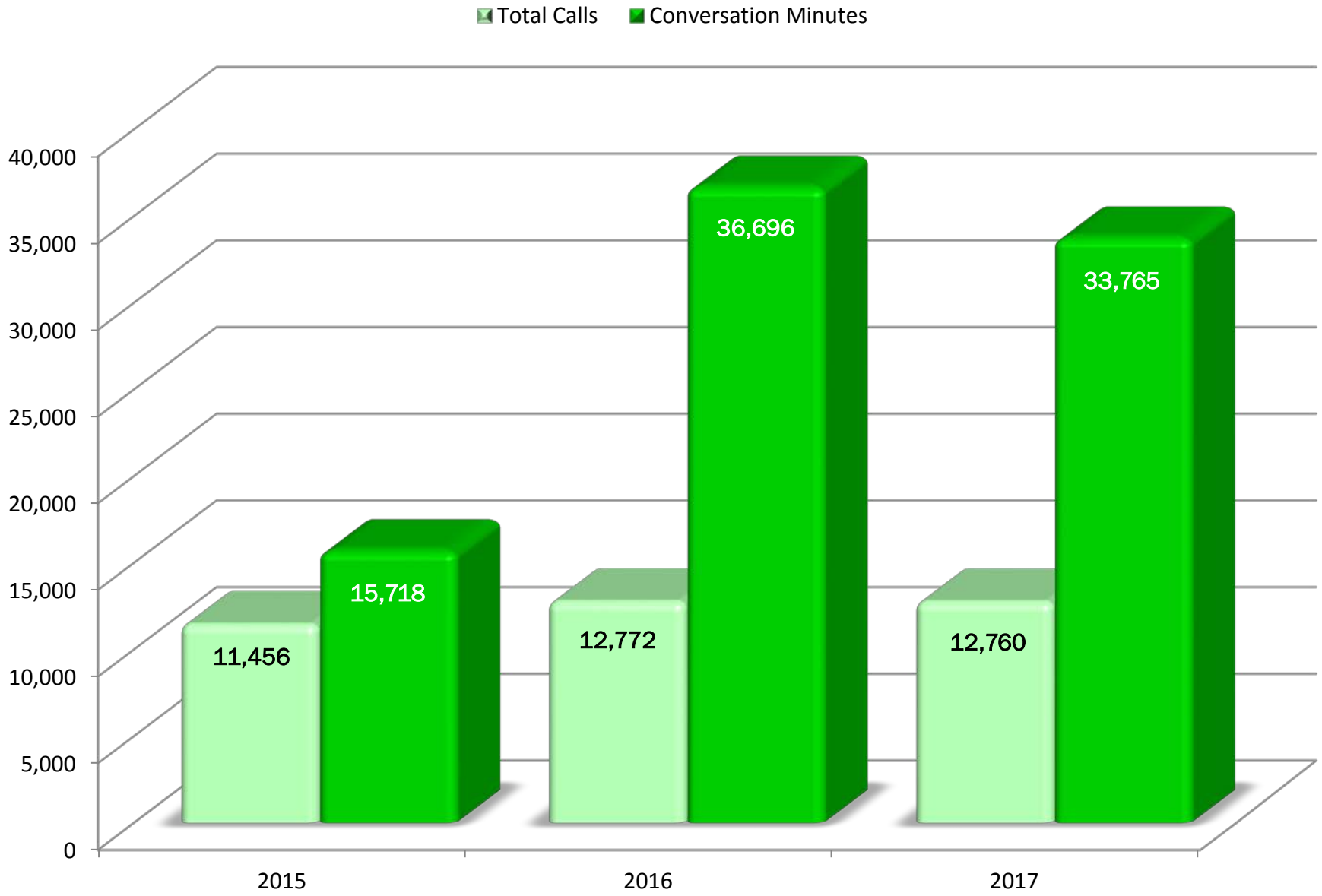
2008 - 2017 Minnesota Relay Call Volume
(total number of traditional TRS, STS, and CapTel calls)



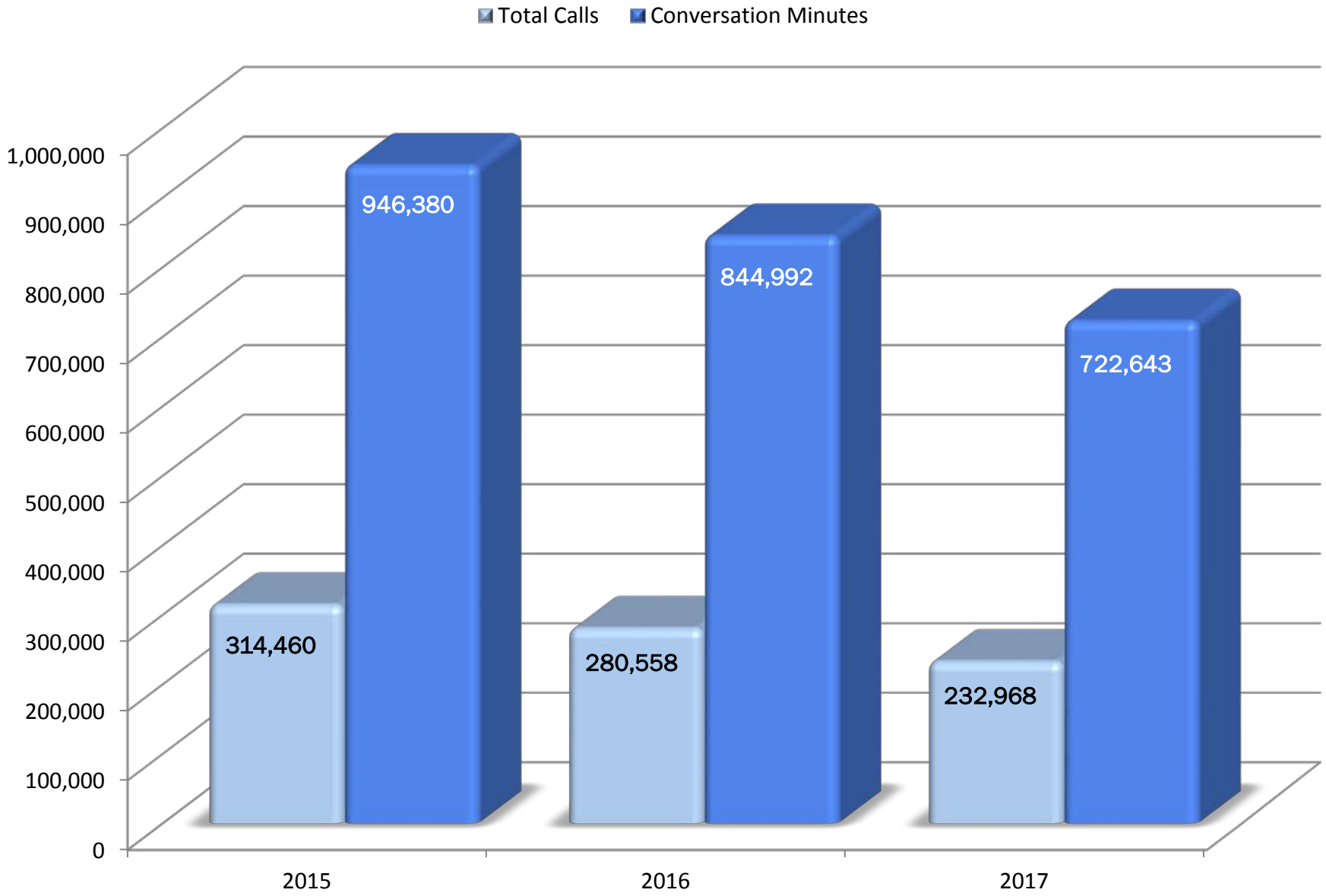
Traditional (TTY-Based) TRS Call Volumes



Speech-to-Speech Call Volumes

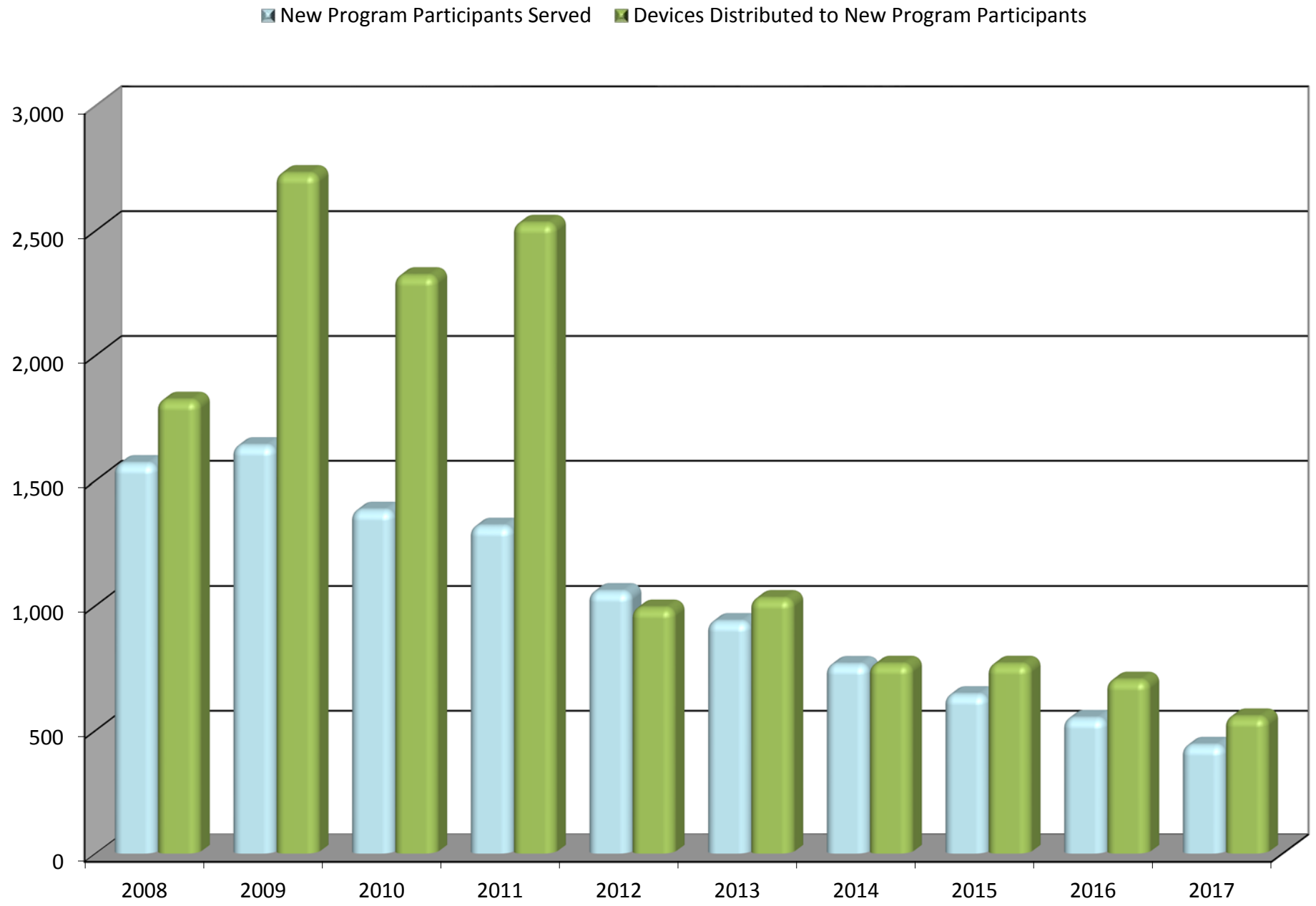


CapTel Call Volumes

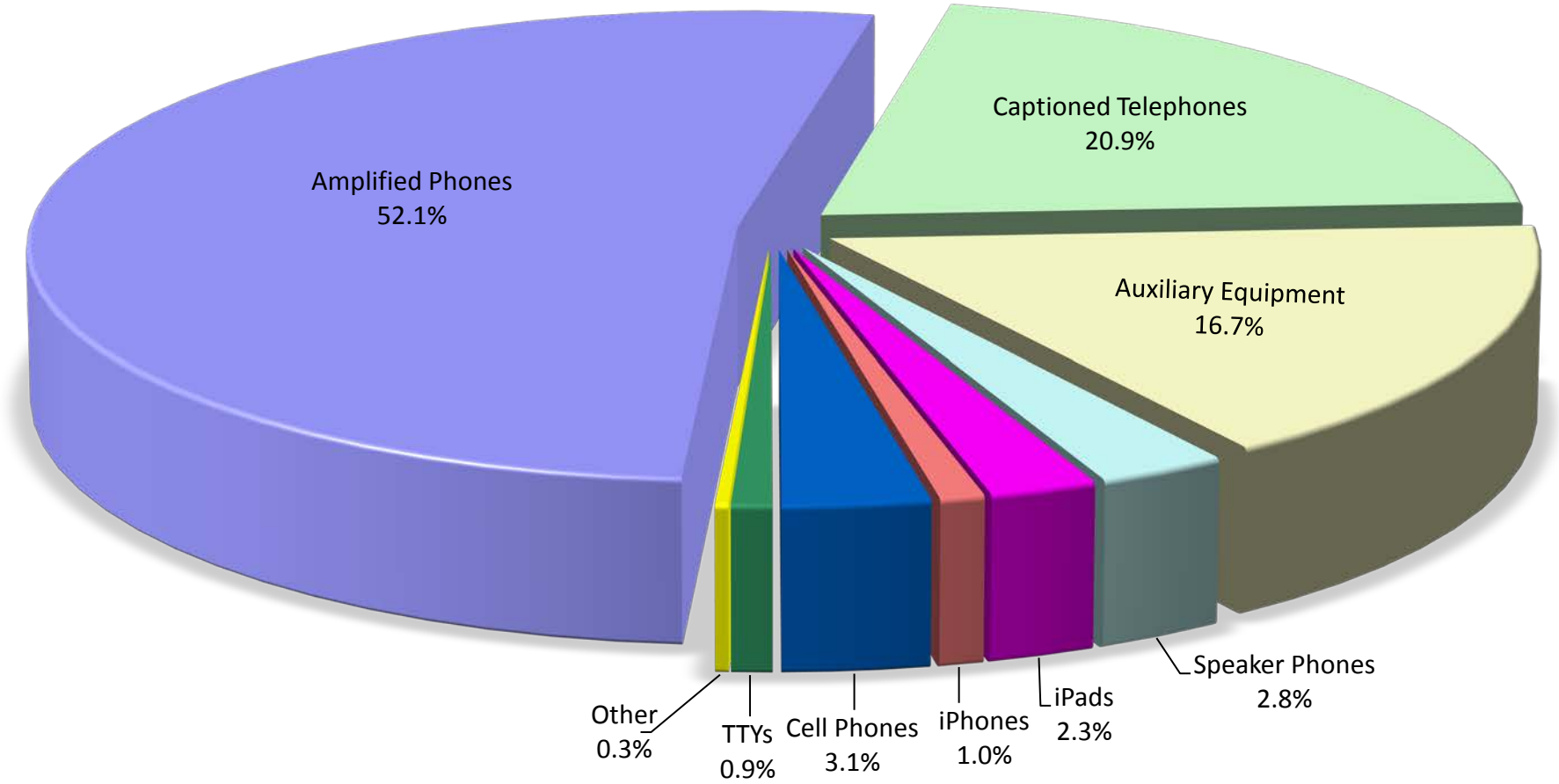


Appendix B - TED Program Activities

2008 - 2017 New TED Program Participants



TED Program
Types of Equipment Distributed in 2017



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

Minnesotans Being Served by the TED Program in 2017