

WINTER 2021/2022

# 2021 Impact Report

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**NYC** Mayor's Office of the  
Chief Technology Officer

[nyc.gov/cto](https://nyc.gov/cto)

# Message from the CTO

In 2021, New Yorkers relied on technology unlike ever before. While COVID-19 vaccines made it possible for us to reconnect in many ways, we continued to use technology to ensure equitable access to work, school, and daily life. Here in the Mayor's Office of the Chief Technology Officer (aka "NYC CTO"), we are always exploring new ways to make sure technology serves New Yorkers.

With a focus on immediate needs, NYC CTO explored how technology can help ensure sufficient heat in the winter, provided young people with key mental health resources, connected communities of isolated older adults, and enabled evacuations in the face of potentially fatal flooding. We made it easier than ever to access government services, such as applying for affordable housing, finding and hiring M/WBEs, and securing essential business permits.

We also drove far-reaching transformation, directing the largest investment in closing the digital divide by any city in American history. Our innovative Internet Master Plan creatively leveraged 100,000 assets from 18 different City agencies and an unprecedented \$157 million investment in open-access broadband infrastructure to bring affordable broadband to hundreds of thousands of New Yorkers in the near term and millions in the medium term.

Finally, NYC CTO looked ahead to ensure that emerging technologies maximize benefits for New Yorkers and minimize harms. We centered the protection of digital rights as our original research produced New York City's first-ever strategies on Artificial Intelligence and the Internet of Things, which have since been recognized the world over.

Please review this *2021 Impact Report* to get a better feel for the work of NYC CTO. If you have questions or would like to engage with us directly, you can reach out at [cto@cto.nyc.gov](mailto:cto@cto.nyc.gov).

As we look ahead to 2022, the NYC CTO team is proud of the impact that we have had this year and optimistic for the future that together we can build for the Big Apple.

Sincerely,



John Paul Farmer  
*Chief Technology Officer,  
The City of New York*

# Our focus

NYC CTO aims to ensure that technology is inclusive, accessible, human-centered, and works for all New Yorkers.

Our work is organized around four pillars:



## Universal Broadband

Ensuring high-quality, affordable internet for all New Yorkers



## Digital Services

Delivering public services online to make government work better for everyone



## Inclusive Innovation

Making New York City the place where new ideas are creatively applied to improve lives



## Emerging Tech & Society

Advancing technologies, laws, rules, and plans that promote the public good and protect New Yorkers' digital rights

# Our team

Our diverse team of engineers, developers, policy makers, researchers, designers, innovators, and tinkerers does transformational work that improves the lives of millions.

Shown below is the team as of December, but the following former staff also made important contributions to the work of the office during 2021:

*Gary Johnson, Amie Dorman, Elyse Voegeli, and Mayo Nissen.*

We also want to thank the fellows, interns, and volunteers who joined our team:

*Adriana Lasso-Harrier, Anya Dunaif, Britney Johnson, Eliana Sherwood, Eric Corbett, PhD, Isabel Cancio Brum, Jessica Copi, Jose Buitrago, Kara Siegel, Malaysia Atwater, Marina Roos Guthmann, Marley Jacobson, Meg Young, PhD, Michelle Liu, Nick Sawhney, Saiful Islam, Sara Sacks, Steven Morse, and Sus Labowitz.*



**Aaron Meyerson**  
*Deputy CTO for  
Broadband*



**Alexis Wichowski, PhD**  
*Deputy CTO for  
Innovation; Director of  
Communications (Acting)*



**Anthony Sanford**  
*Assistant Director,  
Digital Inclusion*



**Ayesha Issadeen**  
*Innovation Design  
Coordinator*



**Justin Isaf Man**  
*Associate CTO for  
Digital Services*



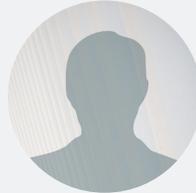
**Kate Hohman, PhD**  
*Director of Future  
Planning & Research*



**Katherine Benjamin**  
*Deputy CTO for  
Digital Services*



**Meghan McDermott**  
*Director, Digital  
Inclusion & Partnerships*



**Chad Wilson**  
*Assistant  
Director of Data*



**David Reid**  
*Technology Operations  
Manager*



**Devin Felton**  
*Project Manager*



**Donna Clohessy**  
*Executive Administrator*



**Melissa Quirk**  
*Chief of Staff (Acting);  
Director, Policy &  
Intergovernmental Affairs*



**Neal Parikh, PhD**  
*Director of AI*



**Oscar Romero**  
*Director of Inclusive  
Innovation &  
International Cooperation*



**Paul Rothman**  
*Director, IoT +  
Smart Cities Lab*



**James Manfre**  
*Broadband Asset  
Coordinator*



**Jen Noborikawa**  
*Director of Moonshots  
(Acting); Senior Innovation  
Advisor*



**John Paul Farmer**  
*Chief Technology Officer*



**Joseph Goodman**  
*Director of Data*



**Priya Shrinivasan**  
*Director of Policy, Standards  
& Legal Affairs*



**Rapi Castillo**  
*Assistant Director of  
Engineering & Lead Web  
Developer*



**Shanna Crumley**  
*Senior Innovation Advisor*



**William A. Brown**  
*Director of Broadband  
Technology*

# Making New York City Future-Ready

Throughout 2021, NYC CTO produced numerous strategies, programs, and products that advance the City's work in areas ranging from artificial intelligence to smart cities to digital rights.

[PHOTO ▶ Ayesha Issadeen/NYC CTO]



## NYC AI Strategy

*Pioneering the responsible use of artificial intelligence*

New York City's award-winning and widely-praised Artificial Intelligence Strategy was developed by NYC CTO through consultation with over 50 organizations inside and outside of government, producing a new foundation to foster an AI ecosystem in the Big Apple that helps people thrive. The document establishes a baseline understanding of AI, outlines key components and characteristics of the local AI ecosystem today, and frames a set of opportunities for City action around data infrastructure, skills and capacity, application of AI, cross-sector partnerships, and digital rights.

For more information, see

[nyc.gov/assets/cto/#/project/ai-strategy](https://nyc.gov/assets/cto/#/project/ai-strategy)



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This is a major step forward in cities establishing how to effectively and responsibly use AI to support delivering critical services. This will lay the roadmap for innovation in NYC and all cities going forward.

**DJ PATIL**

FORMER CHIEF DATA SCIENTIST OF THE UNITED STATES

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NYC's first AI Strategy is an important step towards building a technical and social architecture in which anyone can make it here, because that's New York, New York.

**MUTALE NKONDE**

FOUNDER & CEO, AI FOR THE PEOPLE

## Small Business Cybersecurity

*Effective ways for small businesses to enhance their cybersecurity*

In collaboration with Cyber Command and the Department of Small Business Services, NYC CTO produced a simple and actionable set of steps that any small business can take to make their data, business, employees, and customers more trusted. Whether a business has just one employee or one hundred, its approach to cybersecurity can follow the secure format of the U.S. Government and leading Fortune 500 companies: Identify; Protect; Detect; Respond; Recover.

For more information, see

[nyc.gov/assets/cto/#/project/cybersecurity-guidelines-for-small-businesses](https://nyc.gov/assets/cto/#/project/cybersecurity-guidelines-for-small-businesses)



## NYC IoT Strategy Progress

*Advancing a healthy, cross-sector Internet of Things ecosystem*

The City's IoT initiatives and collaborations took off following the release of the award-winning New York City Internet of Things Strategy. In 2021, NYC CTO delivered measurable progress on the IoT Strategy's five goals: foster innovation; promote data sharing and transparency; improve governance and coordination; derive value from cross-sector partnerships; and engage with industry and advocate for communities. The piloting of the City-academic partnership of FloodNet, founding of the Smart City Collaborative to foster cross-agency collaboration, launch of the Rapid IoT fellows, development of an IoT device inventory, and acceleration of public outreach and engagement.

This is how a city constructs a healthy, cross-sector IoT ecosystem – one that is productive, responsible, and future-ready.

For more information, see

[nyc.gov/assets/cto/#/project/iot-strategy](https://nyc.gov/assets/cto/#/project/iot-strategy)



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In a world increasingly shaped by technology and algorithms, NYC's IoT Strategy offers crucial, actionable guidance for cities around the world, and an approach to IoT & smart city projects that puts residents first.

**PETER BIHR**

**CO-FOUNDER OF THINGSCON AND THE BERLIN INSTITUTE FOR SMART CITIES AND CIVIL RIGHTS**

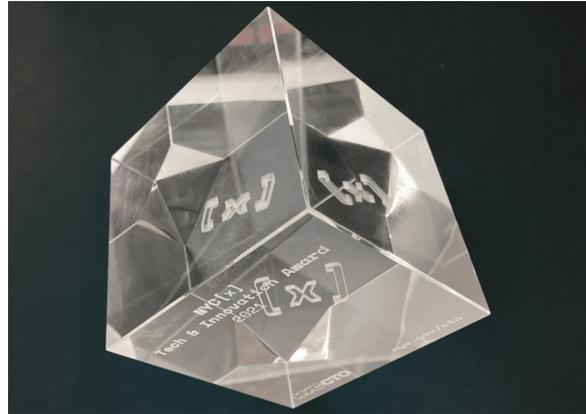
## NYC[x] Tech + Innovation Awards

*Recognizing forward-thinking civil servants and groundbreaking innovations in City government*

Innovation in government takes many forms: from creative uses of limited resources to novel approaches to long-standing problems to fresh thinking applied to bureaucratic challenges, and many things in between.

Inaugural awardees included an AI-powered routing application for snow removal (Department of Sanitation), an automated billing anomaly detection program that saved the City more than \$4 million (Department of Citywide Administrative Services), and the City's first public-facing COVID vaccination dashboards, built with a user-centered approach to make robust public health information widely accessible (Department of Health and Mental Hygiene).

For more information, see [nyc.gov/assets/cto/#/project/nycx-awards](https://nyc.gov/assets/cto/#/project/nycx-awards)



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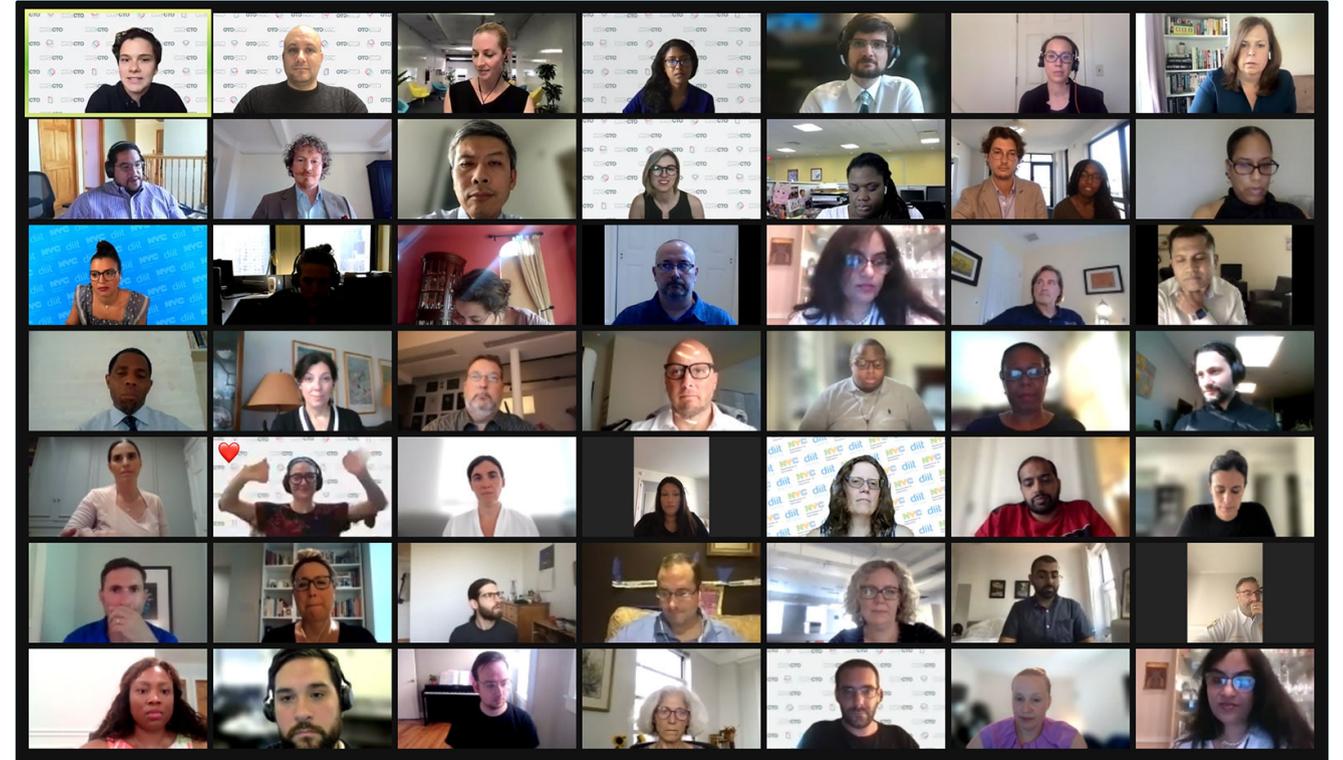
INDIVIDUALS NOMINATED FOR AWARDS

20

AGENCIES & DEPARTMENTS REPRESENTED

8

AWARDS GRANTED



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Though no one on our team started working for the City or on this project expecting public commendation, we are proud to think that our work might in a small way improve the ability of our Department to serve the eight and a half million people who rely on its operations.

**RUTO PROJECT TEAM**  
NYC DEPARTMENT OF SANITATION

# Accelerating Broadband for All

Broadband is essential, yet unaffordable for too many New Yorkers. Through the NYC Internet Master Plan, the City is delivering immediate connectivity, lowering monthly service costs, and transforming the broadband marketplace to empower people with a foundational digital right: the ability to get online.

[PHOTO ►] Mika Baumeister



## NYC Internet Master Plan

*A history-making approach to enhance broadband connectivity and drive racial and social equity*

New York City made history with its world-renowned Internet Master Plan, a roadmap to achieve affordable broadband for all, delivering the largest investment ever by an American city – \$157 million – to build new, publicly owned, open-access broadband infrastructure. New York City sourced more than 100,000 real-estate assets to host the equipment necessary for new affordable networks to operate in underserved neighborhoods. These investments reversed digital redlining, engaged minority- and women-owned business enterprises (M/WBEs) in the economic growth of the industry, and incentivized companies to provide newly affordable high-quality internet service options.

During the next three years, 1.6 million New Yorkers will benefit from new broadband infrastructure built in under-connected neighborhoods, 250,000 residents will have new affordable service options by early 2022, and 11 new vendors – half of them minority and women led businesses – will change the face of the city’s broadband marketplace, creating true competition and lowering prices for New York City residents and businesses.

For more information, see  
[nyc.gov/assets/cto/#/project/internet-master-plan](https://nyc.gov/assets/cto/#/project/internet-master-plan)



**1.6M**

NEW YORKERS WILL BENEFIT FROM NEWLY BUILT BROADBAND INFRASTRUCTURE 2021-2024

**250,000**

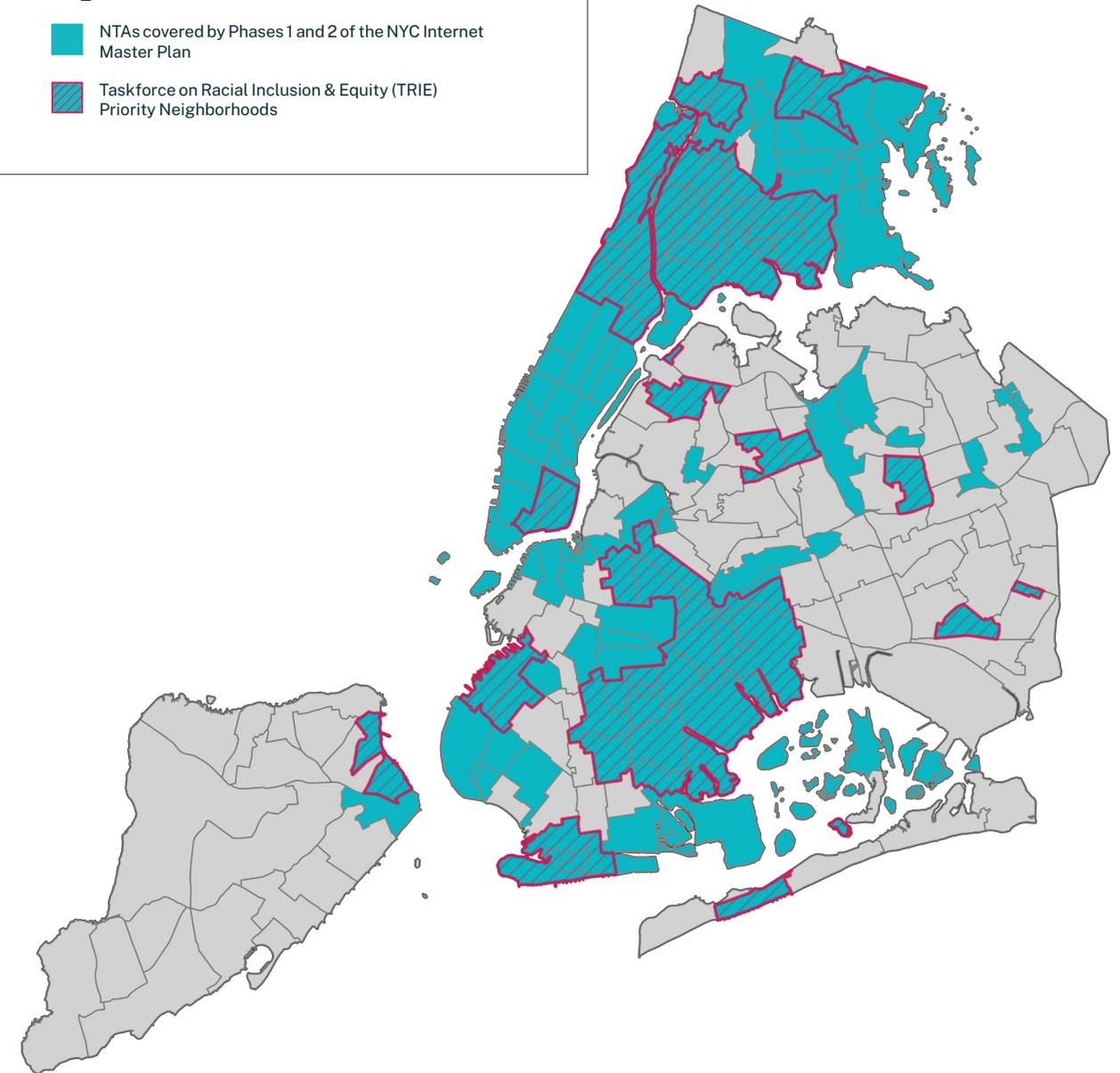
RESIDENTS WILL HAVE NEW AFFORDABLE SERVICE OPTIONS IN 2022

**108**

NO. OF NEIGHBORHOOD TABULATION AREAS RECEIVING INVESTMENT

### NYC Broadband Investments by Neighborhood Tabulation Area (NTA)

- NTAs covered by Phases 1 and 2 of the NYC Internet Master Plan
- Taskforce on Racial Inclusion & Equity (TRIE) Priority Neighborhoods



## Digital Inclusion

*Making the most of the nation's largest network of public computer centers*

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NYC CTO's Connected Communities initiative funded public computer centers city-wide, supporting expanded virtual digital inclusion programs as well as the return of in-person programming. Through partnerships with agencies including Parks, the New York City Housing Authority, and the Department for the Aging, as well as all three of the Big Apple's public library systems, Connected Communities delivered thousands of hours of programming to millions of New Yorkers. Examples include the operation of digital vans, which function as mobile computer labs and hotspots for under-connected residents of public housing, as well as hands-on digital learning opportunities ranging from 3D design and software certifications to digital safety and security skills offered through New York City's annual Library Privacy Week.

For more information, see

[nyc.gov/assets/cto/#/project/digital-inclusion-initiatives](https://nyc.gov/assets/cto/#/project/digital-inclusion-initiatives)



## Emergency Broadband Benefit

*Helping eligible New Yorkers reduce their monthly broadband bills*

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NYC CTO helped New Yorkers reduce their current internet service costs, access new service at reduced rates, and receive discounted devices by connecting them to the Federal Communications Commission's Emergency Broadband Benefit (EBB). By coordinating multi-agency promotion of the EBB, NYC CTO helped reach millions of eligible residents, including nearly 1.1 million public school students through backpack letters organized by the NYC Department of Education. New Yorkers in 39 under-connected neighborhoods learned about the EBB through a targeted public awareness campaign with the Mayor's Office of Public Engagement. So far, more than 300,000 under-connected and cost-burdened New Yorkers have gained new subsidies that make their broadband service free.

## Queensbridge Connected

*Delivering free broadband to North America's largest housing development*

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New York City celebrated the fifth anniversary of Queensbridge Connected, the award-winning program that brought free high-speed Wi-Fi to the nation's largest public housing complex and proved that cost is indeed the primary barrier to equitable connectivity. On a daily basis, Queensbridge saw more than seven terabytes of data used by more than 4,000 individual users. Every month, more data flows through Queensbridge Connected than the Hubble Space Telescope processes annually. Information is power and Queensbridge Connected models the just how impactful affordable broadband can be.

For more information, see

[nyc.gov/assets/cto/#/project/queensbridge-connected](https://nyc.gov/assets/cto/#/project/queensbridge-connected)



## Broadband Asset Repository

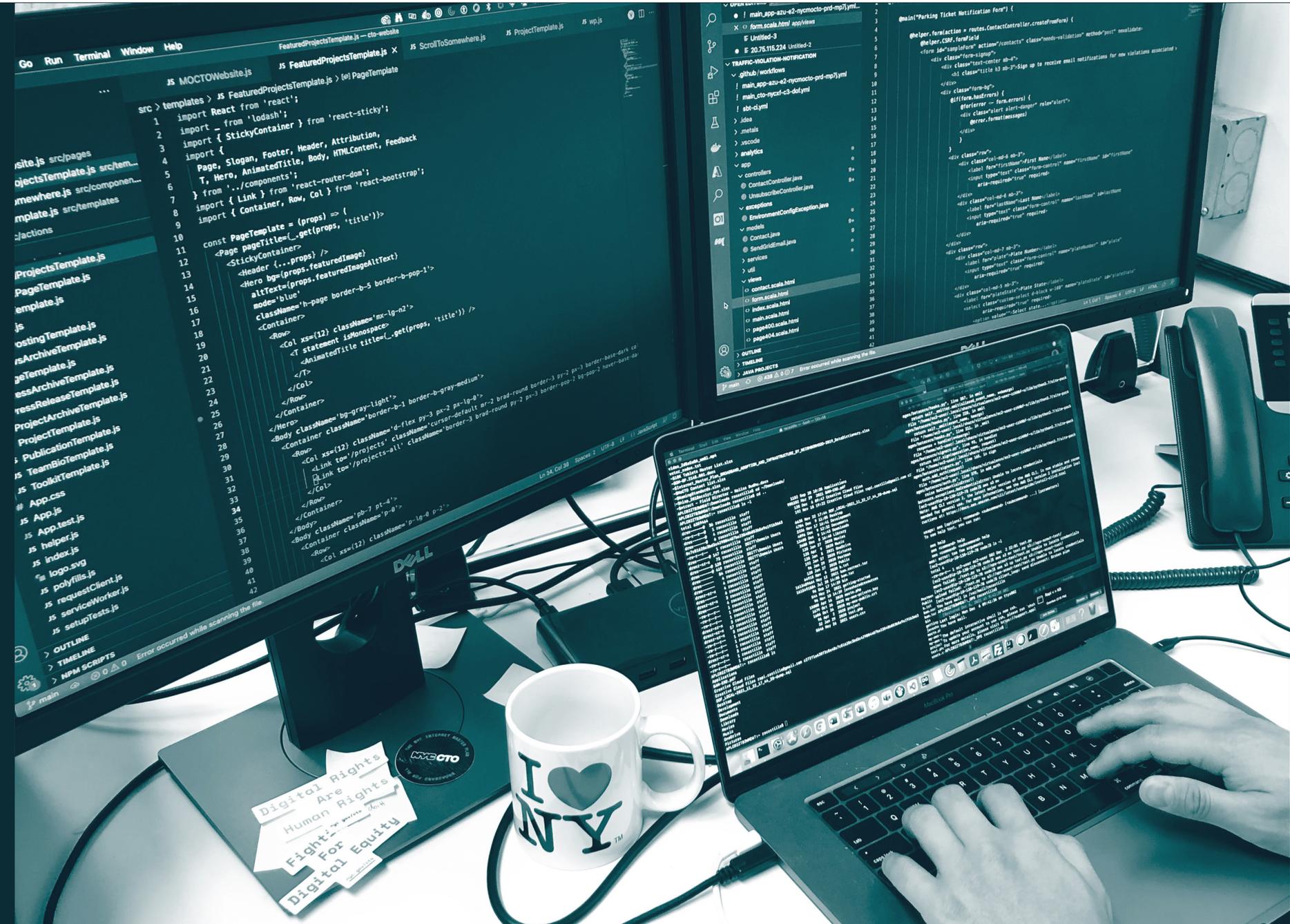
*First-ever comprehensive citywide asset inventory*

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NYC CTO aggregated over 100,000 real-estate assets from 18 different agencies, creating the first-ever comprehensive catalog of City-related assets and making them publicly available. These assets are now being used in novel and innovative ways through the Internet Master Plan to expand affordable broadband for all New Yorkers.

# Modernizing Digital Services

In the 21st century, if the technology doesn't work then the policy doesn't work. With the launch of the NYC Digital Service, New York City is demonstrating how digital-era technologists can build simpler, faster, better government.



[PHOTO ►] Ayesha Issadeen/NYC CTO

## NYC[x] Innovation Fellows

*Embedding digital talent in government agencies*

NYC CTO launched the second and third rounds of its award-winning NYC[x] Innovation Fellows program, embedding three-to-six-person technologist teams in City agencies to rapidly solve specific challenges through the use of lean, agile, and user-centered methodologies. The goals: produce a usable technology product that provides immediate value to agencies to better serve residents and businesses; demonstrate cutting-edge digital practices from the private sector; produce cost-savings through new approaches; provide hands-on experience in solving critical challenges for the largest municipal government in the United States. The outcome: six transformative products already providing real and lasting benefits for millions of New Yorkers.

For more information, see

[nyc.gov/assets/cto/#/project/nyc-x-innovation-fellows](https://nyc.gov/assets/cto/#/project/nyc-x-innovation-fellows)



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NYC[X] INNOVATION FELLOWS IN 2021

\$1M+

IN COST-AVOIDANCE FOR CITY AGENCIES

\$1.9M

IN ANNUAL SAVINGS TO NEW YORKERS' TIME THROUGH FASTER, EASIER ACCESS TO SERVICES

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The NYC[x] Innovation Fellows demos were the most impressive product demos I've seen all year. Genuinely jaw-dropping tech work and really thoughtful design and research.

SEAN BOOTS

LEADING CANADIAN TECHNOLOGIST WITH OTTAWA CIVIC TECH

## M/WBE Directory

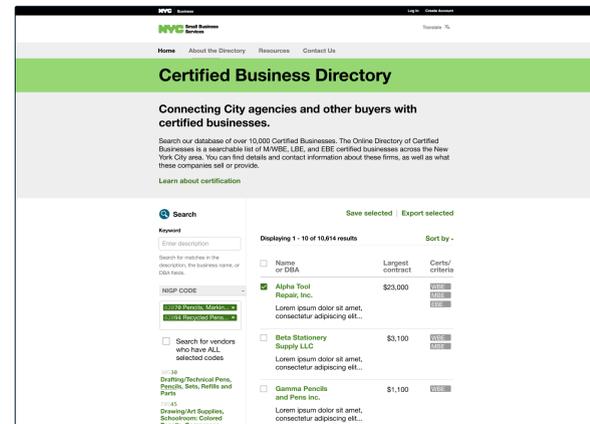
*Using design to improve uptake of M/WBE vendors for City contracts*

Fostered business opportunities for minority- and women-owned business enterprises (M/WBEs) by improving a user-centered, online directory for public-sector and private-sector parties interested in contracting with M/WBEs.

**Partner:** Department of Small Business Services, Office of Minority and Women-Owned Business Enterprises

**Project Champion:** Asma Tahiri-Guerrab

**NYC[x]IF:** Joan Liu, Nick Di Stefano, Tyler Matteo, Vicki Niu, Craig Dermody



## CityPay Portal

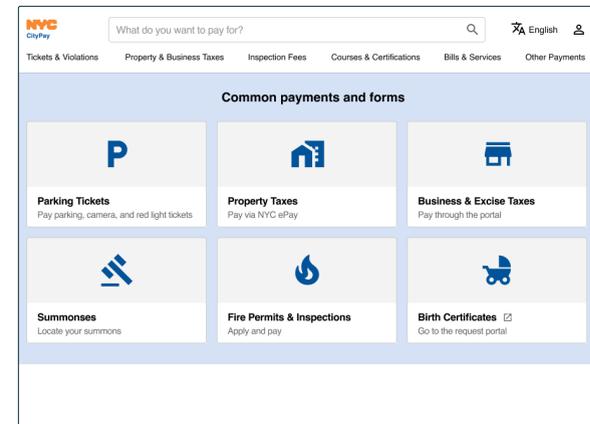
*Improving the user experience of high-traffic CityPay website*

Iteratively improved the online experience on one of New York City’s most heavily used digital assets: CityPay, which processes over \$21 billion in revenues each year, benefited from user research, design interventions, and a new automated dashboard.

**Partner:** Department of Finance

**Project Champion:** Eusebio Formoso

**NYC[x]IF:** Nilofer Rajpurkar, Hasan Hachem, Melody Quintana, Andrew Cheung, Alex Mendez



## Service Finder for Older Adults

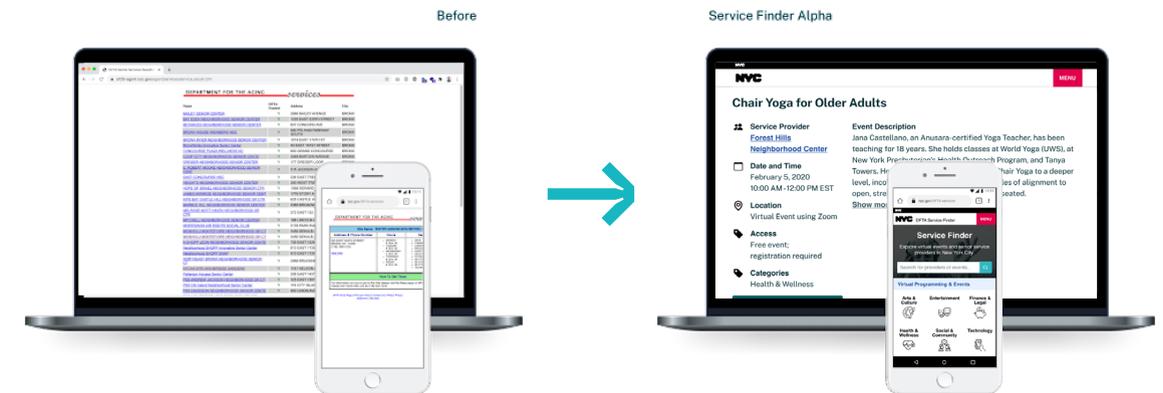
*Creating a modern unified search tool for services*

Designed a service locator to help older New Yorkers find service providers for seniors and then explore virtual programming and events.

**Partner:** Department for the Aging

**Project Champion:** Michael Bosnick

**NYC[x]IF:** Ezra Kurtz, Imani Nichols, Jia Liu, Joey Caffrey, Ethan Lo



## FDNY Emergency Supply Drones

*Piloting a search, request, and track tool for drone-based delivery*

With the Fire Department of New York’s robotics unit, prototyped an end-to-end “search, request, and track” service for drone delivery of crisis response supplies – such as blood – for emergency responders.

**Partner:** Fire Department of New York, Robotics Division

**Project Champion:** Captain Michael N. Leo  
 NYC[x]IF: Tyler Green, Gabe Paley, Nikki Sylianteng, Keyaira S. Wright, Ruhul Patni, Hannah Squier



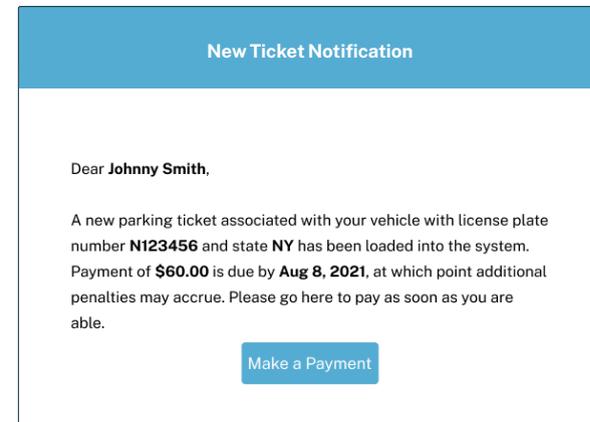
## Streamlining Parking Ticket Payments

*Creating a more seamless notification-to-payment workflow*

Piloted email alerts and new low-friction parking ticket payment methods to reduce time-to-collection and the need to issue late fines, while improving the user experience on a process that generates over half a billion dollars of annual revenue for the City of New York.

**Partner:** Department of Finance

**Project Champion:** David Spier, Sam Bufter  
 NYC[x]IF: Ro Encarnacion, Hannah Squier, Renata Phillippi, Deni Kwan, Yuri Shadunsky



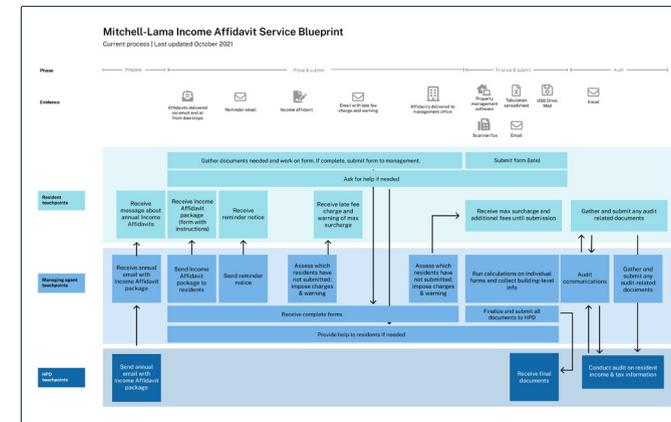
## Digitizing Paper Forms

*Replacing paper-based processes with digital workflows*

Modernizing the income verification process for an affordable housing program by creating digital forms that provide residents and program managers with a more seamless experience.

**Partner:** Department of Housing Preservation and Development

**Project Champion:** Emily Osgood  
 NYC[x]IF: Chelsea Badiola, Tim Jarzombek, Yaniv Goldobin, Abby Raskin, Cailyn Hansen



## Data for Equity and Efficiency

*Co-creating digital products with City agencies to drive data-informed decision-making*

NYC CTO worked with select alumni of the NYC[x] Innovation Fellows program on key City technology projects to digitize paper processes, modernize long-standing data gaps, represent underserved neighborhoods, and instill equity in funding distribution.

These contributions enabled more robust data-informed decision-making and even led to the creation of new data science positions in key agencies.

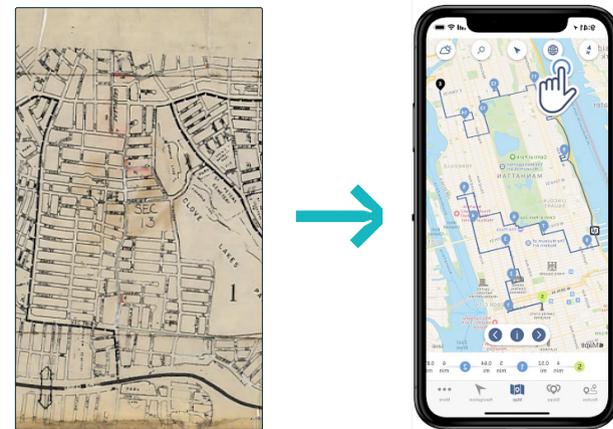
NYC[x] INNOVATION FELLOWS  
→ ALUMNI PROJECTS

## Evaluating Street Cleanliness

*Actionable data for cleaner streets*

Optimized the City's street and sidewalk cleanliness inspection program through the digitization of routing and navigation, as well as enhanced data utility.

**Partner:** Mayor's Office of Operations  
**NYC[x]IF Alumni:** Dhivya Ravindran



## Funding Equity for Arts & Culture

*Driving equity in grant funding*

Applied data analysis to identify process improvement opportunities to drive equity within a multi-million-dollar funding process.

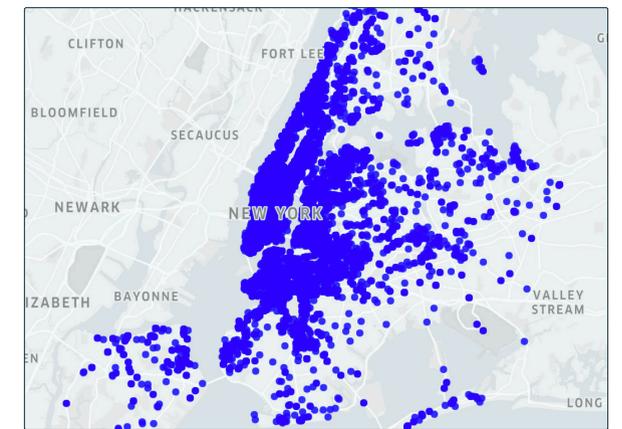
**Partner:** Department of Cultural Affairs  
**NYC[x]IF Alumni:** Dhivya Ravindran, Jared Lieberman, Wayne Chang

## Geographic Equity for Film Permits

*Visualizing permits across the city*

Analyzed and mapped over 70,000 film and TV production permits across New York City to inform permit distribution and policy decisions.

**Partner:** Mayor's Office of Media and Entertainment.  
**NYC[x]IF Alumni:** Dhivya Ravindran, Jared Lieberman



## Landing Page as a Service

*A simple template to stand up fast, easy, inexpensive websites*

Saving taxpayer money by simplifying how static websites are built and deployed, NYC CTO's Landing Page as a Service (LPaaS) leveraged the U.S. Web Design System, which is a free, open-source technology released by the U.S. Digital Service and 18F. This modern cost-savings approach has enabled NYC CTO to rapidly create accessible, mobile-friendly, and user-centered websites that house and promote key City resources from accessing Emergency Broadband Benefits to connecting with employment support for LGBTQIA+ youth.

## NYC Digital Reserve

*Pre-positioning expert tech talent to serve the City in times of need*

The NYC Digital Reserve now consists of pre-vetted expert technologist volunteers to ensure that the City can produce digital resources needed during emergency response and times of heightened tech needs. The NYC Digital Reserve provides the City with surge capacity to ensure that digital tools launched during crisis response are usable and accessible to New Yorkers, through a corps of technologists featuring members with deep technical expertise in specific tools and platforms that are highly relevant, such as user experience design and accessibility.

For more information, see

[nyc.gov/assets/cto/#/project/nyc-digital-reserve](https://nyc.gov/assets/cto/#/project/nyc-digital-reserve)



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The launch of the NYC Digital Reserve is an inspiring and inspired move, one that I hope other cities and states will emulate. I applaud New York City for its leadership and its remarkable reservists for signing up to serve the public. Pre-positioning tech talent that can be called upon in moments of need will enable significant contributions to saving and protecting lives.

**TODD PARK**

**FORMER CHIEF TECHNOLOGY OFFICER OF THE UNITED STATES**

# Piloting Emerging Technologies

New and emerging technologies hold real promise for the City to serve people more quickly and efficiently and make life better for all New Yorkers, so long as these tools and approaches are properly tested, measured, and evaluated.



[PHOTO ► ] CityScanner

## FloodNet

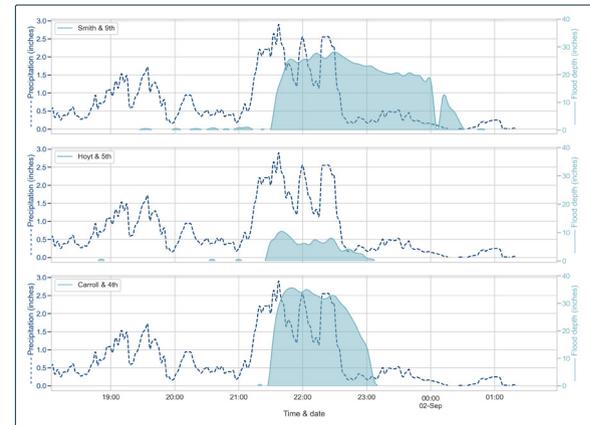
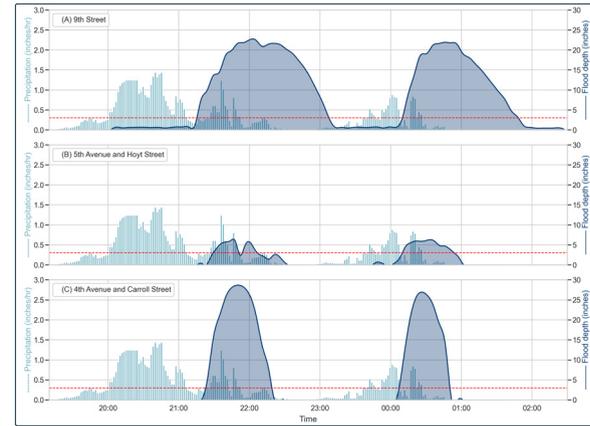
*Award-winning sensor network enables faster response to extreme flooding*

When Hurricanes Henri and Ida hit New York City in August and September of 2021, FloodNet offered a range of previously unavailable data, including precise times, depths, and behavior of flooding events, demonstrating the ability to provide this information in real-time. A collaboration of NYC CTO, the Mayor's Office of Climate Resiliency, City University of New York, and New York University, FloodNet was designed to source real-time data to inform the City's emergency notification and response, flood mitigation efforts, and to help calibrate future flooding models.

Based on their proven utility, FloodNet sensors are now being deployed city-wide as a part of a broader landmark plan to protect New Yorkers from dangerous climate change-fueled extreme storms.

For more information, see

[nyc.gov/assets/cto/#/project/floodnet](https://nyc.gov/assets/cto/#/project/floodnet)



## Mobility Counting

*AI-powered pilot improves use of public space*

New York City is learning about New Yorkers' mobility preferences to gain new and deeper insights into how city streets and public spaces are used. Using privacy-protecting computer-vision technology, the City installed sensors to generate automated counts of pedestrians, cyclists, and vehicles as they move through the five boroughs. Through a collaboration with Vivacity Labs and the City University of New York, NYC CTO is verifying this new wealth of data to assess how integrating more automated counting can improve street design, usage, and safety.

# Enhancing Civic Engagement

People are at the core of what we do. NYC CTO leverages technology solutions sourced from far and wide to help people live better lives. And we engage deeply with New Yorkers to ensure technology deployment is built on trust.



[PHOTO ► ] Oscar Romero/NYC CTO

## NYC[x] Moonshot: Financial Inclusion

*Bold new approaches to help the unbanked and underbanked*

More than a million households in New York City are unbanked and underbanked. One in every two households in the Bronx falls into these categories, compared to one in three citywide and one in four nationwide. To address this long-standing barrier to opportunity and equity, NYC CTO launched an open call for bold, innovative solutions that leverage breakthrough financial inclusion technology, innovative models, and culturally relevant approaches. Winners were selected out of 73 proposals from 30 cities in 10 countries, and may be piloted in the Bronx in early 2022 with the potential to scale citywide.

For more information, see

[nyc.gov/assets/cto/#/project/financial-inclusion-challenge](https://nyc.gov/assets/cto/#/project/financial-inclusion-challenge)



## NYC[x] Co-Lab: Accessible Mental Health

*Co-creating technology solutions for local problems faced by youth*

NYC CTO partnered with the Mayor's Office of Community Mental Health to identify innovative solutions using tools and technologies that improve awareness of and access to mental health resources for vulnerable Latinx youth in Inwood and Washington Heights.

Two winning proposals were selected: Next-Step HealthTech devised a platform for users to anonymously access mental health resources. Me, Myself, & I created a choose-your-adventure style comic book called "Heroes Next Door" about a Latinx superhero charged with saving the world while also modeling how to address personal mental health challenges.

For more information, see

[nyc.gov/assets/cto/#/project/inwood-co-lab](https://nyc.gov/assets/cto/#/project/inwood-co-lab)



## NYC[x] Co-Lab: Housing Rights

*Co-creating technology solutions for local problems faced by tenants*

In collaboration with the Mayor's Office to Protect Tenants, NYC CTO called for creative, tech-enabled solutions to tenant harassment, abuse, and displacement to address the concerns of residents in Inwood and Washington Heights. Two winners presented especially innovative solutions. Heat Seek offers low-cost, web-connected temperature sensors to help tenants prove serious and persistent lack of heat in their apartments. JustFix.nyc offers tenants and community organizations data-driven tools to take action in the face of landlord harassment, wrongful eviction, and other all-too-common housing issues.

For more information, see

[nyc.gov/assets/cto/#/project/inwood-co-lab](https://nyc.gov/assets/cto/#/project/inwood-co-lab)



# Global Partnerships

NYC CTO engaged with governments across the world in 2021, advancing its digital rights agenda and exchanging best practices on a wide array of topics – from universal broadband to digital transformation to COVID recovery.



# Institutional Partners

- Aspen Institute
- Barcelona Centre for International Affairs
- Barcelona Supercomputing Center
- Bronx Digital Equity Coalition
- Brooklyn Navy Yard
- Carnegie Mellon University
- Centri-Tech Foundation
- City University of New York
- Columbia University
- Cornell Tech
- Escola Nacional de Administração Pública - Brasil
- Escola Superior de Educação de Lisboa
- Eticas Consulting
- Harvard University
- Instituto Politecnico do Porto
- The Knowledge House
- Libera Università Internazionale degli Studi Sociali Guido Carli
- Lifeline Coalition
- Massachusetts Institute of Technology
- Nesta
- The New School
- New York University
- Princeton University
- RMIT Europe
- Technische Universiteit Delft
- Universidad de Zaragoza
- Universidade do Porto
- Universitat Autònoma de Barcelona
- University of California - Berkeley
- University of California - Los Angeles
- University of Ottawa
- University of Texas - Austin
- The World Bank
- World Economic Forum

# Public Sector Partners

- Federal Communications Commission
- General Services Administration
- National Security Innovation Network
- Permanent Mission of Switzerland to the UN
- United Nations Department of Peacekeeping
- United Nations Development Programme
- US Census Bureau
- US Congress
- US Department of Defense
- US Department of State
- US Digital Response
- UK Department of Digital, Culture, Media & Sport
- The White House

# Timeline

<b>JAN</b>	<b>NYC[x] Co-Labs</b>	Four winners of the Accessible Mental Health & Housing Rights Innovation Challenges announced and began work on community-based pilots
<b>FEB</b>	<b>NYC[x] Innovation Fellows</b>	Second cohort of award-winning NYC[x] Innovation Fellows produced modern technology tools for Department of Finance, Department of Small Business Services, and Department for the Aging
<b>MAR</b>	<b>Internet Master Plan</b>	Solicitation for broadband infrastructure and affordable service solutions to close digital divide, with commitment of \$157 million and 100,000+ City-owned assets
	<b>Smart Cities + IoT</b>	NYC Internet of Things Strategy published to ensure a productive, responsible, and future-ready city
<b>APR</b>	<b>Digital Rights</b>	Applied Digital Rights Initiative convened, pairing 27 universities with 9 city governments to tackle real-world challenges to digital rights
<b>MAY</b>	<b>Internet Master Plan</b>	Free and low-cost broadband access for 21 NYCHA developments launched to connect 40,000 New Yorkers with high-speed internet
<b>JUN</b>	<b>Digital Service</b>	Launched Landing-Page-as-a-Service LGBTQI+ Unity Project
<b>JUL</b>	<b>NYC[x] Tech &amp; Innovation Awards</b>	Winners of inaugural NYC[x] Tech & Innovation Awards celebrated for advancing creative and tech-enabled solutions within City government
	<b>Smart Cities + IoT</b>	Launched FloodNet to monitor flooding in real time in Brooklyn and Queens
<b>AUG</b>	<b>NYC[x] Moonshots</b>	NYC[x] Moonshot: Financial Inclusion Challenge launched to attract innovative tech and new ideas to serve unbanked and underbanked New Yorkers

	<b>Smart Cities + IoT</b>	FloodNet proved its beneficial impact during Hurricanes Henri and Ida
<b>SEP</b>	<b>Emergency Broadband Benefit</b>	Emergency Broadband Benefit outreach campaign launched to help needy New Yorkers save money on high-speed internet
	<b>NYC[x] Moonshots</b>	Cybersecurity Guidelines for Small Businesses published
<b>OCT</b>	<b>AI + Digital Rights</b>	NYC Artificial Intelligence Strategy published to pioneer a responsible AI ecosystem
	<b>Internet Master Plan</b>	Affordable broadband to reach 1.6 million New Yorkers, including a majority of NYCHA residents, advanced through historic expansion of ISP marketplace with 11 additional providers
<b>NOV</b>	<b>NYC[x] Innovation Fellows</b>	Third cohort of NYC[x] Innovation Fellows completed product sprints with FDNY Robotics, Department of Finance, and Department of Housing Preservation and Development
	<b>Smart City Expo World Congress</b>	NYC CTO tech initiatives honored in Barcelona, Spain at the leading global smart cities event
<b>DEC</b>	<b>Queensbridge Connected</b>	Celebrated the fifth anniversary of bringing free connectivity to the largest public housing development in North America
	<b>Smart Cities + IoT</b>	NYC Internet of Things Progress Report published to share the City's advancement towards its IoT goals
	<b>NYC Digital Reserve</b>	The NYC Digital Reserve launched to pre-position vetted expert technologists in advance of City need
	<b>NYC[x] Moonshots</b>	Winners chosen for NYC[x] Moonshot: Financial Inclusion Challenge to serve unbanked and underbanked households in The Bronx



# Looking ahead

As New York City continues to use technology to help residents thrive, businesses grow, and government operate better, we will build upon the landmark progress made in 2021. From broadband to digital services to emerging technologies, New York City is leading the way forward. As the digital transformation of government and society writ large gains speed, it is critical to remember that our community holds in its power the ability to shape it.

[PHOTO ◀ ] Rob Bennett/NYC Mayoral Photography Office

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**NYE CTO**