Five Lessons for Tech-Powered Civic Engagement

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Next Century Cities

Five Lessons for Tech-Powered Civic Engagement: The Charles Benton Next Generation Engagement Award Playbook

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Table of Contents

About Next Century Cities

Next Century Cities is a non-profit, non-partisan membership organization of more than 175 mayors and community leaders across the country seeking to ensure that everyone has fast, affordable, and reliable internet access. Innovative municipalities recognize the importance of leveraging gigabit-level internet to attract new businesses, create jobs, improve health care and education, bolster civic participation, and connect residents to new opportunities.

Next Century Cities is committed to celebrating communities' successes, demonstrating the value of next-generation broadband, and helping other cities work to realize the full power of truly high-speed, affordable, and accessible broadband. Joining Next Century Cities is free for all counties, cities, and towns.

To learn more about how Next Century Cities supports mayors and community leaders nationwide and to inquire about membership, please email info@nextcenturycities.org, or visit our website at www.nextcenturycities.org. Follow us on Twitter@NextCentCit.

The Charles Benton Next Generation Engagement Awards

Next Century Cities launched the inaugural Benton Awards in April 2016 to reward communities harnessing high-speed internet to enhance citizens' democratic participation and civic engagement. The three winning cities were announced in August 2016, and received $30,000 to implement or enhance their projects. The Charles Benton Next Generation Engagement Awards were primarily supported by the Democracy Fund with additional support from the Benton Foundation.

Honoring Charles Benton

The Next Generation Engagement Awards are named in honor of the late Charles Benton, Chairman of the Benton Foundation, devoted philanthropist, and visionary who believed in the importance of civic engagement and the power of new communications tools to improve people's lives. The Charles Benton Next Generation Engagement Awards honor his legacy by celebrating how innovations in technology and high-quality internet access can allow citizens to be better informed and more involved in civic life. Next Century Cities is pleased to celebrate his memory with awards that align so closely with his ideals and life's work.

Introduction

Municipalities across the country are increasingly using technology to ensure government is accessible and responsive to citizens, while simultaneously creating forward-looking programs to increase internet access so more residents can experience the benefits of connectivity. These initiatives can be used to create civic technology programs, which draw on the power of technology to promote digital inclusion and civic engagement.

The best civic-technology initiatives facilitate unprecedented levels of public involvement in community governance, narrow the digital divide, and improve communities. As a result, governance is more democratic and more individuals can enjoy the educational and economic benefits of internet access. Empowering citizens to make informed decisions and offer direction about who governs them – and how – is essential to improving our democracy.

In early 2016, Next Century Cities launched the Charles Benton Next Generation Engagement Awards to reward innovative thinking in civic technology. Following a competition that generated applications from across the country, three cities – Austin, Texas; Louisville, Kentucky; and Raleigh, North Carolina – were awarded seed grants in late 2016 to help launch innovative programs that would use high-speed broadband to improve civic engagement and democratic participation:

Ensuring access to both broadband and training can be a challenge for cities that plan civic engagement projects that leverage technology, but is necessary to safeguard that a broader base of constituent input and participation occurs. To address this challenge, cities have opened public computing centers, promoted digital skills trainings, collaborated with schools, libraries, and other community assets, offered free public Wi-Fi, and assisted participants to find low-cost internet service plans and technology for their homes.

1. **Austin's Smart Work, Learn, Play** began as a way to address the transportation needs of people living in low-income housing, and through gathering data, has transformed the manner in which the city calibrates its public transit routes to better meet the needs of its residents.

2. **Louisville's Gigabit Experience Center** brings high-speed Internet to West Louisville for the first time and through classes, interactive demonstrations and visiting experts, residents are given the opportunity to learn more about 21st century digital skills and opportunities.

3. **InVision Raleigh** is a web application that allows the public to see how proposed development would alter the city and invites greater engagement from the public in zoning decisions.

Over the course of the past year, Next Century Cities has researched existing projects, interviewed experts in the field, and worked with the three inaugural Charles Benton Next Generation Engagement Award winners to generate key takeaways and lessons learned that can be utilized by any city to successfully create and implement similar initiatives.

Executive Summary:
Engineering Success

Next Century Cities is a non-profit membership organization of more than 175 mayors and local elected officials from communities across the nation. The organization works daily with mayors, county representatives, and local leaders to ensure everyone has access to high-speed, reliable, and affordable broadband internet access. This connectivity is critical for residents to access education, job, and economic opportunities, as well as life-saving telemedicine resources. Broadband also provides a means by which citizens can engage with their community and city leaders through innovative civic technology.

Next Century Cities supports organizations that are taking steps in their communities to facilitate civic engagement through next-generation broadband and access to technology. This playbook showcases community initiatives – including the inaugural Charles Benton Next Generation Engagement Award winners – that exemplify best practices in civic engagement and digital inclusion, so that local government leaders and practitioners in the field can execute more effective programming.

Through local experience and research, Next Century Cities' has identified five key lessons that community leaders can employ as they leverage increased access and next-generation technology to expand civic engagement initiatives. Each lesson is explored in depth in the sections of this playbook:

1. Build With, Not For – Each community knows its own needs best, so during the project's initial phase, it is key to engage stakeholders across the impacted area – especially including the ones who are least often heard from. Early community engagement will mean project goals and scope are more likely to address real needs, increase participation, and promote success.

2. Partnerships Breed Results – Effective civic-technology projects break through silos by bringing together multiple government agencies and outside stakeholders in the private and non-profit sectors. Cross-sector collaboration brings expertise to the table and promotes buy-in.

3. Civic Technology is a Spectrum – Projects with different goals have different levels of participant engagement. Participatory-budgeting programs, for example, move decision-making power from the city government to the public. Other initiatives inform or engage the public without devolving decision-making to the people. A city's approach should match its goal; there is no one-size-fits-all approach to engaging citizens.

4. The Multiplier Effect – Effective civic-technology programs yield benefits far beyond their immediate goals. For example, successful digital inclusion programs yield a savvier public that can access online educational and job search resources.

5. Changing Communities for the Better – Well-executed, digital civic-engagement projects ensure citizens' voices are heard in new and interactive ways. This can lead to increased feelings of empowerment, and greater levels of ownership and attachment to the community. City leaders benefit from spending time listening to community members' needs and concerns and ensuring there are opportunities for them to engage in meaningful ways throughout the project.

1. Build With, Not For

Every civic-engagement program is designed to solve a problem. Historically, those initiatives have reflected problems as the civic leadership perceives them, not necessarily as they were perceived or prioritized by people in the community.

The "Build With" philosophy puts community residents first. Practitioner Laurenellen McCann is at the forefront of the movement to ensure civic technology programs are inclusive and reflect the needs of the communities they purport to serve. McCann's insights significantly shaped the launch of the Charles Benton Next Generation Engagement Awards.

> "How can we ever create systems that enable equity, that share power, if we don't practice what we preach in the creation of those systems?"
>
> Laurenellen McCann

McCann had been active in community organizing, open government, and civic technology for years when McCann noticed that technologists were eager to organize civic hackathons that brought together coders and participants who did not represent the community at large. As a consequence, these hackathons failed to result in lasting, city-wide benefits. Or as McCann put it, "I became convinced that we need to invest more in the 'civic' in civic tech."

McCann's subsequent work identified principles to guide inclusive civic technology.[1]

- **Start with people:** Integrate "real" people you aim to serve throughout your project.
- **Cater to context:** Be cognizant of how your programming is shaped by the community's existing political structure.
- **Respond to need:** Listen to a cross section of the community in prioritizing problems and designing solutions.
- **Build for best fit:** Civic technology should be calibrated to actual problems.
- **Prove it:** Continually gather data as a check on programming decisions, and be agile to change when the data calls for it.

The Benton Awards

Local governments are leading the way to implement innovative, forward-looking, civic-technology programs that narrow the digital divide and make cities more livable. But for all the impressive initiatives out there, many brilliant ideas never get off the ground for lack of resources. To help spur project implementation, Next Century Cities, with support from the Democracy Fund and Benton Foundation, launched the Charles Benton Next Generation Engagement Award. This competitive civic innovation prize invited cities to propose out-of-the-box solutions to local challenges and awarded winning cities $30,000 seed grants to launch their local civic-technology or digital-inclusion programs.

In August 2016, after an extensive review process, our team of expert judges chose three finalists: **Austin, Texas; Raleigh, North Carolina;** and **Louisville, Kentucky**. Next Century Cities staff worked with the cities to put the grant to work and get their programs up and running.

Austin, Texas: Smart Work, Learn, Play

In a few short years, Austin has become a startup hub, but rapid development has snarled traffic. The city faces many mobility issues, from bus delays and highway congestion, to disputes with major rideshare providers such as Uber and Lyft, which ultimately led the companies to leave the city. In light of these challenges, Austinites welcomed Mayor Steve Adler's declaration that 2016 would be the "year of mobility."

Meanwhile, staff at the Housing Authority of the City of Austin (HACA) began thinking about how to use technology to address the transportation needs of low-income housing residents, and thus Smart Work, Learn, Play was born.

Smart Work, Learn, Play recruits and trains housing authority residents to be "Mobility Ambassadors" and receive digital-skills training. In turn, the Ambassadors can teach other residents how to access online route planning software, as well as social services for residents. The Ambassadors also interview residents about how they use transit, which generates qualitative data points and compelling, personalized stories about depending on the city bus network. The initial proposal focused on a pair of public housing locations in Austin, and has since expanded to two additional public housing locations.

Smart Work, Learn, Play launch event at City Hall in Austin, Texas

In keeping with McCann's philosophy, applicant cities for the Next Generation Awards were not given a laundry list of problems the award would seek to solve. Rather, the application gave cities an opportunity to identify the issues their communities wanted to address. As a result, Next Century Cities received applications from all over the country, from cities large and small. The proposals ranged from internet-connected public art installations to applications to improve public safety in city parks.

Throughout the launch of the awards, application review process, and implementation of the three winners' initiatives, Next Century Cities acted as a resource to awardees – connecting them to information, tools, and peers as they sought technical assistance – while trusting that local knowledge is often the most useful asset to a project.

In order to be successful, project leaders must build trust in the communities they aim to serve. As the Philanthropy for Active Civic Engagement (PACE) notes in its Civic Engagement Primer,[2] "The values associated with fostering civic engagement are about trust and respecting how a community wants to take action for itself... not about forcing an agenda or an opinion on the community."

Step number one for any project should be to identify established, trusted leaders and organizations – such as faith-based organizations, schools, libraries, and neighborhood groups – and spend time building a relationship with them to better understand their needs.

This is a principle that Ed Blayney, Innovation Project Manager in the Louisville Metro Government, found to be particularly true during the design and implementation stages of the Gigabit Experience Center: "Building trust has been an essential component of making the Gigabit Experience Center a reality. Everyone sharing a vision on paper is one thing, but creating a shared vision is based on mutual trust. We built trust with our community partner by walking step-by-step with them on the journey, and by showing and listening more than dictating."

Austin's Smart Work, Learn, Play has had great success emphasizing the importance of involving community members early and often during the project in order to build trust.

"I like the chances that [Smart Work, Learn, Play] and others provide to give feedback…In my experience, [Housing Authority of the City of Austin] residents often don't feel like they can make a change where they live," Mobility Ambassador Felicia Vargas said. "But when they feel listened to and empowered it can change their whole perspective. Having more opportunities for our residents to provide feedback on available services and changes could help improve trust and reduce isolation."

Kansas City (MO) has also put these principles into practice through the creation of its Digital Equity Strategy Plan.[3] Before the plan was finalized and brought to the city council, the city held five community engagement meetings. These events allowed the plan's organizers to gain input and trust from members of the community in order to ensure that they were meeting real needs before legislating. The engagement provided crucial insight. Kansas City officials say they plan to hold at least two such meetings each year to ensure the needs of the community are continuously being met and that individuals know their voices are being heard by city leaders.

Successful civic-technology projects identify and address community needs and work to provide digital-access opportunities to ensure all residents can participate. For example, having a live stream of city council deliberations may result in having more people participate virtually, but only if residents have the necessary access and training, and trust that their voice is valued.

2. Partnerships Breed Results

Partnerships matter. With resources perennially scarce for municipalities, collaborations across agencies – as well as with outside non-profit organizations or local businesses – add valuable perspectives, generate buy-in, and may create an opportunity for in-kind support.

Austin's Smart Work, Learn, Play is a great example of the importance of community partnerships. The Housing Authority of the City of Austin (HACA), Mayor Steve Adler's office, and car2go and RideAustin (Austin-based ride sharing companies) have all partnered to address the city's mobility issues. The Mayor's office provides a venue for meetings and events; HACA trains housing authority residents to be "Mobility Ambassadors" and receive digital skills training; and car2go has provided additional capital to the program as well as company staff who accompany HACA residents on bus trips around the city in a "reverse mentor" program. These trips give car2go staff insight into residents' daily lives and provide the opportunity to learn firsthand from residents about their transportation needs. Each group brings its own expertise and resources to the program. As a result, the impact has far exceeded what could have been realized by any single group working alone.

In implementing Smart Work, Learn, Play, Austin officials learned that it is necessary to repeatedly try, refine, and tweak procedures to ensure constant improvement. Catherine Crago Blanton, Head of Strategic Initiatives and Resource Development at HACA, said, "I wish I had known how many times you have to start slow and small to go fast." Cities should remember that the devil is often in the details, and projects may need many iterations of work before they are ready to launch. However, each of these changes improves the overall project and will lead to a more successful and effective end result.

The need to refine projects over time necessitates that partners trust each other. Before progress can begin, organizations must be prepared to take the necessary time to build strong relationships with all business and community partners. Louisville recognized the importance of trust early in its project, and successfully emphasized this in its development plan.

The Gigabit Experience Center (GEC) has a strong partnership with the Louisville Central Community Center (LCCC), which is already integrated into – and trusted by – the residents of the Russell neighborhood where the GEC is located. This partnership allowed GEC's project leaders to more easily understand and address the needs of the community. The project leaders also benefited from the trust LCCC had garnered in the community, which allowed GEC's organizers to connect with residents more quickly and effectively.

Louisville project leaders were eager to collaborate with local partners, and found willing participants throughout the community.

> "Companies and businesses are excited to partner on projects like this. Many of them instantly realize the need for digital inclusion and collaborative spaces in challenged neighborhoods. In many ways, getting local support for the project was the easiest part of launching the Gigabit Experience Center."
>
> Ed Blayney, Innovation Project Manager, Louisville Metro Government

As with any local initiative, city leaders encountered a few obstacles. The city contracted with outside vendors to install gigabit-capable circuits in the Gigabit Experience Center, but some of that work was delayed. Subsequently, the opening of GEC was postponed. In the end, city staff worked through the vendor issues and the Center opened to the public in May 2017 in plenty of time for the summer Cyber Camp.

Collaboration needs a firm foundation on which to grow. Though this may create a longer lead time than organizers originally expect, it is time well spent. InVision Raleigh depended on the formation of productive relationships with individuals from several different organizations to

begin work, which led to initial difficulty meeting the proposed project timeline.

Resources always determine what is possible. Even when financial or in-kind support is available, outside factors may alter project direction. Practitioners should always be aware of the resources partners can bring and what stipulations may be attached to them.

InVision Raleigh's experience illustrates these constraints. Its application depended heavily on student coders who operate on an academic calendar. So even a short delay in allocating resources significantly impacted the project's operations. And, before work could begin, participants needed to spend time building relationships and coming to a common vision and understanding of project goals. While this added time to the project schedule, InVision was able to garner beneficial feedback and discover new opportunities, which led to a successful project with a wider scope of work.

> "I wish I had known the length of the transition time from the award of the grant to actually starting the project." Perver Baran, faculty member, Center for Geospatial Analytics, North Carolina State University

Partnerships can come in the form of singular private-public collaboration, a multitude of partners in each sector, or partnerships between city leaders and other public entities. A great example of multi-sector collaboration comes from Davidson (NC), where local resident Pat Millen founded Eliminate the Digital Divide[4] (E2D) in answer to a pair of questions his twelve-year-old daughter, Franny, posed:

1. How can all kids in our school do their homework and projects successfully if some of their families are too poor to own digital technology?
2. What are we going to do about it?

The Benton Awards

Louisville, Kentucky: Gigabit Experience Center

Louisville's Gigabit Experience Center[5] was designed to make gigabit-speed internet publicly available to West Louisville residents for the first time through an open-to-the-public, comprehensive, and immersive experience Center. The goal of the Gigabit Experience Center is to educate the public – particularly historically-underserved portions of the community – about the importance of high-speed internet access and to provide an opportunity for residents to build their digital skills. The Center provides digital skills training for adults, summer Cyber Camp to teach students to code, and a business incubator for online entrepreneurs.

West Louisville residents are given the opportunity to learn more about 21st century opportunities in their own community through immersive classes, interactive demonstrations, and visits from technology, academic, and business leaders.

The Gigabit Experience Center allows visitors to explore and create new possibilities with technology. The entire community is able to experience not only world-class internet speeds, but also how industries and entrepreneurs are using these resources to drive innovation.

The Gigabit Experience Center opened to the public in May 2017, and has already assisted dozens of residents.

Pictured left to right at the Gigabit Experience Center Launch: LCCC Coordinator of Fine Arts Erica Bledsaw, LCCC Volunteer Elmer Lucille Allen, Council Member Barbara Sexton-Smith, Mayor Greg Fischer, Colleen Perkins, Next Century Cities Executive Director Deb Socia, Chief of Civic Innovation for Louisville Metro Grace Simrall

These innocent questions narrowed the digital divide at one of the poorest high schools in neighboring Charlotte, and as a result, brought student in Davidson online.

Millen and his team began by refurbishing old equipment and installing modern software. They quickly realized that the demand exceeded their capacity to refurbish the laptops, so they built an additional computer lab, Re-Image Charlotte, in Charlotte's lowest-income high school. At Re-Image Charlotte, students apply their passion for computers by refurbishing donated equipment and installing the latest software "imaging" – an up-to-date operating

system and suite of software. What's more, they earn twice the local minimum wage in a community where good jobs are very hard to find.

E2D has been successful in large part due to Millen's ability to connect with stakeholders in the community and forge strong partnerships. He has worked with local businesses to facilitate the donation of hundreds of computers, with schools in the area to create computer labs on campus, and with national telecommunication services such as Sprint and AT&T to connect low-income students at home through hot spots and other services. MI-Connection, the municipal ISP in Davidson, was another major asset. Community and municipal broadband networks can prioritize public service over the bottom line, and MI-Connection served as a connector for low-income access. The provider waived installation fees and set the price of service at $14 per month for E2D families.
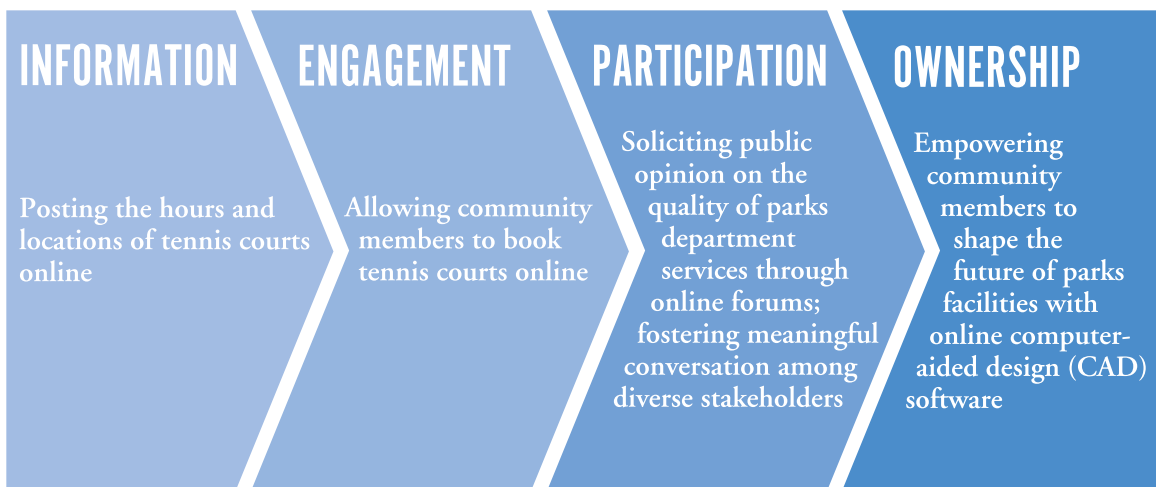
E2D's rapid success has garnered widespread acclaim. A 2015 Digital Inclusion Leadership Award from Next Century Cities and Google Fiber helped the organization forge even more partnerships, including one with Charlotte's NBA team, the Hornets. E2D shows just how much can be accomplished when projects partner with a wide variety of organizations and stakeholders.

In order to be successful, civic leaders should begin any project by identifying partners and building trust in the community. When multiple organizations work together toward a common goal, everyone wins. But these partnerships take time. There may be a variety of stakeholders, each with different requirements for project metrics, timelines, and implementation. Partners need to discuss each of these at length before beginning project work. Time spent building relationships and coordinating a project's rollout with other organizations and members of the community will improve the final result. Projects that involve many interested parties are better suited to plan for and address real need, and will be able to rely on committed partners to provide assistance and input when necessary.

3. Civic Technology is a Spectrum

Community leaders employ civic technology for a range of goals and unique community needs. Digitally-enhanced governance initiatives lie on a spectrum of engagement – from placing basic informational content about government services online, to empowering community members to shape the decisions made by locally-elected officials. Choosing the right strategy for a civic-technology project depends on the issues at hand, community need, and the local context. No two cities are the same, and so no two civic-engagement projects will be the same. Each city must determine what course of action best fits its needs and implement projects accordingly.

Consider, for example, an urban parks department that is using online tools to make its tennis courts more accessible:

INFORMATION	ENGAGEMENT	PARTICIPATION	OWNERSHIP
Posting the hours and locations of tennis courts online	Allowing community members to book tennis courts online	Soliciting public opinion on the quality of parks department services through online forums; fostering meaningful conversation among diverse stakeholders	Empowering community members to shape the future of parks facilities with online computer-aided design (CAD) software

Kansas City's (MO) initiative to live stream all community meetings[6] through Facebook Live falls on the Information end of the spectrum. Citizens can access public information without having to travel to the meetings. Kansas City also offers the opportunity for viewers to comment with questions or concerns, which moves them to Participation. On the Ownership end of the spectrum, some municipalities have utilized participatory budgets[7] in which a portion of the city budget is set aside for citizen allocation. Residents brainstorm spending ideas, develop proposals, and vote on initiatives that the city then implements. Civic technology provides a platform that allows individuals who may not be able to attend community meetings to engage and vote online. Whatever the goals of a community, connectivity can help local leaders draw on diverse tactics in implementing their civic-technology strategies.

Boston, Massachusetts provides an excellent example of a successful, participatory-budget program through Youth Lead the Change. Every year, Boston sets aside $1 million from the budget for young residents to allocate. City staff in the Division of Youth Engagement oversees the program as young people propose and vote on projects to address community issues. Any Boston resident 12-25 years old can participate – and there are online and offline opportunities to take part. Winning projects in the past include purchasing Chromebooks for students, upgrading playground facilities, creating street art installations, and conducting a feasibility study on a skate park.

> "Engaging youth through participatory budgeting brings new voices into our budget discussions, trains them to lead civic processes, and empowers them to make a difference in their city today. This leads to a richer democracy, a more-informed citizenry, and a better city for all."
>
> Chris Osgood, Boston Chief of Streets, Transportation & Sanitation

What makes Youth Lead the Change so special is that the city has devolved decision-making authority to Boston youth. Officials are not merely soliciting feedback from the public, they are empowering young people to determine local spending decisions.

When creating civic-technology projects, cities should remember that not all programs must or should be on the ownership side of the spectrum. Every city has specific needs and goals and must implement projects that address them best. There is no such thing as bad community engagement. It is often beneficial to start on the information end of the spectrum and continue building on successful initiatives to reach the ownership end of the spectrum.

4. The Multiplier Effect

When civic-technology projects are implemented successfully, they can have effects that reach far beyond their original goals. Once the foundation of a good project has been laid, participants can often find it easier to leverage additional funding, create new partnerships, and expand on original objectives. Cities can use their success stories and the testimonials of impacted residents to garner additional support and learn about the ways the city's work has affected project participants. These lessons can also be utilized to support the broadening reach of the project and to better address communities' needs.

In the past year, all three inaugural Charles Benton Next Generation Engagement Award winners have used their funding to bring in significant additional resources and extend the scope of their proposed projects. They are each an excellent model of how far-reaching the impacts of good civic technology programming can be when used as a launch pad.

Louisville's idea quickly took hold, leading to an influx of new donations and support. The Gigabit Experience Center played a major role in the Louisville Metro Government's successful bid for a $29.5 million U.S. Department of Housing and Urban Development (HUD) Choice Neighborhoods Initiative grant. The HUD grant will do much more than digital inclusion, but the Gigabit Experience Center helped demonstrate the local government's commitment to community revitalization in an economically-distressed part of town.

"The growth of Louisville's digital economy must be inclusive of all residents no matter their ZIP code — for the budding entrepreneurs and innovators of today and for the families of tomorrow," Louisville Mayor Greg Fischer said.

InVision Raleigh leveraged developer interest into a major in-kind contribution that will make the app more effective and widespread than initially thought possible. The engineering teams of JavaScript and ESRI — which develops the industry-leading ArcGIS mapping and data visualization application — were so impressed by InVision Raleigh's project that they flew the team to ESRI's prototype lab in Redlands (CA) for a weeklong hackathon to speed development of the app.

This visit included access to senior engineers to help bootstrap application development as well as opportunities to learn about capabilities and best practices. Additionally, Brooks Patrick, an account executive at ESRI, played an advisory role in the overall project. The infusion of in-kind support will add new features to the InVision Raleigh app so that users can submit comments on proposed buildings and suggest alternatives.

Austin's Smart Work, Learn, Play drew on compelling human-interest stories to bring in corporate sponsorships and public grants to grow the program. Austin's Transit Empowerment Fund awarded HACA an additional $50,000 to expand the program beyond its two initial housing units to serve residents across more neighborhoods in the city. Corporate sponsors, including Austin-based ride sharing companies, car2go and RideAustin, were so inspired by Smart Work, Learn, Play's early success that they each donated funds and resources to the program.

"When I joined the Mobility Ambassador program, I learned how to manage my schedule and time, and I learned new technology skills. In particular, I have learned how to use smartphones to plan trips and check bus times. I am now even confident enough to help others at the bus stop who ask me questions about how to get around."
Participant Hana Mohammad

Austin has also been successful helping program participants to build confidence when using technology as they learn how to navigate the public transit systems. These new skills will help individuals engage online not only when utilizing the Smart Work, Learn, Play app, but in their daily, digital lives.

Each of these projects provide a great model for other cities as they strategize how to expand the scope of their civic engagement projects. Raleigh offers a unique look at how to partner with national, private partners, while Austin did an excellent job utilizing resources and partners within the community. Louisville is a model for cities on how to integrate successful digital inclusion into an overall community-development plan with goals beyond civic-technology programming.

Tech Goes Home (TGH) in Boston (MA) provides another example of the ways in which a project's reach can far exceed its initial goals. Among other things, TGH helps Boston Public School students and their parents gain internet access and skills training in order to teach and encourage engagement with online learning resources. The program involves 15 hours of group training, during which parents and students learn to track grades and attendance online, create a professional email, and find web-based family resources. These foundational web skills have had life-changing effects on project participants.

"I am excited. TGH has done wonders for me, as I was a parent who completed it when it first came out here and because of TGH I am a co-founder/program administrator of a non-profit, school-age program and used all of my tech knowledge gained at TGH to elevate my skills, myself and my children. Now, as a trainer, I am helping my families do the same for their children. #FullCircle." Tech Goes Home graduate

These projects all emphasize the idea that successful civic engagement projects are a launch pad for innovation. These initiatives can be used to secure funding, build partnerships, and increase participate confidence and digital skills – all to the benefit of their communities.

5. Changing Communities for the Better

Civic technology has created new opportunities to engage. Across the country, civic-engagement projects have begun to tackle some of the biggest problems communities face. These projects can change and improve peoples' daily lives. Crago Blanton of Austin's Smart Work, Learn, Play found this to be particularly true during Mobility Ambassadors training. She quickly learned that involvement in local government could generate lasting change and generate a new level of citizen empowerment.

For example, take the story of Jan Morgan. Her daughter, Stephany, first introduced her to the Smart Work, Learn, Play program soon after its inception. Stephany is hearing-impaired and she found herself in an unfamiliar area of town after mistakenly boarding a bus in Austin. No one on the bus knew sign language, but Stephany was able to text her mother the bus number before her phone died. Jan then contacted the bus company and, using the cameras on the buses, officials located her daughter and got her safely home. After that, a Mobility Ambassador took the pair on a tour of the buses and trains, and went over their routes with them so that Stephany would feel comfortable travelling around the city on her own. Both Jan and her daughter now utilize the online route planning software to coordinate their daily travels. Jan plans to become a Mobility Ambassador herself.

"As a Mobility Ambassador, I'd teach people the ease of traveling around our great city using their phones, and how they can check the bus and train schedules from their phones. We've just slain the Beast, and the Beast's name is Fear." Jan Morgan

Jan was stunned to learn that she could influence bus route planning by visiting city hall to participate in public dialogue on transportation planning. Surprised by her newfound voice as a citizen, she told Crago Blanton, "No one has ever invited me to city hall."

Jan Morgan's story demonstrates that good civic technology can make cities more inclusive and their citizens more empowered. Smart Work, Learn, Play will empower more people to take part in their city's governance. Members of the public can serve on the Austin Transportation Bonding Board, which votes on transportation priorities. Crago Blanton hopes to get Mobility Ambassadors on the board in the future so that public housing residents, who know what daily bus riders need most from the transit network, can play a role in directing its future.

The Gigabit Experience Center opened in Louisville in May 2017, but it has already played a significant role in changing its neighborhood for the better. It has exposed residents of the area to new and exciting opportunities, and inspired many to learn more about emerging technologies and the possibilities it offers to engage within the larger community.

"In a digital economy, every individual has the same access to the world. Individuals can start a business from the Gigabit Experience Center and grow it globally. We hope this Center can close the digital divide and create new opportunities for entrepreneurs in West Louisville." Kevin Fields, President of the Louisville Central Community Center

Although InVision Raleigh is not yet publicly available, it is already having an impact. The Center for Geospatial Analytics hosted a demonstration of the InVision Raleigh tool, with the intention of receiving feedback from the City's Urban Design Center and the Comprehensive Planning Division. Participants were surveyed on the value, usefulness, and usability of the prototype, and its potential for future expansion. Respondents were unanimous in the sentiment that InVision Raleigh can help explore alternative design and planning scenarios, and communicate those scenarios to the public. Almost all felt that the app is very easy and intuitive to use.

The group also said that it is confident that a variety of users could benefit from this app — developers, citizens, city staff, and even ecologists were listed among the potential users. One respondent indicated that a continuum of planning uses are possible, with researchers, designers, and staff employing this app in some aspect of their work.

The Benton Awards

Raleigh, North Carolina:
InVision Raleigh

In the heart of the booming North Carolina Research Triangle, Raleigh consistently ranks among the fastest-growing cities in America. As a result, the city is constantly fielding requests for zoning variances, and with so many coders and engineers calling Raleigh home, the tech-savvy populace expects high-quality, e-government services.

The City of Raleigh designed InVision Raleigh in partnership with North Carolina State University. InVision Raleigh is a web application that allows the public to see how proposed developments would alter the city. The application can even model sunlight throughout the day to show how a proposed high-rise would cast shadows on its surroundings, including neighboring buildings or public areas. Visualizing changes to the cityscape allows for greater level of engagement from the public.

Jim Alberque and other city staff collaborated with North Carolina State University's Perver Baran and her team of student coders to scope out functional goals for the application. As initially conceived, InVision Raleigh was a purely informational civic technology application. However, the team quickly found their proposal was generating substantial interest from commercial software developers. As a result, InVision expanded the scope of the project to allow users to submit comments on proposed buildings and suggest alternatives.
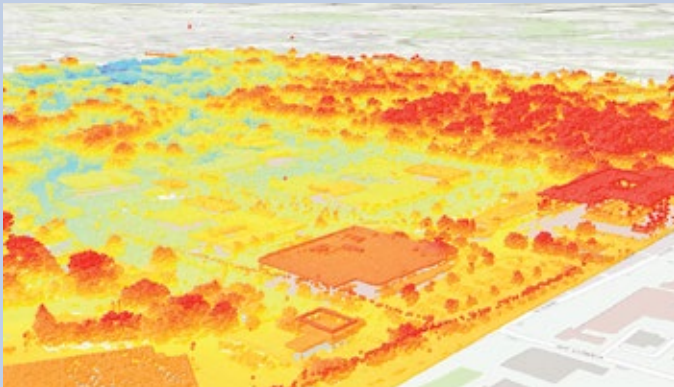
LiDAR point cloud data, pictured here, was used to automatically create 3d features such as buildings. Looking at the image you can see the straight edges of buildings as well as the rounded tree tops.

3D features were extracted from LiDAR Data to help create the 3D Basemap. This map became the foundation of the InVision Raleigh Application.
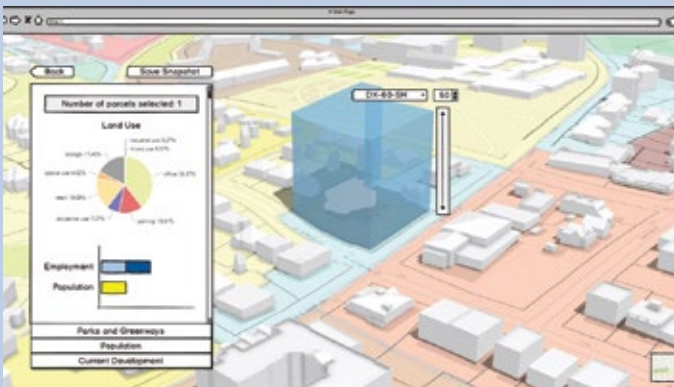
This illustration shows the early vision for the application. This image was created during InVIsion's visit to ESRI campus in Redlands, California and helped guide the development of the application.

The 'Explore Scenario' function of the application is pictured here. The sliders on the right hand side allow the user to change the size and shape of a building, as well as the allocation of spatial use (retail, office, residential).

"Based on our early results, the future of the PNC Gigabit Experience Center is bright. We expect that people from around Louisville will continue to come to the Russell Neighborhood to experience the future of technology in one of our most challenged neighborhoods, an accomplishment in itself beyond what goes on within the Center."

Ed Blayney, Innovation Project Manager, Louisville Metro Government

The Center for Geospatial Analytics hosted a demonstration of the InVision Raleigh tool, with the intention of receiving feedback from the City's Urban Design Center and the Comprehensive Planning Division. Participants were surveyed on the value, usefulness, and usability of the prototype, and its potential for future expansions. Respondents were unanimous in the sentiment that InVision Raleigh can help explore alternative design and planning scenarios, and communicating those scenarios to the public.

InVision Raleigh's project is unique. Not only will it impact the community where the project team is located, but it also has the potential to impact communities across the country. As mentioned above, the software development firm ESRI and JavaScript were so impressed by the project that the companies flew the InVision team to California in February 2017 for a two-day hackathon to speed development of the app. ESRI is now considering how it might develop similar apps with other cities. By creating a project that can be used effectively in both its own community and replicated in others, InVision Raleigh's impact could increase exponentially.

Other cities, such as Boston, San Leandro (CA), and Chicago have taken equally innovative and effective measures to foster civic engagement.

Civic technology creates a beneficial cycle because it can foster future projects and enable community participation. Projects successfully utilized in one community, can be replicated or adapted in others. Disabled citizens, elderly individuals, students, and low-income people who may have a difficult time travelling to city hall now have the opportunity to stream videos of live meetings, contact their representatives, and access vital resources online. Newly engaged and empowered, residents can speak up about problems they face and propose solutions.

Conclusion

Across the country, communities are implementing successful civic-technology projects that engage residents, address pressing issues, and result in increased civic participation. The inaugural Charles Benton Next Generation Engagement Award winners have accomplished a significant amount during their first year, and have been recognized in local and national media as visionaries at the vanguard of civic technology.

Though the projects each faced unique challenges, the award recipients have successfully implemented and grown their concepts, created meaningful partnerships with local leaders and corporate sponsors, and ensured that the needs of their communities were identified and addressed. As a result, the awardees exemplify best practices in digital inclusion and in fostering community engagement through technology.

Next Century Cities is committed to celebrating communities' successes, demonstrating the value of next-generation broadband, and helping other cities work to realize the full power of truly high-speed, affordable, and accessible broadband. The Five Lessons for Tech-Powered Civic Engagement strive to provide an inside look at the lessons learned through the organizations' work, and to add perspective on the successes and challenges of community projects as cities seek innovative, digital solutions to increase civic engagement.

Appendix: Civic Engagement Resources and Case Examples

If your city is interested in starting a civic technology project, there are many resources to help including the Next Century Cities website, Philanthropy for Active Civic Engagement's (PACE) Civic Engagement Primer,[8] and What Does Civic Engagement Look Like.[9]

Before beginning any civic technology project, be sure to first consult with your community. It is essential to engage the individuals you hope to serve from the very beginning of the project in order to build trust and partnerships, and to ensure the needs of the community are truly being met. You can also find inspiration and best practices from other cities that have implemented civic technology projects:

Albany, New York: Digital Democracy
Link: http://www.govtech.com/civic/Digital-Democracy-Brings-Legislative-Transparency-to-New-York.html
Digital Democracy launched in New York in February 2017, and connects advocates, journalists, and citizens to information about policy issues they care about through a specialized search engine. The online platform allows citizens to search for keywords as easily as they might on Google or YouTube in order to find video and transcripts of official hearings. Users can also quickly look up their elected officials' votes, speeches, positions, and affiliations in order to increase government accountability.

Boston, Massachusetts: City Hall to Go
Link: https://www.boston.gov/departments/city-hall-go
Boston stretches across nearly fifty square miles, and the city realized that, for many residents, travelling downtown to city hall is not feasible. Local leaders took inspiration from food trucks to create a program that brings city hall to convenient locations across the city. Residents can easily sign up for the truck to come to their neighborhood and, on the designated date, the truck and city personnel arrive to offer a select menu of services directly to residents.

San Leandro, California: Adopt A Drain
Link: https://www.linkedin.com/pulse/disaster-preparedness-community-resilience-san-bay-area-mclaughlin
In 2016, San Leandro won a $25,000 grant from City Services and Walmart to launch Adopt A Drain, a program that encourages residents to use an online portal to "adopt drains" in their neighborhoods, keeping them free of debris in times of bad weather. In the first few months, over 100 drains were adopted. As a result, residents cleared over 350 gallons of waste from the drains and prevented major flooding from occurring.

San Francisco, California: Startup in Residence Program
Link: https://startupinresidence.org
In San Francisco, Mayor Edwin Lee selected six startups to participate in the Startup in Residence Program, a voluntary, sixteen-week collaboration between private and public entities to create innovative solutions to civic problems. The six startups each worked with a different city department, including the police, public health, international airport, planning, municipal transportation, and emergency management departments. As a result, the startups launched mobile applications, notification systems, and platforms to assist in departmental planning and data analysis, all of which led to decreased operational costs for the city and increased benefits and opportunities to engage for residents.

Checklist: Leveraging Technology for Civic Engagement

- ○ **Get Community Input to Ensure You Are Meeting Real Need**
    - ○ **Consider reaching out to:**
        - ○ Anchor institutions
        - ○ Businesses
        - ○ Community-based organizations
        - ○ Faith-based organizations
        - ○ Philanthropic organizations
    - ○ **Identify a Problem Using Community Input**
        - ○ Create and implement a process to hear feedback from desired constituency
            - ○ What are the urgent problems?
            - ○ What ideas do you have to intervene?

- ○ **Determine Desired Outcomes**

- ○ **Pinpoint Appropriate Type of Solution on Engagement Spectrum**
    - ○ Information
    - ○ Engagement
    - ○ Participation
    - ○ Ownership

- ○ **Identify Appropriate Solution Strategy and the Role of Technology**

- ○ **Connect With Possible Partners and Work Collaboratively to Execute Solution**
    - ○ Private Sector
    - ○ Public Sector
    - ○ Philanthropy

- ○ **Determine Ways to Ensure Equitable Access to Technology Solution**
    - ○ Understand current level of access in underserved areas
    - ○ Seek opportunities to leverage project to improve access

- ○ **Set Realistic Timelines and Metrics for Success**
    - ○ Ensure sufficient time to build relationships
    - ○ Begin assessing opportunities to revisit metrics and revise approach as needed

- ○ **Consider Additional Ways Effort Can be Leveraged**
    - ○ Evaluate additional funding opportunities from seed funding
    - ○ Investigate ways in which solution can be applied to similar community concerns
    - ○ Seek opportunities to coordinate multiple existing resources to expand impact

- ○ **Revisit Your Metrics and Revise Approach as Necessary to Make Improvements or Adjust Expectations**

Endnotes

1   McCann, Laurenellen. "Experimental Modes of Civic Engagement in Civic Tech: Meeting People Where They Are." https://www.slideshare.net/smartchicago/experimental-modes-of-civic-engagement-in-civic-tech-meeting-people-where-they-are (Accessed July 20, 2017).

2   http://www.pacefunders.org/primer/

3   http://kcmo.gov/wp-content/uploads/2017/03/DigitalEquityStrategicPlan-FinalPublication.pdf

4   For more on E2D see "Guest Blog from Pat Millen, Founder of Eliminate the Digital Divide" Next Century Cities, Feb 6, 2017. http://www.nextcenturycities.org/2017/02/06/guest-blog-from-pat-millen-founder-of-eliminate-the-digital-divide-e2d/. (Accessed July 20, 2017)

5   For more on Louisville's Gigabit Experience Center see: Next Century Cities Louisville, Kentucky Opens Gigabit Experience Center (May 17, 2017). http://nextcenturycities.org/2017/05/17/louisville-kentucky-opens-gigabit-experience-center/.

6   Available at https://www.facebook.com/groups/1222247814485020/videos/. (Accessed July 20, 2017)

7   Participatory Budgeting Project. What is Participatory Budgeting? https://www.participatorybudgeting.org/what-is-pb/. (Accessed July 20, 2017)

8   www.pacefunders.org/primer/

9   www.pacefunders.org/wp-content/uploads/2017/04/Civic-E ment-Chart.pdf

BENTON