

THE ROLE OF PUBLIC LIBRARIES IN ENGAGING CITIZENS IN SMART, INCLUSIVE AND CONNECTED COMMUNITIES

A CURRENT PRACTICES REPORT

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THE ROLE OF PUBLIC LIBRARIES IN ENGAGING CITIZENS IN SMART, INCLUSIVE AND CONNECTED COMMUNITIES

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EXECUTIVE SUMMARY

As a very important element of the digital, knowledge and creative infrastructures of smart communities, public libraries may further play a critical role in involving the community and in addressing its needs, issues and interests.

They could offer a new generation of library services that could be integrated with the city infrastructure and that could further extend public libraries' roles as community anchors and as information literacy hubs in smart communities.

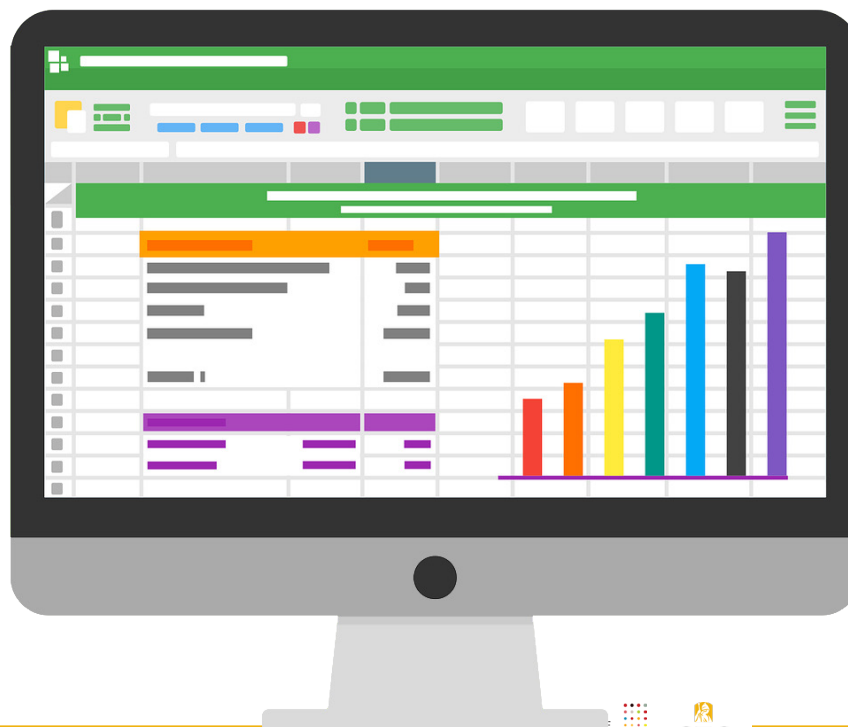
However, how public libraries can specifically take advantage of the opportunities to advance their roles in engaging citizens in smart communities' initiatives is unclear at this point. Yet, there are several public libraries across the United States that are implementing innovative practices that show this potential.

This report intends to shed light on some of the best practices that are already in place in public libraries throughout the United States that show how public libraries can further their roles as anchor institutions in smart community initiatives.

This collection of innovations provides ideas for how libraries, communities and governments can work together as they imagine and implement smart initiatives in their communities, taking advantage of the library's existing role as a community anchor. The report classifies the practices into five dimensions: infrastructure, technology, programs and services, partnerships, and citizen engagement.

Further, given the different levels of innovation encountered, practices are also identified as building blocks (basic infrastructure, programs and services that are essential for libraries to engage citizens and go beyond the traditional role of libraries), good practices (practices that represent what libraries are doing that go beyond the basic building blocks and services to engage community members in using the library and its resources), and unique practices (programs, services and features that have potential to serve as a clear link between the library and smart community initiatives).

In addition, the report lists integrative practices; that is, libraries that combine the areas of infrastructure, technology, programs and services, and/or partnerships to form innovative programs and services to engage citizens, boosting the potential of the library to play a catalyst role in a smart community.



ABOUT THE PROJECT

Recently there has been an upswing in the application of technological innovations and smart strategies in communities in an attempt to improve government services and overall quality of life for citizens.

Many of these strategies focus on utilizing data and technology to save tax dollars, improve decision making by governments, as well as improve existing services while also creating new services previously unachievable. Such smart strategies have become a national priority, which has resulted in an increase of federal funding allocated to encourage civic leaders, data scientists, and technologists to work together in research partnerships to make sense of the growing data revolution spurred by low-cost sensors and increased computing power, in an attempt to generate new solutions that will benefit society.

Though community partnerships have been acknowledged, smart community initiatives are often led by governments and industry, with less focus on the needs and demands of communities and citizens, which would allow for more inclusive and all-encompassing services and solutions so that all can benefit from the utilization of smart technologies and services.

Based on our research and work with governments in this area, it is also clear that community resources, such as public libraries, are often left out of the dialog surrounding smart

community initiatives. As a very important element of the digital, knowledge and creative infrastructures of smart communities, public libraries could play a critical role in involving the community and in addressing its needs, issues and interests in the development of smart communities.

Indeed, public libraries have been identified in the planning literature as important partners in community development for decades. Since 2009, public libraries in the United States have been increasingly identified as anchor institutions that have adopted the role of providing access to broadband technology for all citizens.

In addition to providing broadband access, libraries have cemented their roles as technology hubs as they provide public access computers, free Wi-Fi, e-books, electronic databases, and other digital resources. Their increased presence on social media applications such as Facebook and Twitter helps them connect with the community while staying abreast of other technological innovations.

Public libraries serve as a central element in the new digital economy, acting as knowledge and creative centers in their communities, and could further advance their roles by engaging citizens in smart community initiatives by helping shed light on the needs, interests and issues of the citizens they serve.

ABOUT THE PROJECT

The new generation of library services being offered throughout the United States provide a basis on which libraries can extend their role as community anchors and partner with government and citizens in smart and connected communities.

The project “Enabling Smart, Inclusive, and Connected Communities: The Role of Public Libraries” aims at better understanding how public libraries can advance their role as community anchors in smart community initiatives by contributing to the community’s understanding of and participation in such initiatives.

This report is the result of our first activity: the identification of innovative practices across the United States that already show the potential of public libraries to become catalysts for smart and connected communities.

This collection of innovations provides ideas for how libraries, communities and governments can work together as they imagine and implement smart initiatives in their communities, taking advantage of the library’s existing role as a community anchor.

Intended outcomes of this project for public libraries, local governments, researchers include:

1. increasing and sustaining relationships and collaborations between libraries and other organizations, such as city governments and community organizations
2. designing and developing two new resources, the Opportunity Agenda and Roadmap Report and the Smart Libraries Toolbox, to guide libraries willing to advance their role as community anchors and/or community catalysts in smart communities and to provide them with numerous resources and ideas for new programs and services contextualized to community issues/interests
3. enhancing the relationships between researchers and practitioners by communicating research findings in different events and ways that will lead to improvements in library services.

The project addresses two research questions:

To what extent do public libraries, building on their expertise, knowledge, and background, contribute to communities’ understanding of and participation in smart community initiatives?

What are the existing and potential benefits, costs, risks, challenges, and unintended consequences for public libraries increasing their involvement in their communities’ smart initiatives?

IDENTIFICATION OF BEST PRACTICES

This report intends to shed light on some of the best innovative practices that are already in place in public libraries throughout the United States to show how public libraries can further their roles as anchor institutions in smart community initiatives.

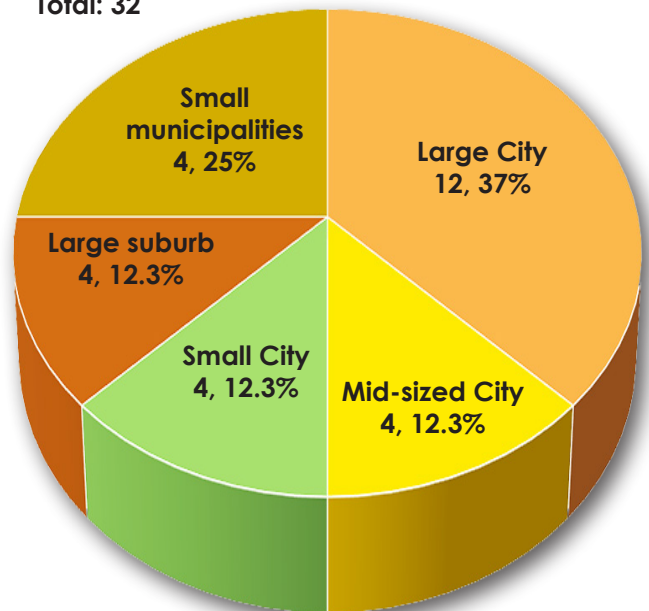
Our first activity involved a search for innovative services, strategies, programs and tools in public libraries to help us contextualize the potential role of public libraries in smart community initiatives.

We conducted a search using Google to locate content available on public library innovations, with a focus on library websites, government documents, news media, as well as library focused publications and organizations.

This search led to the identification of thirty-two stand alone, branch and system libraries throughout the United States located in a range of municipal types from small municipalities to large cities and counties (see Table 1 for a complete list of libraries, locations, and locale codes; see Table 2 for definitions of locale codes).

After the initial scan of available documents, we directly contacted identified libraries to gain further insight into the programs and services identified as unique and innovative.

Total: 32



Information gathered was classified according to five dimensions that emerged from the data: infrastructure, technology, programs and services, partnerships, and citizen engagement.

It is important to clarify that the dimensions are useful to understand differences and similarities, but some innovations could be classified in more than one dimension.

Given the different levels of innovation encountered, for all dimensions except partnerships, we identified practices as building blocks, good practices and unique practices:

IDENTIFICATION OF BEST PRACTICES

BUILDING BLOCKS

These practices are the basic infrastructure, programs and services that are essential for libraries to engage citizens and go beyond the traditional role of libraries.

These practices were evident in 20 or more of the libraries examined.

GOOD PRACTICES

These practices represent what libraries are doing that go beyond the basic building blocks and services to engage community members in using the library and its resources.

They add innovative features to what libraries are already doing to engage citizens.

UNIQUE PRACTICES

These programs, services and features are those that were the most innovative, evident in 10 or less of the libraries, and have potential to serve as a link between the library and smart community initiatives.

In general, these unique practices may not typically be associated with a library, and are an expansion of the traditional role of libraries.

In addition, we identified **integrative practices**; that is, libraries that combined the areas of **infrastructure, technology, programs and services, and/or partnerships** to form innovative programs

and services to engage citizens, boosting the potential of the library to play a catalyst role in a smart community.

INFRASTRUCTURE

Infrastructure refers to the organizational and physical structures necessary for operation of an entity, including virtual, mobile and fixed assets. Yet, library infrastructure is not limited to the library building.

We found examples of new types of infrastructure that allowed libraries to provide services and programs outside of the traditional library building.

BUILDING BLOCKS

Every library we examined had a physical building as well as a web site that served as a virtual presence. Each also provided online public access to the catalog of materials, and offered book delivery in some manner.

In addition, most of the libraries we examined offered some service to their homebound population in the form of mail-a-book programs. They also offer some form of virtual reference service, whether via email, telephone or through a chat system, which allows patrons to ask questions even when they cannot physically come to the library.

Houston, Hillsboro and the Free Library of Philadelphia, all located in larger cities offer book mobiles, while Boston and the Free Library of Philadelphia also offer what they call a Bibliocycle, which brings books to public events on a bicycle.

GOOD PRACTICES

Many libraries examined offered more than one space in the library, including children and teen areas, meeting rooms, study areas, dedicated computer labs and multipurpose rooms.

Also, many of the libraries are providing deposit collections, where books are left at specific locations like senior centers, community centers, schools, daycare centers, and medical centers for circulation. Hillsboro offers a Book-o-Mat program, which is a book vending machine used as part of the community's way finding program. New York Public Library has launched an "e-books on the subway" program which encourages citizens to download e-books as they ride the subway.

Aurora Public Library offers a van delivery service that takes specific patron requests and delivers them to predetermined locations. Gail Borden Public Library has media kiosks available in their libraries, one of which is available for patrons to check out movies and music 24 hours a day.

These types of services allow library materials to get in to the hands of those unable to visit the library during open hours. Some libraries are providing more than just book circulation outside of the library with book mobiles. Houston, Hillsboro and the Free Library of Philadelphia all offer mobile library services.

INFRASTRUCTURE

UNIQUE PRACTICES

Libraries are creating unique spaces based on specific needs in their communities, including makerspaces, digital media studios and other areas that allow community members to interact with equipment and materials with which to create and innovate problem solving and collaboration with others. The creation of these spaces are allowing libraries to provide unique programs and services as well.

Chicago Public Library has created twelve spaces they call **YOUMedia**, which is a teen space/ makerspace/media lab all in one. The spaces offer print and digital collections as well as access to technology and digital tools, 3D printers, still and video cameras, tablets and editing software. They also have mentors available to help teens use the tools to create their own work.

The Skokie Public Library opened the **BOOMBox**, an interactive STEAM learning space for all ages at the end of 2014. The BOOMBox program is set up like a museum exhibit, and the library rotates what is contained in the room for exploration. This space offers programs for all age levels, and allows different groups to learn together and from one another. By rotating what is in the room, Skokie is able to engage patrons in coming back to discover what is new.

Innovation spaces are found in smaller communities as well. The Boundary County Public Library created Idaho's first **FabLab** in 2014 with grant funding and additional support

from the community. The FabLab is based on Neil Gershenfeld's model which sets requirements for the types of equipments that must be present, including a CNC mill, 3D printer, and laser cutter among other things.

Business also has a place in public libraries. The Boston Public Library opened the **Kirstein Business Library and Innovation Center**, which was created during renovation to the central library in 2015. They have created a space that has flexible seating, print resources and innovative technology that support media creators, innovators, job seekers, entrepreneurs, nonprofits, investors, coders and makers.

The Shift at the Bezazian branch of the Chicago Public Library was a co-working space that was created in 2014. It was designed to bring small businesses together in a common work space without the overhead, helping to generate new businesses that may not be able to afford office space as they are starting up. The project came out of a Human Centered Design project funded by the Gates Foundation. Though the space was disassembled due to disuse, the concept was focused on a perceived need in the community.

At the Free Library of Philadelphia patrons can take advantage of the **Business Resources and Innovation Center** which provides a variety of services and resources as well as a pitch corner, workshops and programs. This center is designed to help start-up and existing businesses find the resources they need to be successful ventures.

INFRASTRUCTURE

Finally, unique practices are also found outside the traditional library buildings. The Houston Library Express also offers literacy programs, workforce development training, homework help, enrichment programs, ESL classes and after school programs through its **HPL Mobile Express**. The program specifically targets low and moderate income neighborhoods, and brings the services to where they are needed most.

Lexington Public Library created a **story time bus**, which travels to day care centers to provide programming to children who may not visit the library otherwise. Children board the bus to participate in themed story time which includes hearing a story as well as participating in activities, using props and engaging with music. The bus is staffed by trained volunteers.



Image provided by Enoch Pratt Free Library.

The Enoch Pratt Free Library's **Mobile Job Center**, offers not only technology, but also training in writing resumes, looking for jobs, preparing for interviews and other services for job seekers.

The mobile job center travels to areas in Baltimore City where access to these kinds of services is difficult.

It spends five to six days a week on the road, with scheduled stops in the morning and afternoon in different communities, and is available for special events on Fridays and Saturdays.

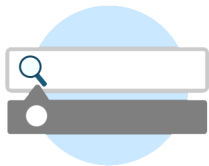
After just one year in service, the job center has helped nearly 10,000 customers. The mobile job center is supported by BGE, the local gas and electric company.

TECHNOLOGY

Technology refers to internet access, computers, devices, and other digital services provided by libraries.

BUILDING BLOCKS

Each library we examined offers Wi-Fi access inside of the library during open library hours, as well as basic computer and technology literacy courses. Each also offers digital resources such as e-books, and digital forms of magazines, newspapers, and audiobooks through database subscriptions. Some libraries are also offering digital movie and music downloads.



GOOD PRACTICES

Some libraries including Columbus Public Library, Ignacio Community Library and Westport Public Library provide Wi-Fi access after-hours in areas like outdoor seating areas and parking lots, which allows community members to access the Internet even when the library is closed.

These libraries are in smaller communities, which may speak to the needs of citizens. Eight of the libraries examined have a Wi-Fi hotspot lending program that allows patrons to access the Internet from home. None of these libraries are located in smaller municipalities.

Eleven of the libraries examined have technology such as laptops, eReaders and mp3 players that are able to circulate to home for patrons. Only one of the technology lending programs is located in a smaller municipality, all other are located in municipalities considered large suburban and larger.

Beyond offering basic technology courses, libraries are offering courses and workshops about robots and 3D printers, social media accounts and online auction sites. Many libraries also indicate that private sessions are available for one-on-one support. Moving from providing technology to teaching citizens how to use it helps create a technology literate community.

TECHNOLOGY

UNIQUE PRACTICES

At Belgrade Community Library in Montana, the library held a unique program that partners teens with older adults to offer technology training.

This program not only helps increase technology literacy, it builds relationships between two groups that may otherwise not interact.

At the Gail Borden Public Library, patrons are able to download and watch technology courses created by the library at their convenience.

Each course has been designed to address technology offered by the library and that may be of interest to patrons, and is also available for other libraries to emulate through **Digital Learn**.

They also provide links to other online tutorials and courses that patrons may wish to complete.

Bexar County, Texas opened the first ever all digital public library **Bibliotech**, which offers citizens in the county free access to electronic resources.

Instead of housing books, the physical libraries provide patrons with access to technology and guidance of how to use technology.

The focus of Bibliotech is delivering information to citizens whenever they need it, as well as offering support in its physical locations during open hours.



Screenshot of Gail Borden Public Library website.



Braille Display and iPad.



Pearle Camera - Previous two Images from Jesse Garcia, Bibliotech West.

TECHNOLOGY

Since 2013, Bibliotech has made a conscious effort to provide adaptive technology for blind and low vision patrons. Each branch has a computer specifically for low vision patrons, equipped with JAWS (Job Access with Speech) screen reader, MagicZoom which is able to zoom up to 64 times without losing resolution.

They provide a Magic Keyboard with jumbo buttons and a refreshable Braille display that connects to computers, iPads and other bluetooth technology.

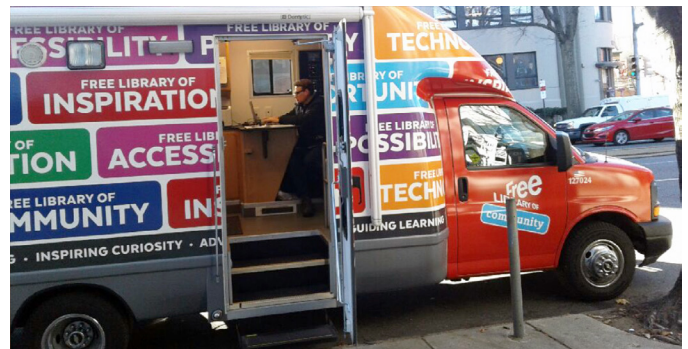
The libraries offer training and support for all of the assistive technology, making it possible for patrons with disabilities to take advantage of library resources which are all offered digitally. They use Open Book and Pearl Camera to convert print text to electronic text for low vision patrons, and offer blind and low vision patrons iPads to borrow for 6 weeks and training on how to use the accessibility features.

The Free Library of Philadelphia brings technology to citizens who cannot come to the library in the form of a program they call library **Hot Spot**.

The Hot Spots are partnerships with two existing neighborhood organizations and each has computers, printers and broadband access, and are staffed with individuals trained to provide guided instruction and open access computer time twenty hours each week. The program also offers classes and a reference collection.



Inside of the Free Library of Philadelphia Techmobile.



Free Library of Philadelphia Techmobile on location. Images from Free Library of Philadelphia.

There is also a mobile Hot Spot program called the **Techmobile**.

The Techmobile is a wheelchair accessible bus, stocked with wireless units, laptops, iPads and a sound system and video display. It is deployed as a popup library to underserved neighborhoods and broader community events like the Science Festival, a week-long festival providing children, adults and family with hundreds of free and low-cost programs.

The Techmobile can operate on solar power or with its generator while it is parked. This outreach access is funded in part through the Knight Foundation, and is deployed through the Parkway Central location.

PROGRAMS & SERVICES - GENERAL SERVICES FOR ALL

Where libraries can really connect with citizens and smart cities initiatives are in the programs and services that they offer, many of which are made possible by the spaces they are creating.

At minimum it is important for municipalities to know their community, identify needs based on input, and address all citizens in programs and services. This is something that libraries already do. Most libraries ask for community input in both formal and informal ways.

Many libraries conduct surveys, provide suggestion boxes, and develop service plans based on the needs of their community members. Libraries are well known for creating the types of programs and services necessary in their unique communities.

The following practices have been organized by the patron population they are designed to serve (see above).

Most general services offered by libraries are unique ways to engage citizens in their communities as well as provide valuable services at a convenient location. In this section, we therefore only refer to unique practices.

Patrons at Ignacio Community Library, Chicago Public Library and San Francisco Public Library are able to engage with workshops, clinics and services designed to meet their legal needs. In Ignacio, legal

clinics are provided via a free virtual clinic where patrons can ask questions and seek help on a variety of legal matters.

Chicago Public Library offers a monthly program called law at the library that covers common legal issues.

Libraries like Chattanooga, Hartford Public Library and Chula Vista are offering passport services to their patrons, while some like Chattanooga are also offering notary services. The Chicago Public Library offers patent and trademark resources help.



As a result of establishing partnerships with other organization, libraries like Saratoga, Chicago, San Francisco and Hartford lend day passes to places like national parks, art centers, zoos and museums, allowing more equitable access to these experiences.

The Lexington Public Library runs LPLTV, a library public access cable channel which broadcasts library programs like adult education, live concerts, political forums, locally-produced historical documentaries, and programs highlighting Library services or events.



PROGRAMS & SERVICES - GENERAL SERVICES FOR ALL

These services serve a dual role. They are providing community members with access to things they need, and also drawing new citizens in for the services that may not have used the library in the past.

Creation and encouraging creativity has become an important component of public libraries' general services. For example, many of them have an arts and craft program for children. But, more important, libraries are being used by community members as a place to create together.

Many libraries have created makerspaces and fab labs for patrons of all ages to build, create and learn. The creation of these spaces has allowed for new programs to be offered in libraries. Libraries like the Chattanooga offer a fully functional music studio that can be used to produce music, and others like Lexington Public Library and Gail Borden Public Library are offering digital studios.

In addition to workshops and spaces that are helping citizens become producers of information and art, some libraries are also providing ways to share creative works with others in the community. Libraries like the Barrington Area Library, the Hillsboro Public Library and Ignacio Community Library have art gallery spaces.

The art Gallery at the Hillsboro Public Library opened in 2013. The gallery was created to be a unique experience to show the community that the



Recording studio at Chattanooga Public Library.
Image provided by Chattanooga Public Library.



Brookwood north end of the gallery and related book display.



Brookwood south end of the gallery. Images provided by Carol Reich, Hillsboro Public Library.

library offers more than books, that it serves a role as a cultural space as well. The library puts out calls to the local art community for two-month long exhibits from November to August, with the space being used in September for a display focused specifically on the Hispanic community, and October used to tie in to the community wide reading program.

PROGRAMS & SERVICES - GENERAL SERVICES FOR ALL

The exhibit space is free for local artists to display, and free for community members to visit. There are also smaller gallery spaces in the branch libraries in Hillsboro.

Bibliotech has provided an e-publishing platform called BiblioBoard where patrons are encouraged to self-publish their works for others to engage with them. The Free Library of Philadelphia has created a program called CultureShare, a platform that curates and distributes locally produced art, music, writing and performances as part of the library collection.

In the area of collections addressed to the general public, libraries are also implementing unique practices. Part of knowing your population involves creating a collection that reflects the needs of the community, and some libraries are creating more specialized collections of materials.

The Free Library of Philadelphia has a health lending library that circulates items like blood pressure monitors and food scales. Members of the Duluth Public Library can visit the library to sign up and borrow/return seeds anytime the downtown library is open.

The Arlington Public Library lends American Girl Dolls, thermal cameras, LED Bulbs, gardening equipment, and more. The Westport Library circulates robots to help establish a continued interest in programming and all things robotics. Some



**Garden tool lending
The Shed, American
Girl Dolls, and LED
bulbs available at
the Arlington Public
Library in Arlington,
Va.**

**Images from
Arlington Public
Library.**



libraries are creating digitized versions of special collections like historical documents and other items that previously required access to the library during open hours.

From power tools to board games, these collections have a dual purpose. They are providing items that patrons may only need to use once in a while, saving community members money, and providing a service that may draw new users in to the library.

PROGRAMS & SERVICES - ADULTS

BUILDING BLOCKS

At minimum libraries are offering materials and services for adults in their communities.

This is a baseline that all libraries meet.

In addition to information resources like books, audio books and periodicals, most libraries also offer programs like book groups, and computer classes free of charge, or at minimal cost to community members.



Many libraries are creating programs to meet specific needs in their communities, particularly education needs.

Many libraries like the Atlanta–Fulton Public Library System, Boston Public Library, Free Library of Philadelphia and Lexington Public Library offer preparation materials, classes and programs to help adults prepare for high school equivalency exams.

Some, like Columbus Public Library in Wisconsin and San Francisco, provide tutoring for users of all ages and abilities in reading and other literacy.

These programs are free to community members,

GOOD PRACTICES

and are sometimes offered by library staff, other times offered by volunteers.

Libraries like San Francisco, Gail Borden Public Library and Hartford Public Library are providing access to Career Online High School courses, an online program that helps citizens earn their high school equivalency diploma while also gaining workforce skills.

Libraries like Albert Wisner Public Library and Saratoga Springs Public Library offer career transition services like job coaching, resume writing, and interview skills workshops.

PROGRAMS & SERVICES - ADULTS

UNIQUE PRACTICES

Other innovative practices include providing programs and services to community members the library has identified as most in need.

These are considered unique as they target individuals and populations not always considered in library plans of service, like individuals experiencing homelessness, people with disabilities, immigrants and individuals who are incarcerated.

Others like New York, Boston, Chicago, Lexington and Duluth host financial literacy workshops that provide individual tax help and budgeting skills.

Many libraries are offering health related workshops like the Houston Public Library, which partnered with the local health department to create a WIC center (a program that provides vouchers for healthy food for qualifying women, infants, and children) in the library.

Duluth Public Library and the Free Library of Philadelphia offer workshops to help community members navigate the health insurance market place.



PROGRAMS & SERVICES - OTHER

INCARCERATED INDIVIDUALS

Free Library of Philadelphia provides substantial support to incarcerated and recently released individuals. In addition to a reentry program which provides a temporary library card and a reentry guide, they offer a program called Stories Alive. Stories Alive allows incarcerated parents to read stories with their children over a video conferencing system. This helps maintain relationships within families, and encourages literacy.

Brooklyn Public Library offers similar programs and library services to incarcerated youth and adults and their families, as well as services for when incarcerated individuals return home. They offer a program called Daddy & Me, Mommy & Me, which works with incarcerated parents to teach them about early literacy, and provides parents with



TeleStory at Brooklyn Public Library. Image by Gregg Richards, provided by Brooklyn Public Library.

opportunities to record themselves reading books for their children.

The Brooklyn Public Library TeleStory program allows incarcerated individuals to visit over video with their children to read books, share stories and visit for an hour with their loved ones.

CITIZENS IN NEED

San Francisco Public Library was also the first library to hire a counselor on staff full time, and several libraries in large cities have followed suit by hiring social workers and outreach specialists to help community members (Baer & Esguerra, n.d.). Boston Public Library recently hired an outreach worker specifically for the homeless and other citizens in need.

VETERANS

The San Francisco Public Library is one of many libraries in California that opened a Veterans Resource Center, a space reserved for exclusive use by veterans five days a week.

In addition to library staff, volunteers help veterans find information and resources about benefits, local services and provide training on how to use the computer.

PROGRAMS & SERVICES - OTHER

IMMIGRANTS

Libraries offer ESL courses, workshops, foreign language materials and events targeted at English language learners. Some, like the Chicago Public Library (in partnership with the Mayor's Office and the U.S. Citizenship and Immigration Services) and Free Library of Philadelphia have created immigrant and citizenship resource centers with materials to prepare for citizenship tests and other pertinent services.

The Boston Public Library offers ESL instruction in a traditional classroom environment. Classes, as well as informal practice groups, range from beginner – for people with little or no experience with English – to high-intermediate.

The New York Public Library offers free work and life skill development, and helps immigrants understand and interact with culture, government and educational services. They also offer free legal assistance to become a citizen. Libraries like Aurora Public Library, San Francisco Public Library and New York Public Library are also offering computer courses in languages other than English.

Chattanooga offers a Spanish Playtime, which provides an opportunity for English speaking children to engage in Spanish language activities, and for Spanish speaking children to engage in activities in their native language as they play and learn together.

PATRONS WITH DISABILITIES

Beyond providing large print texts, digital and regular audiobooks, some libraries are providing other tools like assistive and adaptive technology so that patrons with disabilities have equal access to resources, services and programs.

Gail Borden Public Library offers a variety of magnifying devices for readers, both Gail Borden and Westport Public Library offer motorized wheelchairs for patron use in the library. Other assistive and adaptive technologies can be found in the Technology section of this report.

San Francisco Public Library was the first library to hire a librarian focused on providing services for patrons with learning differences. They provide resources, programs and support for users of all ages with dyslexia, autism spectrum disorders, developmental, attention and processing disorders, and other learning differences.

They also offer workshops and programs to raise awareness about learning differences. They offer streaming of the programs offered at the literacy and learning center, dubbed The Bridge at Main.

PROGRAMS & SERVICES - NON-TRADITIONAL STUDENTS

Brooklyn Public Library has partnered with Bard College to offer a Microcollege program, which allows non-traditional students the opportunity to earn a liberal arts degree from Bard College while attending courses at the Brooklyn Public Library.

This program is free, and allows those who have been traditionally unable to earn a college degree to access to a quality education by removing some of the roadblocks like financial concerns, child care and standardized exams.

The Microcollege is funded by the Mellon Foundation and Pell grants.



Bard Microcollege orientation session at Brooklyn Public Library.

Images by Gregg Richards, provided by Brooklyn Public Library.

PROGRAMS & SERVICES - TEENS

BUILDING BLOCKS

Many libraries are offering programs specifically designed to engage teens in the library. Many libraries host Battle of the Books, a reading incentive program for students in 3rd through 12th grade, where student read books and get together to demonstrate their abilities and knowledge about the book they read in groups.

Other examples include Ignacio Community Library which offers a Teen Café, where teens can play games, relax with friends, get help with homework and make crafts and Chapel Hill Public Library which hosts a Bad Movie Friday where teens gather to watch the worst of what Hollywood has to offer.

GOOD PRACTICES

Many libraries located in larger cities offer services to incarcerated and at risk youth.

The Boston Public Library, for example, has a partnership with the Massachusetts Department of Youth Services and Ostiguy High School, an alcohol and drug recovery high school. In both of these partnerships, staff bring book deposits, do book talks and provide programming. In San Francisco, the library has branches in the Juvenile Justice Center and at Log Cabin Ranch, and offers full services to youth in custody.

UNIQUE PRACTICES

Boundary County Public Library partners with the high school to create a youth entrepreneur program and youth business fair.

The creation of spaces like YOUMedia, The Mix, and Studio 270 are allowing new programming opportunities like Maker Mondays and workshops to train students to use equipment like 3D printers, cameras and editing software.

These programs allow teens to work with adult mentors to learn and create using materials and tools available in the spaces. Creating these spaces have allowed libraries to connect with teens, offer new programs, workshops and services that draw teens in to the library, and provide teens with opportunities that allow for engagement and active learning.

PROGRAMS & SERVICES - CHILDREN

BUILDING BLOCKS

Most libraries have a dedicated children's area and offer story times for various age groups and summer reading programs, as well as weekly events like Lego club and crafts.

GOOD PRACTICES

Some libraries like the Duluth Public Library and Boundary County have added winter reading programs to encourage reading throughout the year, not just the summer.

Chula Vista and Brooklyn Public Libraries are among those that offer kindergarten boot camps to help children build social skills and make friends before they head off to school.



UNIQUE PRACTICES

The infrastructure innovations BOOMBox of Skokie Public Library and 2nd Floor of Chattanooga Public Library mentioned earlier offer opportunities for young children to learn along-side teens and adults in spaces where they have a chance to add to the conversation.



CITIZEN ENGAGEMENT

BUILDING BLOCKS

At minimum, libraries are providing information. For example, the Government Information Center at the San Francisco Public Library provides free access to government documents at national, state and city levels.

Public libraries are providing spaces that can be used for forums to discuss issues pertinent to the community, like the Lexington Public Library which provided meeting rooms to gather input on the comprehensive plan for the city.

GOOD PRACTICES

Beyond providing spaces for forums, some libraries like Baltimore County Public Library and Ignacio Community library are designing and hosting forums around civic engagement topics, and some libraries like Barrington Area Library have hired community engagement librarians.

The Houston Public Library has created a program called The Living Room, which is designed to have the community gather at the library to get to know one another.

The programs offered encourage community members to gather together to share their unique cultural stories and traditions in celebration of the diverse population in the city.

Some libraries have created programming specifically designed to fight intolerance and discrimination.



CITIZEN ENGAGEMENT

UNIQUE PRACTICES

The Albert Wisner Public library has created the **Warwick Café Reading Project**, a community wide event that takes place quarterly that chooses a book and provides free copies at a number of cafes around the town.

The purpose is to stimulate conversation and engagement in the community by providing something they can all talk about.

They have also partnered with the village government to create an electronic community bulletin board called **Warwick Valley CommonPlace** where residents can communicate about topics ranging from community issues to an exchange of services and goods.

The Columbus Public Library has created a civic engagement program called **Root for Columbus** which uses brainstorming sessions with the community, followed by group work to identify small yet visible projects to help residents improve their communities.

This has led to several projects, including an annual garden walk, annual Chalk Walk event and Pot Luck dinners, which have brought together various members of the community.

These events and activities are helping to build a sense of pride, trust and stronger relationships among members of the community.



Columbus Chalk Walk.



Garden clean-up at Columbus Amtrak Station.



ACTION Potluck at Columbus Area Senior Center.



Columbus garden walk. Images provided by Columbus Public Library.

CITIZEN ENGAGEMENT

The Skokie Public Library created a **Civic Lab program**, which is a combination of resources and pop-up programming that offers information and activities to support dialogue and engagement on issues that are affecting the community. As the needs of the community change, so do the topics of the program. In the past, the program has addressed environmental issues, exploration of identity, and racism.

The New York Public Library has partnered with citizens to create several unique projects where citizens help curate and create information sources with the library. **The New York Space Time** project asks patrons to help place historical photographs and documents on maps to create a virtual time machine of New York City, making urban history accessible to all.

The New York Public Library's **Community Oral History transcript projects** asks patrons to

help polish machine created transcripts of oral interviews. There are other projects available as well that allow citizens to get involved with the library collections.

Atlanta Fulton Public Library works closely with the county and community to identify the needs of each library location as it transforms the libraries to meet specific needs. As each of their renovations project begin, they hold public meetings to ask for input, then a second set of meetings to reveal the plans created and ask for further feedback.

Lexington Public Library conducted interviews with elected officials and community leaders to ask what issues and trends they felt were most important. They held focus groups for board members and users, and conducted a survey to determine the top current and projected needs for their community and how the library can best respond to those needs.



CITIZEN ENGAGEMENT - COMMUNICATIONS

How public libraries communicate and interact with citizens is also part of their efforts to engage the community.

BUILDING BLOCKS

Many libraries have mailing lists, email lists and events listings.

They create flyers and have a web presence that announces what is happening in the library to draw citizens into the library.

GOOD PRACTICES

Many libraries are offering services that allow patrons to receive text messages about library happenings and items due back at the library.

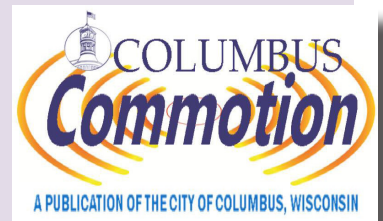
Many are also participating on social media like Facebook and Twitter for two-way communication to share what happens at the library, and as a way for citizens to share their thoughts with the library.



UNIQUE PRACTICES

At a time when many small news outlets have gone out of business, some libraries are filling a larger void in their communities.

The Columbus Public Library has formed a partnership with the recreation department and senior center to create the **Columbus Commotion**, a newsletter with events and activities throughout the community, which citizens are also able to contribute to.



Weare Public Library in New Hampshire started a newspaper called “**Weare in the World**” when the local newspaper closed down, helping keep community members up to date on what is happening in the town. It also accepts community member submissions for consideration.



PARTNERSHIPS

As some of the above dimensions already show, libraries are forming partnerships with businesses, individuals, other community cultural and anchor institutions, local and state level governments which allow them to provide new services and programming through funding and resources being allocated to the library.

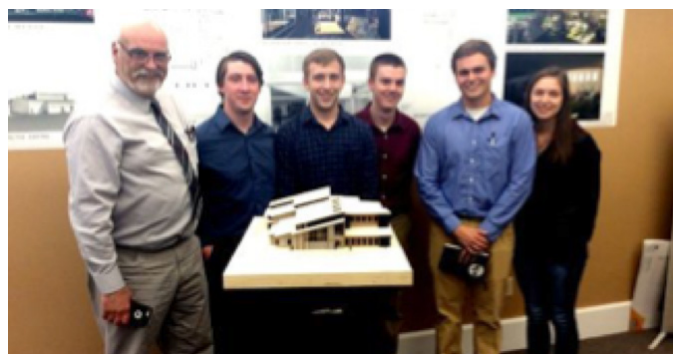
Most of these partnerships can be considered unique practices for they rely on the existing community organizations, which are different in every place.

That is why, Partnerships is the only dimension that does not differentiate between the building blocks, good practices, and unique practices: each partnership is different and it responds to the public library specific context.

The **Belgrade Community Library** partnered with **Montana State University** to engage architecture students and the community in the development of a library redesign.

The university students were able to apply what they were learning in their course to design a solution for a real world problem while giving community members the opportunity to provide their input as well.

The students were tasked with identifying the community needs and did so by holding focus groups, interviews, attending library events, and visiting other libraries to inform their designs.



Images from Belgrade Community Library.

The Columbus Public Library worked with business owners to create a main street reconstruction project that would allow businesses to attract more customers to their stores. They then worked with the local government to provide the ideas and resources to help bring about a community driven plan for change.

The Chicago Public library has formed strategic partnerships with a number of government and business partners to create programs to further the city's smart city plans.

In collaboration with LISC Chicago, The Smart Chicago Collaborative, and the City of Chicago's Department of Innovation and Technology, the library has helped create a plan to increase digital skills and access for all community members, including resident, businesses and non-profit organizations.

PARTNERSHIPS

They also received a grant from the Knight Foundation and Google to launch a **Wi-Fi hotspot program** that allows residents in low-income neighborhoods to borrow hot spots for three weeks to increase access to Internet services. Google Chicago provided 300 Finch Robots that adult patrons can borrow to learn basic computer programming, and the CyberNavigator program, sponsored by the Chicago Public Library Foundation has been noted as a national model for digital skills training.

With financial support from The Motorola Mobility Foundation as well as the Chicago Public Library Foundation, Chicago Public Library opened the first free makerspace in Chicago at the Harold Washington Library Center.

The **Maker Lab** offers access to technology like 3D printers, laser cutters, a vinyl cutter and a milling machine. The space offers workshops as well as open lab time for residents to engage in design and fabrication using hi-tech and low-tech materials.



INTEGRATIVE GOOD PRACTICES



Suggestions left by Hillsboro Public Library community members while the Collaboratory was being built.



Images provided by the Hillsboro Public Library.

The following practices can be considered integrative good practices for they integrate innovations in all or most of the above dimensions, boosting the potential of the library to play a catalyst role in a smart community.

Hillsboro Public Library created the **Collaboratory**, which is a makerspace open to users aged ten and over, that hosts open workshop time, classes, meetups, and certification sessions. The Collaboratory was created out of the library's "library of things" and was intended to provide an alternative to traditional library services in support of the library's mission to engage citizens in lifelong learning. During construction, the library asked for patrons' feedback in a number of ways, including surveys.

The space was also supported by city administration as well as staff in the library and the Friends of the Hillsboro Library. The results were a space that has extensive connections to the local maker community that represents the needs of the community, and is able to rely on extensive volunteer support from within the community.

San Francisco Public Library offers a teen created space in 2015 called **The Mix**, which is both a web space and a physical space in twenty-seven of its branch locations.

The Mix is staffed with a youth services librarian, and offers programs, events and resources focused on supporting 21st century skills development for youth ages 13-18. The Mix, which opened in 2015, was created as a collaborative effort between

INTEGRATIVE GOOD PRACTICES

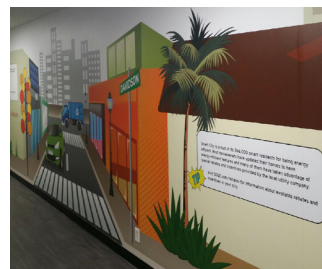
San Francisco Public Library, the Bay Area Video Coalition, the California Academy of Sciences and KQED. It was initially funded through a planning grant awarded by the Institute of Museum and Library Services and the MacArthur Foundation, with additional financial support from the Friends of the San Francisco Public Library.

The Mix offers a state of the art recording studio, makerspace equipment, digital media and books in a safe space for teens to read, study, spend time together and feel empowered to pursue their own interests.

The Mix is designed to serve as the hub of out-of-school learning in the Bay Area by engaging teens in technology literacy, critical thinking, skill building, and innovation.

The Mix has formed partnerships with a number of other community organizations that come to the library to run workshops and programs for youth. The design of the space as well as programming relies on input from a group of community teens.

Studio 270 at the Gail Borden Public Library is a teen space that opened in 2011. The library conducted focus groups of teens in the community who identified what they wanted to see in the space. The result was Studio 270 which was designed to be a place where teens would like to spend time, collaborate, create, have fun, and have access to technology.



Chula Vista Innovation Station and SDGE Smart City Education Center at Chula Vista. Images provided by Chula Vista Public Library.

INTEGRATIVE GOOD PRACTICES

In 2014, Studio 270 added a digital media lab equipped with audio and video equipment and software which was funded entirely by community donations. With input from stakeholders, as well as support from the wider community, the creation of this space has given teens in the community a voice.

Chula Vista Library has collaborated with the local school district, city government and local electric company to transform a hallway in the basement of their main branch into a **Smart City Education Center**. The center is designed to allow children to explore sustainability and renewable energy, one of the efforts of the Chula Vista Smart City plan.

In addition to the space, a curriculum was developed with the local school district, and children are able to explore activities, a mural, books, and other materials that engage them in making smart choices about clean and renewable energy.

Chula Vista Library has also partnered with the Chula Vista Elementary School District, government officials, Qualcomm, Microsoft, and others to create the **Innovation Station**, which is a makerspace inspired by Qualcomm's Thinkabit Lab.

The makerspace provides hands on learning experiences focused on STEM activities that encourage children to explore careers and workforce readiness.

Ignacio Community Library created a new space through its participation in the Small Libraries Create Smart Spaces program, sponsored by WebJunction. The program provided grant money, as well as training to help for small libraries create active learning spaces that met needs in the community.

The result of this year long project was the creation of **Idea Lab**, a compliment to the existing makerspace that has digital media to meet a variety of needs. From converting VHS tapes to digital formats to creating new media with video, digital imagery and graphic design, the space offers a variety of media materials.

The space also offers an online selling station, complete with dedicated computers, a scale and packing materials, as well as training and lessons to help community members sell items on sites like eBay and Amazon. The library intends to continue to develop Idea Lab as the needs of the community change.

Of special interest is the case of Chattanooga Public Library, which began a dramatic restructuring in 2011 in an effort to move the library in to the 21st century. One of the first United States public libraries to offer residents free access to gigabit internet, Chattanooga Public Library has worked hard to re-imagine and redesign the library and its services in the last decade.

INTEGRATIVE GOOD PRACTICES

The library reviewed emerging trends in public libraries, as well as the needs of the community as the space was transformed. At the forefront of the changes was the city's desire to be a center of innovation, but also the needs of the citizens themselves. **The 4th Floor**, created in 2013, is a 12,000 square foot public laboratory and educational facility.

The space offers events, equipment, meetings and programs focused on information, design, technology and applied arts. They have also created a similar space for Youth called **The 2nd Floor**, which focuses on allowing teens, tweens and children to work together.

The 2nd Floor space was created not only with youth in mind, but also with their input. Focus groups were held to determine what youth wanted to see in the space.

The Studio in Chattanooga is a state of the art recording studio in the Downtown Public Library Branch stocked with equipment and materials to encourage musical exploration. The space consists of three live rooms: a vocal booth, a drum room, and a main control room. It is designed as an educational facility.

The Chattanooga Public Library has also started the **Chattanooga Memory Project**, which is a way for citizens and companies to share their memories



Community members using The Studio at Chattanooga Public Library. Image from Chattanooga Public Library.

about Chattanooga, where it has been, and where it is headed. This kind of platform makes it easier for community members to feel like they are building something together.

Another partnership with the city government has led to the creation of an open data portal, where citizens can interact with data including crime statistics, budgets, planning, transportation, and other data sets created by the governments as well as citizens and other organizations.

CONCLUSIONS

Public libraries across the US are offering a wide range of services that are designed to educate and help make their communities smarter.

This report shows that, regardless of size, funding, geographic location, urban or rural, there are examples of all types of public libraries that are already playing a significant role in enabling smart communities and already act as a space for members of the community to come together to learn, communicate, and be active and engaged participants in their community.

In addition, the report indicates that public libraries are consciously working to become a third space; a place for learning in multiple domains and that provides resources in the form of both materials and active learning opportunities. In fact, libraries are helping to aid in workforce development, which in turn could help local economic growth.

The report includes several examples of how libraries are already contributing to community aspects that have been consistently related to smartness in academic literature and practical discourse.

Sustainability, engagement, economic development, and the use of new technologies are just a few of the aspects in which public libraries will potentially play a very important role as catalysts for smart community initiatives.

Taking all the identified innovations together, there seems to be a path for public libraries to keep evolving and become essential for a great variety of smart efforts. In fact, moving from providing technology to teaching citizens how to use it helps create a technology literate community, which could be the basis of new programs and services for all citizens and encourage a sense of community.

Yet, not every public library has to have highly sophisticated or unique practices in this respect. What is most important is understanding the needs of the community as well as identifying ways that the public library can help meet those needs, whether it is offering direct services and programs to the community or providing meeting space for others to come in and offer their programs and services.

The role of public libraries is changing and the potential for them to become essential to smart community initiatives is clear.

However, there could be many paths to achieve this and all of them could be equally appropriate, depending on specific circumstances, needs, resources, and capabilities in different communities.

ANNEX - TABLES

LIBRARIES EXAMINED

This table represents the libraries examined to identify best practices in public libraries, including their location, urban-centric locale code and population as identified by the IMLS PLS data set.

Library Name	Location	Locale Code	City Size/ Service Population
Atlanta Fulton Public Library System	Atlanta, GA	11	1,023,336
Aurora Public Library	Aurora, CO	11	344,637
Bibliotech (Bexar County Public Library)	San Antonio, TX	11	1,900,000
Boston Public Library	Boston, MA	11	645,966
Brooklyn Public Library	Brooklyn, NY	11	2,636,735
Chicago Public Library	Chicago, IL	11	2,695,598
Enoch Pratt Free Library	Baltimore, MD	11	637,418
Free Library of Philadelphia	Philadelphia, PA	11	1,526,006
Houston Public Library	Houston, TX	11	2,145,146
Lexington Public Library	Lexington, KY	11	301,569
New York Public Library	New York, NY	11	3,439,711
San Francisco Public Library	San Francisco, CA	11	845,602
Arlington Public Library	Arlington, VA	12	212,038
Chattanooga Public Library	Chattanooga, TN	12	170,136
Gail Borden Public Library District	Elgin, IL	12	144,597
Hartford Public Library	Hartford, CT	12	124,775
Chapel Hill Public Library	Chapel Hill, NC	13	57,757
Duluth Public Library	Duluth, MN	13	86,293
Hillsboro Public Library	Hillsboro, OR	13	137,282
Skokie Public Library	Skokie, IL	13	64,784
Baltimore County Public Library	Baltimore, MD	21	789,814
Barrington Area Library	Barrington, IL	21	44,157
Chula Vista Public Library	Chula Vista, CA	21	249,382
Westport Library	Westport, CT	21	26,391
Saratoga Springs Public Library	Saratoga Springs, NY	23	49,070
Columbus Public Library	Columbus, WI	32	8,961
Alpine Public Library	Alpine, TX	33	9,009
Belgrade Community Library	Belgrade, MT	33	12,960
Boundary County Public Library	Bonn timer Ferry, ID	33	10,808
Albert Wisner Public Library	Warwick, NY	41	23,647
Ignacio Community Library	Ignacio, CO	42	5,742

ANNEX - TABLES

URBAN-CENTRIC LOCALE CODE

The urban-centric locale code identifies the geographic location in terms of the proximity of that community to urban and metropolitan areas and the size of the community it is located in.

Locale Code	Definition
11	City, Large: Territory inside an urbanized area and inside a principal city with population of 250,000 or more.
12	City, Midsize: Territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000.
13	City, Small: Territory inside an urbanized area and inside a principal city with population less than 100,000.
21	Suburb, Large: Territory outside a principal city and inside an urbanized area with population of 250,000 or more.
22	Suburb, Midsize: Territory outside a principal city and inside an urbanized area with population less than 250,000 and greater than or equal to 100,000.
23	Suburb, Small: Territory outside a principal city and inside an urbanized area with population less than 100,000.
31	Town, Fringe: Territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area.
32	Town, Distant: Territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area.
33	Town, Remote: Territory inside an urban cluster that is more than 35 miles from an urbanized area.
41	Rural, Fringe: Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster.
42	Rural, Distant: Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster.
43	Rural, Remote: Census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster.

ANNEX - TABLES

TOTAL NUMBER OF PUBLIC LIBRARIES IN THE UNITED STATES BY LOCALE CODE IN 2015

As identified by the Institute of Museum and Library Services annual Public Library Survey

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	11–City, Large	75	.8	.8	.8
	12–City, Mid-size	118	1.3	1.3	2.1
	13–City, Small	314	3.4	3.4	5.5
	21–Suburb, Large	1893	20.5	20.5	25.9
	22–Suburb, Mid-size	258	2.8	2.8	28.7
	23–Suburb, Small	197	2.1	2.1	30.9
	31–Town, Fringe	507	5.5	5.5	36.3
	32–Town, Distant	1086	11.7	11.7	48.1
	33–Town, Remote	650	7.0	7.0	55.1
	41–Rural, Fringe	490	5.3	5.3	60.4
	42–Rural, Distant	2039	22.0	22.0	82.4
	43–Rural, Remote	1624	17.6	17.6	100.0
	Total	9251	100.0	100.0	

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