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# I'll Take BTIP for \$500, Alex

How the Broadband Toolkit Improvement Program  
Can Help Your Library

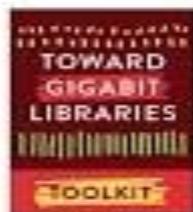
Dylan Baker, ICfL's Broadband Consultant

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# What is BTIP?

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# How to use the Toward Gigabit Libraries Toolkit



[Board of Commissioners](#)

# Broadband Toolkit Improvement Program (BTIP)

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Internet2's "Toward Gigabit Libraries" project, funded by the Institute for Museum and Library Services (IMLS), created a Broadband Toolkit and Broadband Improvement Plan with a goal "to improve and evolve library staff's understanding and interaction with the library's broadband connection and services." Although available to all libraries (and the world at large), this toolkit was developed specifically for small, rural, and tribal libraries with limited information technology (IT) support and resources.

ICfL is offering a Broadband Toolkit Improvement Program (BTIP), through which, Idaho public libraries can receive \$500 to put toward the implementation of their "action items" that are determined through their Library Broadband Improvement Plan. To indicate your interest to participate in BTIP and learn more, complete and submit the form using the button below. ICfL consultants are also available to help you complete the Broadband Toolkit and Broadband Improvement Plan.

[Strategic Plan](#)

## Participate in the Broadband Toolkit Improvement Program (BTIP)

[View Form](#)



## TOWARD GIGABIT LIBRARIES TOOLKIT

WELCOME TO INTERNET2'S TOWARD GIGABIT LIBRARIES TOOLKIT, FUNDED BY THE INSTITUTE FOR MUSEUM AND LIBRARY SERVICES (IMLS). THIS TOOLKIT IS DESIGNED FOR SMALL, RURAL, AND TRIBAL LIBRARIES WITH LIMITED INFORMATION TECHNOLOGY (IT) SUPPORT. THE GOAL IS TO IMPROVE AND EVOLVE LIBRARY STAFF'S UNDERSTANDING AND INTERACTION WITH THE LIBRARY'S BROADBAND CONNECTION AND SERVICES.

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#### 4A. Broadband Connection

If you have more than one broadband connection, i.e., two different types of technologies or service providers, answer the following questions in this “Broadband Connection” question for each connection.

##### 1. What type of internet connection does your library currently have?

Choose all that apply.

- Digital Subscriber Line (DSL)
- Cable Modem
- Fiber
- Wireless
- Satellite
- Other:

There are three primary types of broadband—wireline (DSL, cable modem, and fiber), wireless, and satellite. Definitions for the types of Internet connections listed here are available at the FCC website: <https://www.fcc.gov/general/types-broadband-connections>

##### Speed Ranges by Type of Broadband (Kbps - kilobit, Mbps - megabit, Tbps - terabit)

Technology	Type	Download Speed Range	Upload Speed Range
Fiber	Wireline	100 Mbps - 1 Tbps	100 Mbps - 1 Tbps
Cable Modem*	Wireline	256 Kbps - 10 Gbps	256 Kbps - 10 Gbps
DSL*	Wireline	256 Kbps - 100 Mbps	256 Kbps - 16 Mbps
Fixed Wireless / Microwave	Wireless	1 Mbps - 155 Mbps	1 Mbps - 155 Mbps
Satellite	Wireless	1 Mbps - 50 Mbps	0.5 Mbps - 3 Mbps

\*Upper end of speed range depends on type of DSL (VDSL2) or cable modem (DOCSIS 3.1) technology. In rural areas, DSL and cable modem more like to be a max of 45 Mbps download. Sources: FCC, How Stuff Works, CableLabs, NetworkWorld

## 8. ADDITIONAL RESOURCES & BEST PRACTICES

The topics listed here are designed to provide you even more insight and resources into improving your library's broadband connectivity and services. You may find these items helpful in gaining a better understanding of your broadband connection, data network, and computers.

### E-Rate

#### What is E-rate?

<https://www.webjunction.org/content/dam/WebJunction/Documents/webjunction/2015-10/handout-what-is-erate.docx>

*Description:* A two-page overview on the basics of E-rate aimed at librarians just getting started. Source: Webjunction.

#### E-rate Timeline

<https://www.webjunction.org/content/dam/WebJunction/Documents/webjunction/2015-10/handout-erate-timeline.docx>

*Description:* Learn about the key dates and deadlines for securing E-rate funding for your library. Source: Webjunction.

#### Library E-rate Assessment and Planning (LEAP) project

<http://www.cosla.org/content.cfm/id/leap>

*Description:* The Library E-rate Assessment and Planning (LEAP) project to ensure libraries are well-positioned to take full advantage of the opportunities made possible by the E-rate modernization changes. Source: COSLA.

#### Common Barriers and Solutions for Small Rural Libraries in Filing for E-Rate

<https://drive.google.com/file/d/0B67MuoyF-w3Nbm1QWROX0hNMm8/view?usp=sharing>

*Description:* Public libraries have many reasons for not participating in e-rate. We've tried to provide answers to the most common issues and concerns expressed by libraries that choose to not file for e-rate. Source: State Library of Iowa.

### Content Filtering

#### Content Filters

<https://libraries.idaho.gov/broadband/internet-compliance-filtering/>

*Description:* Provides an overview of filtering, FAQ, choosing a filter, implementing filtering policies, filtering options for DNS, software, and hardware filters. Source: Idaho Commission for Libraries.

#### Children's Internet Protection Act (CIPA) Key Issues for Decision Makers

[http://www.webjunction.org/documents/webjunction/CIPA\\_Key\\_Issues\\_for\\_Decision\\_Makers.html](http://www.webjunction.org/documents/webjunction/CIPA_Key_Issues_for_Decision_Makers.html)

## Broadband

Broadband is the word used to, generally speaking, describe high-speed telecommunications and, more specifically, high-speed internet. Operating at, responsive to, or comprising a wide band of frequencies (a broadband radio antenna); of, relating to, or being a high-speed communications network and especially one in which a frequency range is divided into multiple independent channels for simultaneous transmission of signals (as voice, data, or video). The FCC currently defines broadband as 25 Mbps download and 3 Mbps upload.

## Broadband Service Provider

An organization that provides services for accessing, using, or participating in the Internet. Internet service providers may be organized in various forms, such as commercial, community-owned, non-profit, or otherwise privately owned. Also known as an "Internet Service Provider (ISP)."

## Category (Cat) 5 Cable

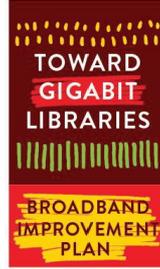
Cat 5 is a twisted pair cable for carrying signals. This type of cable is used in structured cabling for computer networks such as Ethernet. The cable standard provides performance of up to 100 MHz and is suitable for 10BASE-T, 100BASE-TX (Fast Ethernet), and 1000BASE-T (Gigabit Ethernet). Cat 5 is also used to carry other signals such as telephony and video.

## Category (Cat) 5e Cable

The category 5e specification improves upon the category 5 specification by tightening some crosstalk specifications and introducing new crosstalk specifications that were not present in the original category 5 specification. The bandwidth of category 5 and 5e is the same – 100 MHz. The differences between category 5 and category 5e are in their transmission performance. Category 5e components are most suitable for a high-speed Gigabit Ethernet. While category 5 components may function to some degree in a Gigabit Ethernet, they perform below standard during high-data transfer scenarios.

## Category (Cat) 6 Cable

A standardized cable for Gigabit Ethernet and other network physical layers that is backward compatible with the Category 5/5e and Category 3 cable standards. Compared with Cat 5 and Cat 5e, Cat 6 features more stringent specifications for crosstalk and system noise. The cable standard provides performance of up to 250 MHz and is suitable for 10BASE-T, 100BASE-TX (Fast Ethernet), 1000BASE-T/1000BASE-TX (Gigabit Ethernet) and 10GBASE-T (10-Gigabit Ethernet).



## LIBRARY BROADBAND IMPROVEMENT PLAN

### Purpose of this Document:

- Identify immediate (performed during Toolkit Assessment) and short-term (0-3 months) actions library can take to improve broadband and related IT performance and operations.
- Identify longer term (3-12 months) actions library can take to improve broadband and related IT performance and operations.
- “Sample” action items are listed below.

### Directions:

Review Toward Gigabit Libraries Toolkit to identify any gaps or issues uncovered, including any recommended mitigation strategies, to help populate this Improvement Plan. Some of the potential “fixes” or mitigation strategies are identified in the Toolkit, depending on how the question was answered. Try to identify at least two short and long term actions.

SAMPLE SHORT TERM ACTION PLAN (0-3 MONTHS)			
Action	Intended Result	Resources Required	Timeline
Move WiFi router from back of library to central part	Improve throughput in library, reduce dead spots	Additional LAN cabling	One month
Obtain information on contract with broadband service provider, including speeds, SLAs, contract time, costs, etc.	Understand what speeds library should be seeing, calculate cost per Mbps, understand if there is recourse for missed speeds.	Name of service provider and billing name/information.	One week

SAMPLE LONG TERM ACTION PLAN (3-12 MONTHS)			
Action	Intended Result	Resources Required	Timeline
Contract with an additional area broadband service provider and bond/combine with existing broadband capacity	Increase broadband capacity at library	Additional broadband connection and equipment to combine connection	6 months
Install WiFi repeaters	Reduce dead spots, increase access to WiFi outside of library for off-hour use	WiFi repeaters	5 months
Participate in E-Rate program	Obtain a subsidy for the broadband connection and inside wiring to improve broadband connections and connectivity	Support from State Library, E-Rate consultant (possibly)	12 months

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# Year One Participants

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# List of Libraries in Year One

- ★ Armoral Tuttle
  - ★ Caldwell
  - ★ Challis
  - ★ Clearwater County
  - ★ Glenns Ferry
  - ★ Gooding
  - ★ Grangeville
  - ★ Hailey
  - ★ Kellogg
  - ★ Mackay
  - ★ McCall
  - ★ Meadows Valley
  - ★ Middleton
  - ★ Nampa
  - ★ North Bingham County
  - ★ Payette
  - ★ Priest Lake
-

# Priest Lake Public Library

6 / December 11, 2016 / The Beacon

## NEWS

### Priest Lake Library speeds up expansion plans

By NICK IVIE  
The Beacon

**PRIEST LAKE** – The Priest Lake Public Library took a big first step toward an ultimate goal of expansion after securing the funding to significantly increase Wi-Fi internet speeds.

The library, which already boasted a speed of 10Mbps, now has a connection as close to fiber optic speed as possible at Priest Lake. Library Director Beverly Richmond started working on the broadband technology grant through e-rate with the Federal Communications Commission in February and finally received full funding on Nov. 21.

The FCC is responsible for covering 80 percent of the e-rate and the ICFL reimburses the library the remaining 20 percent. ICFL Northern Field Consultant Emily Stitz was at the library on Thursday to help share the good news with guests.

Richmond said the total cost to complete the upgrade was \$79,000, which is funded completely by the FCC and ICFL.

"This is so big for Priest Lake and costs the community zero," Richmond said. "This is also the first step of moving forward with expansion. We wanted to start with Wi-Fi because we know the demand for Wi-Fi is that high."

Local internet service



– Photo by NICK IVIE

The Priest Lake Public Library received a broadband tool kit grant from the Idaho Commission for Libraries on Thursday. ICFL Northern Field Consultant Emily Stitz, left, presents a check to Board Trustee Cathie Rosenberg, Board Treasurer Barbi Johnson, Library Director Beverly Richmond, and Library Assistants Lisa Riegel and Marni Mason.

provider Moosebytes sub-contracts through Air-Pipe out of Spokane to provide the library with a worldwide connection. The broadband upgrade required them to improve the existing towers, which should help all community members connect better wirelessly.

The Priest Lake Library was also the first in the

state to complete a 62-page broadband tool kit and received a \$500 grant from the ICFL for doing so.

The broadband upgrade is part of a bigger picture to expand the library in order to meet a growing demand from the community. The library board intends on increasing the size of the existing building over the

next three years.

"The board is looking at all of our options and we are planning to at least double the size of this building because that's the demand from the community," Richmond said. "The first step was to get Wi-Fi here and then we're going to go larger."

The library saw an

increase in foot traffic with about 8,000 patrons visiting between the months of July and August. There were also about 1,500 Wi-Fi users during that same period. The increase in circulation went up 22 percent over the past year.

"The steady growth over the last few years has just really showed us that we need to go larger," Richmond said.

To meet demand the library board is looking at knocking out the east wall of the building to expand. The expansion would allow for a much larger community event space and increase the parking lot, where many Priest Lake residents park to access the web and other online services.

The broadband upgrade was the first phase of the expansion project with the next step coming in the way of design.

"We have worked really hard up here at the lake to bring better things for the patrons here and this is the first step of going bigger," Richmond said.

Public libraries are not allowed to use maintenance and operation money to expand.

They are required to secure the money through grants, fundraising, or running bonds. Richmond said the library will most likely do all three and has already been fundraising.

# Priest Lake Public Library

SHORT TERM ACTION PLAN (0-3 MONTHS)		
Action	Intended Result	Resources Required
Obtain any information	increased speed	
regarding upgrade	at the library	

LONG TERM ACTION PLAN (3-12 MONTHS)		
Action	Intended Result	Resources Required
Continue to provide	increased usage	All the help
best possible wi-fi	of library & the	that ICLC
available for patrons	wi-fi -	can provide

# Gooding Public Library

## SHORT TERM ACTION PLAN (0-3 MONTHS)

Action	Intended Result	Resources Required	Timeline
Procure Content Filtering for New Library Computers	provide quality content filtering on public computers for safety and compliance	content filtering software or solutions	Immediately
Procure Additional Mobile Hotspots	provide more mobile hotspots for patron and library use	mobile hotspots	By January 2019

## LONG TERM ACTION PLAN (3-12 MONTHS)

Action	Intended Result	Resources Required	Timeline
E-rate Support for Hardware & Maintenance (E-rate Category 2)	improved network hardware and maintenance support for library	ICfL Broadband Consultant	October/November 2019

# Hailey Public Library

## SHORT TERM ACTION PLAN (0-3 MONTHS)

Action	Intended Result	Resources Required	Timeline
Purchase and install a SonicWall TZ300 UTM firewall.	Provide safer and more secure internet to our patrons, and update old technology that can easily be taken advantage of.	SonicWall TZ300 UTM firewall, Installation assistance from our city's IT guy	1 Month
Obtain administrative information/login to router and determine best settings for public use	To make sure we are getting the most out of our router along with keeping detailed login records for future employees	Name of company router came from, their technical services phone number, and any information they need from me.	1 Month

## LONG TERM ACTION PLAN (3-12 MONTHS)

Action	Intended Result	Resources Required	Timeline
Create a hotspot lending program	To allow lower income patrons/areas to have access to the internet outside of the library	Mobile hotspots, Good plan at a good rate	6 Months
Learn as much as I possibly can about E-Rate	To assist our lead in the E-Rate program, along with making sure at least two members of staff are familiar with this program	Support from State Library, E-Rate consultant (possibly), Attending E-Rate training with Dylan at Burley on 2/19/19	12 Months

# McCall Public Library

## SHORT TERM ACTION PLAN (0-3 MONTHS)

Action	Intended Result	Resources Required	Timeline
Obtain information on contract with broadband service provider, including speeds, SLAs, contract time, costs, etc.	Understand what speeds library should be seeing, calculate cost per Mbps, understand if there is recourse for missed speeds.	Name of service provider	1 month
Move the existing access point to a better location	Balance coverage	Tools	1 week

## LONG TERM ACTION PLAN (3-12 MONTHS)

Action	Intended Result	Resources Required	Timeline
Install wifi repeaters or a new access point	Reduce dead spots	Repeater, access point	6 months
Participate in E-rate program	Obtain a subsidy for the broadband connection and inside wiring	Support from State Library	12 months

# Middleton Public Library

<b>SHORT TERM ACTION PLAN (0-3 MONTHS)</b>			
<b>Action</b>	<b>Intended Result</b>	<b>Resources Required</b>	<b>Timeline</b>
Determine current speed, cost and contract term. Determine maximum available speed in the area.	Identify potential for improvement if faster speeds are available. See if current speed matches contract.	Internet, computer, speed test website	One week
Compile a current list of all current network and IT equipment, computers and printers.	Increase the ability to troubleshoot issues, quickly identify computers	Labor hours, access all equipment. Possibly help from our contracted IT company	3 months

<b>LONG TERM ACTION PLAN (3-12 MONTHS)</b>			
<b>Action</b>	<b>Intended Result</b>	<b>Resources Required</b>	<b>Timeline</b>
Move modem from basement to main level of library, replace cabling.	Improve functionality and accessibility.	Electrician, cable,	6 months
Combine two internets to 1 and cancel 2nd internet plan	Reduce multiple technical issues, reduce cost, simplify management	New Switch, IT company (Corp. Tech) assistance	3 months
Resolve cabling that runs parallel with electric power cabling	Reduce degradation of data cabling	Electrician, possibly new electrical outlets	6 month

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**Sign Up**

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# Broadband Toolkit Improvement Program (BTIP)

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After you complete and submit this form, the Broadband Consultant at ICfL will contact you with more information, including links to your library's unique electronic copies of the Toward Gigabit Libraries Toolkit and Library Broadband Improvement Plan.

\* Required

Email address \*

Your email

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Library name \*

Your answer

---

Your name \*

Your answer

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**Thank You**

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