

ENABLING SMARTER COMMUNITIES:

*The Case of the
Saratoga Springs Public Library*



CTG

UNIVERSITY AT ALBANY
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Enabling Smarter Communities: The Case of the Saratoga Springs Public Library

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INTRODUCTION

This case is part of the IMLS funded project “Enabling Smart, Inclusive, and Connected Communities: The Role of Public Libraries.” For this project, the Center for Technology in Government (CTG UAlbany) and the American Library Association (ALA)’s Center for the Future of Libraries partnered to better understand how public libraries can advance their role as community anchors in smart city initiatives by contributing to the community’s understanding of and participation in such initiatives.

In addition to four in-depth case studies, the four-year project (2018-2021) included a literature and current practices review, which resulted in a current practices report, and two national surveys. The results from these three activities informed the creation of a policy guide and a toolbox with various resources. *The Opportunity Agenda and Roadmap Report*, as the policy guide, identifies areas of opportunity for public libraries to become strategic partners in the development of smarter, more inclusive and more connected cities and communities. The *Libraries in Smart Cities and Communities Toolbox* provides a set of resources for public libraries that seek to strengthen their role in developing a smart city/community.¹

About the Case Studies

During late 2018 and early 2019, the project research team conducted four in-depth case studies in Chattanooga, Tennessee; Chicago, Illinois; Ignacio, Colorado; and Saratoga Springs, New York. The four locations were originally identified in the research proposal to IMLS and picked to represent diversity in the size of the public library and the population it served as well as geographical location in the United States. In addition, the project team looked for public libraries that had some publicly documented involvement with smart city or smart community initiatives. Each of the four cases selected met these criteria.

For each location, the project team conducted on-site face-to-face interviews with individuals from the public library, local government and other stakeholders from the community. In most cases, the public library director or designee played a critical role in helping the project team identify interviewees.

Interviews for each case covered the following themes: 1) community context; 2) the library’s contribution to developing smart communities; 3) benefits of the program and services; 4) challenges and costs and actions to address them; and 5) main lessons learned. Then, the research team discussed important similarities and differences among the cases and overall insights. The results were used to inform the development of a national survey, the preliminary development of the toolbox and policy guide and four case study reports.

For this case study report it is important to note that the information included and the analyses made by the CTG research team are based on the individuals interviewed and the status of the

¹ All of the project’s resources available at <https://www.ctg.albany.edu/projects/imls2017/>

programs and services that the library provided during the timeframe of late 2018 through early 2019. Since that time, some of the individuals interviewed have changed jobs and a few public library programs and services have changed.

CASE BACKGROUND

CTG conducted interviews for this case study from October 2018 through February 2019 in Saratoga Springs. Below is a brief description of Saratoga Springs Public Library. We also describe the community context in which the library exists.

The Saratoga Springs Public Library

The Saratoga Springs Public Library (SSPL) was opened in 1995 and has a 58,626 square feet building. It is located on 1.92 acres in downtown Saratoga Springs, one block east of Broadway between Henry and Putnam Streets. The library is chartered to serve the residents of the Saratoga Springs Enlarged City School District (pop. 45,663). It is governed by a five-member board elected by district residents. Funds to operate the library come primarily from the school district property taxes, and district residents must vote upon increases in local tax support. It has 107 staff; 59 of them are full time (as of 2016). The SSPL's mission is to serve as a



source for information, inspiration, and entertainment, which sustains and enhances the quality of life in the community by providing access to resources and experiences to help all of their residents satisfy their curiosity about the world and participate fully in civil society.²

The Context

Saratoga Springs is a city in Saratoga County, New York, with a population of 49,070 (according to IMLS PLS data set). The city relies heavily on tourism as its main source of income during the summer season while the Saratoga Race Course meet is underway. Outside of downtown, the rest of the area served by the public library includes both suburban and rural locations. The library is a single-branch located in downtown Saratoga Springs, but serves a large and diverse geographical area that includes the Saratoga County towns of Milton, Wilton, Malta, Greenfield and Saratoga as well as the city of Saratoga Springs.

Saratoga Springs's Smart City Strategy

In February 2016, a Smart City Commission was created to help set Saratoga Springs on a path to becoming a smarter city. As a civic development group, among others, it includes people from the school district, the chamber of commerce, the city hall, and several academic education institutions.

² <https://www.sspl.org/about/>

Partnering with the New York State Technology Enterprise Corporate (NYSTEC), a nonprofit technology consulting company, the City of Saratoga Springs and the Smart City Commission kicked off the Smart City Project and established its vision for a smarter Saratoga Springs. The



project culminated with the publication of the **Smart City Roadmap 1.0**³, which introduces the smart city framework and lays out short- and long-term actionable strategies. There are five domains in the framework: 1) better public services, 2) connected community, 3) education and training, 4) environmental innovation, and 5) intelligent infrastructure. It's worth noting that, as one of the members of the Smart City Commission explained, the purpose of this group goes beyond bringing smart city/community investments to the City of Saratoga Springs. In our interviewee's words, "It really is a civic development group."

The Smart City Commission is made up of representatives from various community stakeholders, which includes the City of Saratoga Springs, Skidmore College, the Convention and Tourism Board, National Grid (electricity and gas utility company), Saratoga Springs City School District, Saratoga Hospital, and the Saratoga Springs Public Library (SSPL). The Roadmap defines SSPL as an information hub for the community that works to inform, inspire and entertain Saratoga Springs while narrowing the digital divide by providing public access to information and technology to the community.

Drawing on this project's *dimensions of smartness*⁴, the City of Saratoga Springs is working toward making its community smarter. The city does have a formal smart community plan that does two very important things. First, it identifies a set of clear goals organized by specific "domains" of the community that help focus its smart community investments. Second, it identifies and has at least initially brought together a set of key community stakeholders whose partnership and collaboration will prove to be critical in making investments in smart community technologies and other strategies that actually provide value to as many community members as possible.

For the *technology deployed throughout the community* dimension, the City of Saratoga Springs is in the early stages of providing community-wide access to broadband Internet. As described in the Smart City Roadmap, the commission detailed Broadband Strategy and Public WiFi initiatives under its Intelligent Infrastructure domain. The Broadband Strategy initiative focuses on two main areas: providing faster Internet to both commercial and residential stakeholders.

³ <http://www.saratoga-springs.org/DocumentCenter/View/5157/Smart-City-Roadmap-10?bidId=>

⁴ Technology deployed throughout the city/community, innovation (mainly technological innovation), community/stakeholder engagement in city/community matters, citizen participation/engagement in city/community matters, and impact.

For its Public WiFi initiative, the commission is focused on providing continuous broadband Internet coverage on Broadway (the main commercial and tourist popular street in the city), providing a secure wireless network for city applications, and providing an easy-to-access open network for public Internet access.⁵ In support of these initiatives, in the summer 2018, city officials signed a long-term (30 years) contract with a telecommunications company to design, install and maintain a fiber optic network, making it the first municipality to do so in New York State and “one of only a handful in the nation to embrace the technology to provide residents and businesses with lightning-fast Internet.”⁶ The plan is to provide the fiber optic network infrastructure throughout the entire Saratoga Springs community, so Internet service providers could then provide broadband Internet services to anyone in the community, including residents, government, businesses, non-profits, and other community stakeholders.

From the *innovation (mainly technological innovation)* dimension, the city is in the process of enabling access to broadband Internet throughout the community. When this capability comes to fruition, it will be an essential enabler of any of the smart community technologies the city and its partners would like to invest in, thereby helping Saratoga Springs achieve its short- and long-term actionable strategies as presented in the Smart City Roadmap. Currently, the Saratoga Springs Public Library is one location that any Saratoga Springs resident with a library card can access and use free high-speed broadband internet.

Community/stakeholder engagement in city/community matters in the City of Saratoga Springs has occurred for years. However, it has not been as comprehensive or focused as prescribed in the Smart City Roadmap 1.0. Community engagement and collaboration among key community stakeholders are critical ingredients to a sustainable, inclusive and meaningful smart community. The Roadmap 1.0 provides just that, a roadmap for bringing community organizations together in a formal and organized way to help address a range of important community challenges and opportunities. Translating the roadmap from paper to action is a critical next step for Saratoga Springs.

While *citizen participation/engagement in city/community matters* is a priority of the city government, there is less evidence supporting this dimension when it comes to engaging the public in the planning, design and implementation of smart city/community initiatives. This is one area that is ready for improvement, given the role the library (as well as other members of the commission such as the school district) plays in engaging with the public and serving as places to bring citizens and other community stakeholders together. Finally, as with all of our four cases the *impact* dimension is one that is the most difficult to assess. In general, cities and public libraries measure outputs but do not assess long-term impact. Yet, it seems that the programs and services of SSPL are making an impact in the community. In the following section

⁵ <http://www.saratoga-springs.org/2202/Smart-City-Roadmap-10> (pp. 63-67)

we describe some current efforts of the Saratoga Springs Public Library that contribute to the development of smart citizens, in particular, and a smart community, in general.

LIBRARY CONTRIBUTIONS TO DEVELOP A SMARTER COMMUNITY

Governments in the United States and beyond are investing in a wide range of technologies to make their communities smarter. However, smart communities are built by smart citizens. Smart citizens are aware of and have the opportunity to benefit from what technology has to offer. Further, they can contribute to smart city/community strategies and help build the city/community they live in.



Public libraries, while not necessarily realizing the direct link between programs and services and smarter communities, invest in and design programs and services that indeed help library patrons to become smart citizens by accessing, understanding, and purposefully using technology. In the case of the Saratoga Springs Public Library, the community stakeholders we interviewed identified a set of library programs and services as core to ensuring that all members of the Saratoga Springs community can benefit from the investments made as part of the Smart City Roadmap. The following programs and services are organized into three categories: *developing smart citizens*, *enabling citizen participation*, and *providing an innovation environment* (Gasco-Hernandez et al, 2021). We briefly explain these categories at the beginning of each section.

Developing Smart Citizens

This category refers to public libraries' digital inclusion and digital literacy efforts. First, it includes the Internet-enabled services that public libraries offer their communities. These services include free public access to broadband Internet, Internet-enabled computers, wireless Internet access (WiFi), e-books, wireless printers and more advanced technologies such as 3D printers and other development technologies (Mersand et al, 2019, IPAC, 2014a). In rural and low-income urban neighborhoods, this service is a particularly valuable lifeline for the community, because the lack of broad availability of these technologies in households (Alemagne et al., 2011; Goodman, 2014; Hildreth, 2012).

Second, developing smarter citizens can be enhanced through digital literacy programs and services, which in public libraries include offering training and assistance for patrons on how to effectively use a range of technologies such as computers, tablets, mobile devices, printers and the Internet. Public libraries provide a range of training, starting with basic computer skills, to

more advanced productivity and other software and applications that are commonly available and in use. In addition, public libraries offer community members the opportunity to schedule or drop-in to get help from a librarian on how to use a particular type of technology, computer software, or application (Gorichanaz & Turner, 2017; Jerkov et al, 2015; IPAC, 2014b).

Access to high-speed Internet

The library provides patrons with at least 40 public workstations connected to fiber-optic high-speed Internet. There's no impediment to anybody walking up and using it. The library is doing their part to “ensure that a smart city can develop by offering these services every day.” As mentioned above, the City of Saratoga Springs is working to bring high-speed Internet to all of its residents. However at this time, SSPL is the primary location that provides such access at no charge.

Computer training

The Saratoga Springs Public Library provides computer and digital literacy training at different levels at the library computer lab. This program receives substantial praise by the patrons. One-on-one consultation is also available. People either make an appointment or just come during the drop-in time to discuss their issues with the librarians. The most common topic is how to use personal devices, such as a smart phone or a Mac. Also, at what they consider the basic introductory course level, the library provides a class on *Internet Safety Basics and Fake News*.

Providing an Innovation Environment

The programs and services in this category demonstrate how public libraries serve as knowledge hubs and innovation environments where social gathering, interactive learning and creative production, including the development of entrepreneurship and civic innovation, take place (Leorke et al. 2018; Vilariño et al. 2018; Ylipulli and Luusua 2019). In addition, through these programs and services, public libraries offer their communities a safe and inclusive space where technology may be used to improve how citizens, businesses, and other groups engage and conduct business with government (Ayre and Craner 2017).



The Saratoga Springs Public Library offers several classes that fall into this category. These classes include job searching using the web, buying and selling items on eBay and Craigslist and a course titled Please Go Away! Travel Workshop. This class teaches patrons how to plan a vacation using various web-based resources. The library's trainer also teaches a call on how to

use the Internet and web-based resources to conduct genealogy. All of these offerings are considered at the intermediate level.⁷

Future Actions to Contribute to the Development of Smart Communities

The library will work on keeping up with technology and bring in new technology to better engage and serve patrons. For example, they would like to design a digital pin board to help patrons make requests. “If it's a 52-inch TV Billboard, I think they would enjoy that. I think it would be good for the community to be able to see different things more easily.” They are also considering bringing in augmented reality devices to provide a new way for patrons to overview the available resources at the library.

Besides technology, providing additional technological training is also on the plan for the library's future development. According to the Library Director, “I think as far as the smart cities continuing this place of being the hub for where the information is gathered and disseminated. I really do believe that simply providing access to the digital world is probably not enough without providing some direction for it as well. I think the main thing we need to do is to just maintain or keep up with the technology that people are using and to offer training on that technology... We should keep people aware of, you know, their options and how they can use them.”

BENEFITS OF THE PROGRAMS AND SERVICES

When asked if the Saratoga Springs Public Library was contributing to building a smart community, the response was consistent across all of the community stakeholders interviewed. Through the programs and services described above, SSPL is ensuring that all members of the



community—especially those who otherwise would not—have the ability to access, learn about, and use a wide range of technologies that today are and in the future will be integral to working, learning, entertainment, health, safety, and overall quality of life.

And perhaps as equally important as providing the services, the library goes out of its way to limit the barriers to access and use. As one library staff member noted, “We try to provide easy access to the technology that people would otherwise not have access to. The Wi-Fi that we use is open. There is no impediment to anybody walking up and using it. They don't have to ask for a password. We set up

⁷ Current listing of available computer classes available at <https://www.sspl.org/services/computers/training/courses/>.

our computers so it's easy to sit down and just use common tools that are offered in everyday life... One click and they have the program."

As the information hub for the community, the library works to inform, inspire and entertain the community while narrowing the digital divide and improve citizens' ability to utilize technology for solving their daily issues and make better decisions for their life.

Given the City of Saratoga Springs plan to invest in smart city/community initiatives, SSPL is in a very important position to help ensure that as many residents of the community can benefit from these investments. Based on the programs and services discussed above, SSPL is providing the community with access to and training on many of what can be considered common and often used office productivity and communication software and online shopping, job searching, and entertainment tools. All of these are critical in helping the Saratoga Springs community become smarter and closing any digital divides.

However, what is missing from the current programs and services at SSPL are those that provide access to and hands on training and experience with those next generation technologies that are most associated with smart city initiatives such as sensors, artificial intelligence, advanced manufacturing, cyber physical systems, robotics, etc. Fortunately, the Saratoga Springs Smart City Roadmap provides SSPL with a robust list of the different types of smart city related technologies that they could consider adding to current programs and services or help design new ones. The following section describes some of the challenges SSPL faces in being able to more closely align its program and services with Saratoga Springs' smart city plan.

CHALLENGES AND COSTS AND ACTIONS TO ADDRESS THEM

Budget and Costs

Like many other libraries, managing budgets is a big challenge due to the increasing cost of adding new programs and services while maintaining current and traditional ones. Faced with this challenge, the library has done a good job in securing more funding and cutting costs. The Friends of the Library helped expand the physical space, which generated more income to support the development of the library. They started an endowment fund at the community foundation for the greater capital region as a backup financial support for the library. In the meantime, they have been actively applying for funding and looking for specific staff to oversee grant writing and development.

As far as costs related to the programs and services described above, SSPL prioritizes privacy and security when it comes to software. As one library staff member stated, "There's definitely been a cost of doing business when it comes to security." As a result, the library needs to budget for more expensive options rather than free or less expensive products that may compromise the level of privacy and security the library values. The cost issue is not only

limited to software. Only in relation to technology, the library needs to buy or update hardware and train staff so they can deliver workshops and have one-on-one consultations.

Location

The parking space the library has is open to the public. Due to its closeness to the downtown area, there is often very limited parking space left for patrons, which makes it difficult for people to come to the library and take advantage of its resources. Considering the library services a population of approximately 46,000 residents, its downtown location with limited parking has become a physical obstacle that negatively affects the role of the library in providing access and engaging the community.

In order to address the space issues, the library has been exploring the outreach service in different formats, such as building a mobile library using vehicles to reach to some areas of the community and deliver books to people or offer drop box location for patrons, such as at the grocery store located in each community, so that they can get what they want from the library without going to the downtown branch. It will help alleviate the parking issues. "Part of the notion of sustainability for us is getting a vehicle where we can take the service to people." Figuring out strategies for providing library programs and services; especially those related to technology access, training, and use to the greater SSPL patron community will be critical to helping Saratoga truly become a smarter community.

Staff

The library has faced several staff issues. First, they do not want to burn people out. "They're still doing all the traditional collection development reference, all of that stuff, and then doing this other which uses a different part of the brain, but it's all about information delivery, but it's also about negotiating contracts and booking rooms and coming up with a creative idea." Also, staff is reluctant to change. "We got some traditional people here. I have taught them how to do things in a new way. But you still hear "you make me do that!!" Third, staff is getting older. In order to address this issue, the library is looking to bring more staff on board. "So, we really look for people, although we do try to hire complementary people. So, personality, if we've got somebody who's going to be super gregarious and big picture and maybe not so great with the details, we may want to hire somebody who might be detail-oriented or quiet worker bee who doesn't mind, you know, working a little bit in the background to make sure that everything, that things don't fall apart."

Program Development and Prioritization

Similar to many other libraries, SSPL struggles with finding the right balance between maintaining current and traditional programs and services and developing and implementing new ones. This challenge is exacerbated by mix of limited budgets, number of staff and staff expertise, and physical space restrictions. According to one librarian, "We are stuck with the space we have. We are limited to the physical items that we can have here or moving things

around. The makerspace is a good example. If we want to have a makerspace put here, we have to get rid of other programs and also the construction cost... always construction money.”

With these challenges and limitations, the library has been working on refining their method of program evaluation, instead of only looking at the number of participants in a program. They also consider the impact of the program for patrons. In the meantime, they are trying to take advantage of the currently available resources at the library and make patrons to better use them. “We had a 3D printer for a long time. But just a couple of months ago, we made it available to the public. That was initially for the computer class, people could learn to use the software and print something. But it’s not for public use. I was like, can we just put it out there and see how it works. Everything has a process, sometime the process is slow until they say today is the day.”

Building Partnerships

Building and maintaining partnerships with other organizations is frequently cited as a challenge. It does take a significant amount of staff time and repeated interactions to develop collaborations that do provide value to all organizations involved and more importantly the citizens they serve. According to SSPL, they only consider a partnership if everybody brings something to the table. Moreover, in the case of SSPL, that usually doesn’t involve money. However, the library will provide space for meetings and programs as well as library personnel to facilitate discussions. Another strategy the library employs through its strategic plan is setting a modest goal of partnering with at least one external partner a month to do a joint program. The library often far exceeds that goal.

Balancing Economic Development with Inclusion and Equity

The role that SSPL can play in helping ensure that investments in smart city strategies and technologies benefit all members of the Saratoga Springs community is both a challenge and an opportunity. As stated in the Saratoga Springs Smart City Roadmap, this is one of the key roles of SSPL and why they are represented on the commission. However, based on interviews, SSPL believes the city’s current smart city focus is weighted towards the business side of things. This includes the logical yet limited community wide impact of bringing high-speed Internet to the downtown area of the city. This area, centered on Broadway, is dominated by businesses and is a major draw for Saratoga Springs residents and tourists year round, but especially during the summer when the Saratoga Race Course is open. The SSPL library does not negate the value of doing that. However, there are almost 30,000 residents living off of those main streets that certainly will benefit from such investments as well.

Overall, according to the library staff interviewed, “I think the libraries place would be more of a watch dog to ensure that if the method of developing the smart city is to bring in business to the downtown and spur business that they’re not forgetting further down the road map that we need to engage the citizen to support the citizen.” The challenge then for SSPL is not letting this perceived business or commercial focus of the Smart City Commission deter their

involvement on the Commission or helping shape and implement the various smarty city initiatives. Rather, SSPL involvement should increase in order to help strike that necessary and most likely welcomed balance.

MAIN LESSONS LEARNED

As the information hub of the community, SSPL provides citizens with free access to technology and information. It also provides guidance to inform and educate citizens about how to utilize these resources and make them better adapt to the digital world.

The local government thinks the library has the potential to be the front and center to really adapt, grow and be at the heart of the community. Currently, the library effectively serves the community through traditional library services, including access to and training on and use of technology. One city leader emphasized, “I think everyone should be able to come together somewhere regardless of economic, class or skills to have access to tools and resources. I see the library is already playing that role.”

The library staff believes that they should be included in the planning of the smart city initiative, so that they can be aware of the plan and work accordingly to facilitate implementing the initiative. One librarian interviewed stated, “We need to continue being at the table [on the Smart City Commission]. Since we teach people how to use technology, sometimes we are at the forefront of some of the technology being discussed. And that can help in our efforts to close the gap for people who are not aware of or know how to use it.”

FINAL COMMENTS

The library has an opportunity to play a more active and deliberate role in the Smart City Commission. In particular, the library can provide a consistent voice in making sure the interests and needs of its diverse library patrons are represented and inform the commission’s decision making on smart city priorities and investments. In addition, in order to help the Saratoga Springs community become smarter, SSPL should invest in additional programs and services that do not only aim to make residents smart(er), but that encourage innovation in the community, through for example maker spaces and fab labs, which may result in encouraging entrepreneurship and promoting the local economy. Finally, in addition to investing in specific smart city/community related or programs and services, SSPL can collaborate with government, industry, and other stakeholders to host demonstrations, workshops and community meetings focused on some of the smart city technologies that the city is planning on purchasing and deploying in the community.

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