TESTIMONY

Presented to the

New York City Council Committee on Technology

on the subject of Smart Cities

on Tuesday, January 19, 2021

Good afternoon Chair Holden and Committee members. I am John Paul Farmer, the Chief Technology Officer for the City of New York. I'm pleased to be back to discuss the topic of Smart Cities and New York City's leading role in shaping the use of emerging technologies to benefit residents. "Smart Cities" is a term used differently by cities and organizations engaged in the field. Within New York City's work in this field, my focus today will be on the City's work in the area of the Internet of Things, or "IoT," where New York City leads nationally and internationally. Further opportunities for the City are expected as this new set of technologies continues to develop and grow in use.

In addition to encompassing different priorities for different cities, the term "smart city" is also evolving. As technology develops, so does what it means to be a smart city. Therefore, a city must continually be evaluating, modifying, and improving its infrastructure, initiatives, and approaches in order to carry the banner of a smart city.

The Mayor's Office of the CTO has focused on building and improving the connectivity infrastructure needed to operate as a "smart city." We have developed the framework for how a city can use this connectivity to employ and deploy the emerging group technologies known as the Internet of Things. At the beginning of Mayor de Blasio's Administration, he set forth the goal of bringing universal broadband to New York City, which led to the development of first-ever comprehensive municipal broadband planning roadmap, the NYC Internet Master Plan, which was issued in 2020. In the Internet Master Plan, the City identifies the neighborhoods in which infrastructure the City needs to build and attract broadband development in order to reverse the digital redlining that exists across the five boroughs. Equitable connectivity is a foundational component to being a smart city. Why is it critical? Because widespread availability of broadband is necessary to connect the devices, sensors, and systems that make up the Internet of Things. Without widespread connectivity, communities are unable to fully use these new IoT technologies, unable to receive new services, and may be underrepresented in key datasets that the City uses to inform its actions.

The City is about to issue its first comprehensive Smart Cities plan – the NYC IoT Strategy – which will provide the framework for the use of IoT in the city. The IoT Strategy builds on a multi-year body of work from the Mayor's Office of the CTO, including the IoT Guidelines issued in 2018 and a series of engagements with the tech industry, including challenges and pilots with other city agencies, as well as policies developed as part of a multi-agency "IoT Working Group".

The Mayor's Office of the CTO has taken these actions, because we recognize that IoT represents a constantly evolving set of technologies that the City can and should use to create more accurate, localized, and real-time data, which will help the City increase operational efficiencies and make more impactful and representative policy decisions.

Often, IoT devices are deployed to monitor a set of environmental conditions that, when compiled into a data set, will provide never-before collected information. One example of these technologies is the deployment of sensors on city vehicles to monitor air quality in neighborhoods to provide information on the impacts of traffic flow, times of day, or weather conditions. Another is the use of sensors to measure tides and water flow to help the City to improve its flood mitigation planning and better target its resiliency efforts. In addition to providing new information and insights, a key feature of these IoT devices is that they can provide real-time data, which allows users to understand changes in condition on a day-to-day or week-to-week basis.

In the NYC IoT Strategy, the City recognizes the significant opportunity that it has to ensure data produced from IoT are interoperable with other datasets. Creating systems for sharing data and ensuring their compatibility will exponentially increase the ability of the City to understand up-to-the-minute conditions. Not only will that allow agencies to target operations to the most critical and influential actions, it will increase efficiency and, ultimately, lower costs.

One way that IoT device deployments help New York become a smarter city is by making possible greater understanding of conditions at the hyper-local neighborhood level. For instance, devices may be deployed to understand the impacts of traffic patterns on temperatures of a neighborhood and how that is distinct to its geographic conditions. Communities too, may benefit from understanding this type of hyper-local environmental data generated by these devices, which can often be shared with the public.

As with all new technologies, it is critical for the City to have a framework that builds a coordinated system, maximizes benefit for New Yorkers, protects the digital rights of residents, and ensures

continued relevance as technology develops. As the market produces new IoT devices that can assist in the City's work, agencies need a framework that can accommodate new categories of devices, functions, and applications matching their areas of work. The NYC IoT Strategy balances these priorities and provides the City with the vision that will help it serve its people ever better and continue to evolve as a smart city.

I would be happy to take your questions about this emerging body of work and New York City's ongoing leadership in this field.

To: NYC Council - Committee on Technology, Chair Holden
From: Noel Hidalgo, Executive Director

Re: Oversight – Smart City

Tuesday, 19 January 2021

On behalf of the BetaNYC community, we would like to say thank you for hosting this open conversation.

First, BetaNYC would like to acknowledge this Administration's involvement in the Cities for Digital Rights coalition[1]. As a founding member, New York City has made the global commitment to promoting and defending digital rights.

To ensure we retain our rights into the 21st century, we need consistent technology leadership in the Mayor's Office, across agencies, and in Council. With the ebb and flow of inconsistent leadership in this Mayor's Office, we ask that Council and the Public Advocate, via the Chair of Commission on Public Information and Communication (COPIC), convene a study group and identify concrete strategies to ensure New York City government has consistent technology leadership through the next administration and beyond.

This will include auditing and inventorying existing technology, reforming Mayoral Offices and agencies, improving procurement policies and civil servant hiring practices. Where needed, new legislation will need to be introduced.

The pandemic has made the digital divide wider than ever. To bridge this, we need consistent, well informed, and properly resourced leadership. We need to openly investigate the harms that technology can cause, ensure community input is integrated into these services, our privacy is protected, and that the government can hold these systems accountable. A truly smart city can balance these things.

For the last decade or so, we've been told that the smart city is around the corner. We've been told that smart trash cans will minimize overflowing trash cans, smart traffic lights will eliminate congestion, cameras will keep our kids safe, microphones will tell us where guns are being fired, and artificial intelligence will tell us what problem to solve next.

[1] https://citiesfordigitalrights.org/about

Let it be clear, these are marketing campaigns that digitally wash over the complexities of government, logistics, and infrastructure. None of these smart city tools address the root issue of service delivery, infrastructure investment, and interagency coordination.

Rebecca Williams, an old friend and Technology Public Purpose Fellow at Harvard School Belfer Center for Science and International Affairs has submitted written testimony.

For the record, I'd like to echo several of her well researched points.

- Every new piece of "smart city" technology increases potential harms.
- Manytimes, these tools are deployed without community input.
- Many tools are sophisticated surveillance devices that erode privacy and 4th Amendment protections.
- They can have a chilling effect on 1st Amendments rights.
- Tools have led to "digital redlining" and further causing discrimination and oppression in communities of color.
- Lastly, they can lead to the loss of an accountable government; as we have seen with the conversation around tools for law enforcement and predictive analytics.

A truly smart city can ensure our legal rights are protected, money is not wasted, and our civil servants work smarter, not harder.

Thank you for this opportunity to provide insight on how we view the future.

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Testimony of Daniel Schwarz

On Behalf of the New York Civil Liberties Union

Before the New York City Council Committee on Technology

Regarding the Oversight of "Smart City" Technology

January 19, 2021

The New York Civil Liberties Union ("NYCLU") respectfully submits the following testimony regarding the oversight of "smart city" technology. The NYCLU, the New York affiliate of the American Civil Liberties Union, is a not-for-profit, non-partisan organization with eight offices throughout the state and more than 180,000 members and supporters. The NYCLU's mission is to defend and promote the fundamental principles, rights, and values embodied in the Bill of Rights, the U.S. Constitution, and the Constitution of the State of New York. The NYCLU works to expand the right to privacy, increase the control individuals have over their personal information, and ensure civil liberties are enhanced rather than compromised by technological innovation.

At its core, "smart city" is an umbrella term covering a wide range of urban surveillance technologies. As sensors and software increasingly merge our digital and physical environments, and new forms of data collection, analysis, and automated decision-making are deployed in our public environments, we are crossing a tipping point. Networked devices throughout the City allow for the invasive tracking of practically every New Yorker's whereabouts and associations – even identifying activists at protests. And software tools make invisible decisions impacting people's fundamental rights in welfare, education, employment, housing, health care, the family regulation (or child welfare) system, and the criminal legal system.

In the absence of meaningful privacy legislation at the state and federal level, we will continue seeing the adoption of new technologies that don't meet people's needs and invade their privacy. We urge the Council to create safeguards and regulations to ensure our civil rights and liberties are protected. This means increasing transparency and oversight as a baseline requirement, severely limiting data collection practices, banning discriminatory technology, and

providing equitable and safe technology access to those in most need. New Yorkers should see their lives enhanced by 21st century technology, not become victims of it.

Introduction

The term "smart city" is a catch-all for a wide range of technologies and initiatives in urban areas. The phrase first appeared in the 1990s but wasn't popularized until various product marketing campaigns adopted the term around 2008, when technology companies began to sell the promise that "smart city" devices and projects would make cities cleaner, safer, more convenient, more efficient, and ultimately improve residents' overall quality of life.

Broadly, most "smart city" technologies fall into two categories: (a) one or more networked devices that collect and share data; or (b) tools, including software, that process or analyze data and act on it by making or supporting decisions. They fundamentally exist to harness massive amounts of data and are therefore drivers of urban surveillance, which will be the primary focus of this testimony.

Urban surveillance technologies create, collect, process, share, or analyze vast amounts of real-time data (from sensors) and historic data (from city agencies or third parties). Some, like cameras and audio sensors, are easily identifiable as surveillance technologies, while others, like WiFi routers or smart meters may not at first glance appear to collect or use personally identifiable information. As traditionally siloed[1] personal data are shared across collection systems and new types of sensorial collection are deployed, the risk increases that previously innocuous datasets will be combined and analyzed in ways that threaten people's rights, liberties, and safety.[2]

The dangers don't lie in just data collection: the underlying algorithms that apply the data as part of an automated decision-making system are far from perfect.[3] Researchers and experts consistently reveal their inaccuracies and biases. Many studies have challenged

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[1] A data "silo" is an arrangement wherein only one group of people have access to a certain data set. Data silos can be useful in protecting sensitive or classified information, or harmful if faster information sharing is necessary.

[2] *See e.g.:* Ben Green et al., *Open Data Privacy*, BERKMAN KLEIN CENTER FOR INTERNET & SOCIETY RESEARCH PUBLICATION (2017); Kathleen McGrory & Neil Bedi, *Targeted. Pasco's sheriff created a futuristic program to stop crime before it happens*, https://projects.tampabay.com/projects/2020/investigations/police-pasco-sheriff-targeted/intelligence-led-policing (last visited Jan 19, 2021); Jeremy Gorner & Annie Sweeney, *For years Chicago police rated the risk of tens of thousands being caught up in violence. That controversial effort has quietly been ended.*, CHICAGOTRIBUNE.COM (2020), https://www.chicagotribune.com/news/criminal-justice/ct-chicago-police-strategic-subject-list-ended-20200125-spn4kjmrxrh4tmktdjckhtox4i-story.html (last visited Jan 19, 2021).

[3] danah boyd & Kate Crawford, *Critical Questions for Big Data: Provocations for a cultural, technological, and scholarly phenomenon*, 15 INFORMATION, COMMUNICATION & SOCIETY 662–679 (2012).

algorithms' opaque or "black box" operation [4] and provided evidence of harmful, [5] discriminatory,[6] sexist,[7] and racist[8] outcomes.

Risks and Harms from the Proliferation of Unregulated Urban Surveillance

It is virtually impossible to participate in modern society without leaving a trail of data. And our contemporary "smart city" environment collects all of it, ensuring that each interaction and transaction in our public places can be logged, shared, and analyzed.

Installing ostensibly benign "smart" products like recycle bins that send notifications when they need to be emptied, or streetlights that adjust their brightness dynamically, are often the first step for cities looking to embrace "smart city" infrastructure. Such devices are marketed as convenient, more energy efficient, and cheaper in the long run, so installing them seems like little more than sensible town management. But most such devices also incorporate – or can be retrofitted with – a wide host of sensors and data collection capabilities such as audio, video, and environmental sensors; advanced data analytics to interpret and act on the data streams; and communication infrastructure, such as WiFi, Bluetooth, or cell capabilities.[9] Once so equipped, they become a critical part of urban surveillance infrastructure. During the George

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[4] *See e.g.:* CATHY O'NEIL, WEAPONS OF MATH DESTRUCTION: HOW BIG DATA INCREASES INEQUALITY AND THREATENS DEMOCRACY (2016); FRANK PASQUALE, THE BLACK BOX SOCIETY (2015).

[5] *See e.g.:* VIRGINIA EUBANKS, AUTOMATING INEQUALITY: HOW HIGH-TECH TOOLS PROFILE, POLICE, AND PUNISH THE POOR (2018); Ed Pilkington, *Digital dystopia: how algorithms punish the poor*, THE GUARDIAN, October 14, 2019, https://www.theguardian.com/technology/2019/oct/14/automating-poverty-algorithms-punish-poor (last visited Jan 14, 2021); Colin Lecher, *A healthcare algorithm started cutting care, and no one knew why*, THE VERGE (2018), https://www.theverge.com/2018/3/21/17144260/healthcare-medicaid-algorithm-arkansas-cerebral-palsy (last visited Jan 14, 2021).

[6] SOLON BAROCAS & ANDREW D. SELBST, *Big Data's Disparate Impact* (2016), https://doi.org/10.2139/ssrn.2477899 (last visited Nov 10, 2020).

[7] *See e.g.:* Jeffrey Dastin, *Amazon scraps secret AI recruiting tool that showed bias against women*, REUTERS, October 10, 2018, https://www.reuters.com/article/us-amazon-com-jobs-automation-insight-idUSKCN1MK08G (last visited Jan 14, 2021); Galen Sherwin, *How Facebook Is Giving Sex Discrimination in Employment Ads a New Life*, AMERICAN CIVIL LIBERTIES UNION , https://www.aclu.org/blog/womens-rights/womens-rights-workplace/how-facebook-giving-sex-discrimination-employment-ads-new (last visited Jan 14, 2021).

[8] *See e.g.:* Kate Crawford, *Opinion | Artificial Intelligence's White Guy Problem*, THE NEW YORK TIMES, June 25, 2016, https://www.nytimes.com/2016/06/26/opinion/sunday/artificial-intelligences-white-guy-problem.html (last visited Nov 10, 2020); Alistair Barr, *Google Mistakenly Tags Black People as 'Gorillas,' Showing Limits of Algorithms*, WSJ (2015), https://blogs.wsj.com/digits/2015/07/01/google-mistakenly-tags-black-people-as-gorillas-showing-limits-of-algorithms/ (last visited Jan 14, 2021).

[9] *See e.g.:* Building a Mass Surveillance Infrastructure Out of Light Bulbs, AMERICAN CIVIL LIBERTIES UNION , https://www.aclu.org/blog/privacy-technology/surveillance-technologies/building-mass-surveillance-infrastructure-out (last visited Jan 15, 2021); Kadhim Shubber, *Tracking devices hidden in London's recycling bins are stalking your smartphone*, WIRED UK, 2013, https://www.wired.co.uk/article/recycling-bins-are-watching-you (last visited Jan 15, 2021).

Floyd protests in San Diego, such "smart city" streetlight infrastructure was utilized to search for and create evidence against Black Lives Matter protesters.[10]

New York City has already adopted comparable technologies: LinkNYC, the public WiFi kiosks run by Alphabet (*Google*) subsidiary Sidewalk Labs, has after years of operation still not disclosed a detailed list of sensors included in the kiosks nor how LinkNYC uses the personal information it collects in its ad-driven business model.[11] And despite littering the streets with thousands of sensors, the project has also failed to deliver on its promise to improve New Yorkers' access to the internet and close the digital divide, as kiosks are primarily located in more affluent neighborhoods[12] and do not offer the speed and reliability of a broadband connection.

Law enforcement has long embraced these urban surveillance technologies in all forms, whether deployed through their own procurement, other governmental and public infrastructure, or privately owned. Across the country, hundreds of police departments have partnered with Amazon to subsidize home installation of the company's Ring surveillance cameras, essentially deputizing the public as to their own front yards.[13] While the NYPD has not entered into such partnerships, the department's Domain Awareness System (DAS) has access to more than 20,000 public and private cameras.[14] Originally created as a counterterrorism tool, the DAS integrates a range of sensors like CCTV, automated license plate readers, ShotSpotter audio sensors, and environmental sensors; previously siloed databases; and a combination of analytics and information technology, including pattern recognition and machine learning.[15] The increase of such analytics and predictive policing systems is particularly worrisome considering the unconstitutional and racially biased stop-and-frisk

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[10] Jesse Marx, *Smart Streetlights Are Now Exclusively a Tool for Police*, VOICE OF SAN DIEGO (2020), https://www.voiceofsandiego.org/topics/public-safety/smart-streetlights-are-now-exclusively-a-tool-for-police/ (last visited Jan 15, 2021).

[11] Ava Kofman, *Are New York's Free LinkNYC Internet Kiosks Tracking Your Movements?*, THE INTERCEPT (2018), https://theintercept.com/2018/09/08/linknyc-free-wifi-kiosks/ (last visited Jan 15, 2021).

[12] *See LinkNYC*, NYC DOITT, https://www1.nyc.gov/site/doitt/initiatives/linknyc.page (last visited Jan 15, 2021); see also Annie McDonough, *DoITT head Jessica Tisch's hard line against LinkNYC vendor*, CITY & STATE, Mar. 4, 2020, https://www.cityandstateny.com/articles/policy/technology/doitt-headjessica-tischs-hard-line-against-linknyc-vendor.html ("CityBridge has failed to install 537 promised LinkNYC kiosks – many of which were set to be built in outer boroughs, which suffer[] from a dearth of the kiosks, which provide free WiFi, telephone and device charging services. CityBridge has not installed a single kiosk since the fall of 2018[.]").

[13] Drew Harwell, *Doorbell-camera firm Ring has partnered with 400 police forces, extending surveillance concerns*, WASHINGTON POST, August 28, 2019, https://www.washingtonpost.com/technology/2019/08/28/doorbell-camera-firm-ring-has-partnered-with-police-forces-extending-surveillance-reach/ (last visited Jan 15, 2021).

[14] Since the NYPD does not disclose any details or camera counts, the most recent number stems from the following interview with then Deputy Commissioner of Information Technology at the NYPD: *A Conversation with Jessica Tisch '08*, HARVARD LAW TODAY (2019), https://today.law.harvard.edu/a-conversation-with-jessica-tisch-08/ (last visited Jan 15, 2021).

[15] E. S. Levine et al., *The New York City Police Department's Domain Awareness System*, 47 INFORMS JOURNAL ON APPLIED ANALYTICS 70–84 (2017).

practices; utilizing existing police data to predict and set future patterns of policing will simply create outputs and recommendations reflecting these practices.[16]

In recent years, New York has also seen an uptick in the use of biometric recognition technologies – like face, voice, and gait recognition – by police, in housing, schools, mass transit, and on roads and bridges. Biometric surveillance presents an unprecedented threat to everyone's privacy and civil liberties, enabling the invasive power to track who we are, where we go, and who we meet – for example tracking people at protests, political rallies, or places of worship. In August of last year, the NYPD used facial recognition to identify a Black Lives Matter activist during a protest against police brutality.[17] But these technologies are also notoriously inaccurate and racially biased. Numerous studies have shown that face surveillance technologies are particularly inaccurate for women and people of color.[18] And through litigation, the public has learned of the highly flawed, unscientific, and even unlawful practices that pervade the NYPD's facial recognition program.[19] In addition, many biometric technologies rely on the remote monitoring and collection of personal biological characteristics – without one's consent or knowledge. Unlike a password or credit card number, this information cannot be changed if it's compromised or stolen.

Cities increasingly adopt automated decision systems – software tools or processes that automate, replace, or aid human decision-making – to administer services, allocate resources, and make inferences about individuals, groups, or places. Especially where New Yorker's fundamental rights are at stake – such as in welfare, education, employment, housing, health care, the family regulation (or child welfare) system, or the criminal legal system, these technologies all too often replicate and amplify bias, discrimination, and harm towards populations who have been and continue to be disproportionately impacted by bias and discrimination. The NYCLU and our partners repeatedly sought to offer input and

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[16] Rashida Richardson et al., *Dirty Data, Bad Predictions: How Civil Rights Violations Impact Police Data, Predictive Policing Systems, and Justice,* 94 N.Y.U. L. REV. ONLINE 192 (2019), https://ssrn.com/abstract=3333423.

[17] George Joseph & Jake Offenhartz, *NYPD Used Facial Recognition Technology In Siege Of Black Lives Matter Activist's Apartment*, GOTHAMIST (2020), https://gothamist.com/news/nypd-used-facial-recognition-unit-in-siege-of-black-lives-matter-activists-apartment (last visited Jan 13, 2021).

[18] *See e.g.:* Cynthia M. Cook et al., *Demographic Effects in Facial Recognition and their Dependence on Image Acquisition: An Evaluation of Eleven Commercial Systems*, 1 IEEE TRANSACTIONS ON BIOMETRICS, BEHAVIOR, AND IDENTITY SCIENCE 32–41 (2019); Joy Buolamwini & Timnit Gebru, *Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification*, PROCEEDINGS OF MACHINE LEARNING RESEARCH (2018), http://proceedings.mlr.press/v81/buolamwini18a/buolamwini18a.pdf (last visited Jan 15, 2021).

[19] Clare Garvie, *Garbage In. Garbage Out. Face Recognition on Flawed Data*, GARBAGE IN. GARBAGE OUT. FACE RECOGNITION ON FLAWED DATA, https://www.flawedfacedata.com (last visited Jan 15, 2021).

recommendations through open letters in January 2018,[20] August 2018,[21] March 2019,[22] a comprehensive Shadow Report in December 2019,[23] and have testified before this Committee in January 2020[24] and in November 2020.[25]

The COVID-19 pandemic has only increased urban surveillance. As the disease began to spread, advertising technology providers were quick to provide mass location tracking data—surreptitiously collected and shared without notice or consent—at various scales and levels of granularity to national, state, and local governments (including NYC).[26] Data broker Experian started tracking and microtargeting people most likely to get hit hardest by COVID-19.[27] Police departments deployed drones with thermal imagery sensors and biometric recognition software such as heart rate, sneezing, coughing, and distance detection.[28] And above all, the crisis has reified and deepened many inequities and laid bare the grave impact of lacking access to technology and broadband internet.

Nearly all these applications undermine New Yorkers' constitutional protections, in particular their rights under the First and Fourth Amendments. When police conduct video surveillance over every inch of the City, it chills free speech, expression, and association. When private companies collect the most sensitive minutiae of our private lives, track our locations in perpetuity, and then, without our informed consent, share that data with the government, it destroys individual privacy. And when the government uses that data to track us, investigate

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[20] Letter to Mayor de Blasio: Regarding NYC Automated Decision Systems Task Force, NEW YORK CIVIL LIBERTIES UNION (2018), https://www.nyclu.org/en/publications/letter-mayor-de-blasio-regarding-nyc-automated-decision-systems-task-force (last visited Jan 14, 2021).
[21] Open Letter to Automated Decision Systems Task Force, NEW YORK CIVIL LIBERTIES UNION (2018), https://www.nyclu.org/en/publications/open-letter-automated-decision-systems-task-force (last visited Jan 14, 2021).
[22] Letter to the Automated Decision Systems Task Force - March 1, 2019, NEW YORK CIVIL LIBERTIES UNION (2019), https://www.nyclu.org/en/publications/letter-automated-decision-systems-task-force-march-1-2019 (last visited Jan 14, 2021).
[23] *See*: Rashida Richardson, ed., *Confronting Black Boxes: A Shadow Report of the New York City Automated Decision System Task Force*, AI NOW INSTITUTE, December 4, 2019, https://ainowinstitute.org/ads-shadowreport-2019.html.
[24] NYC Council Testimony In Relation to Automated Decision Systems Used by Agencies, NEW YORK CIVIL LIBERTIES UNION, Jan 22, 2020, https://www.nyclu.org/sites/default/files/field_documents/20200122-nyclu-testimony-automateddecisionsystems.pdf.
[25] NYC Council Testimony on Oversight and Regulation of Automated Decision Systems, NEW YORK CIVIL LIBERTIES UNION, Nov 13, 2020, https://www.nyclu.org/en/publications/testimony-oversight-and-regulation-automated-decision-systems.
[26] *See*: Recovery Data Partnership, NYC Analytics, https://www1.nyc.gov/site/analytics/initiatives/recovery-data-partnership.page (last visited Jan 17, 2021).
[27] Shoshana Wodinsky, *Experian Is Tracking the People Most Likely to Get Screwed Over by Coronavirus*, GIZMODO , https://gizmodo.com/experian-is-tracking-the-people-most-likely-to-get-scre-1842843363 (last visited Jan 17, 2021).
[28] Chaim Gartenberg, *Connecticut suburb deploys "pandemic drones" to try to enforce social distancing*, THE VERGE (2020), https://www.theverge.com/2020/4/23/21232592/connecticut-suburb-westport-pandemic-drones-draganfly-social-distancing (last visited Jan 17, 2021).

us, accuse us of crimes, and put us in jail based upon the faulty conclusions of a biased algorithm, it makes a mockery of the equal protection of the laws. As long as urban surveillance technology is opaquely procured and operated without the necessary guardrails, we will continue seeing undemocratic decision-making, bias, discrimination, and threats to all our rights.

Principles and Good Practices

We commend the City and the Council for enacting important legislation tackling some of these issues, such as the POST Act, the biometric recognition disclosure requirement for businesses, the ban on cashless stores, the decision not to include vulnerable contactless technology in the municipal ID, and the City's settlement regarding Verizon's failed fiber rollout in low-income areas.

In November 2018, New York City joined the Cities Coalition for Digital Rights and signed its Declaration.[29] It builds on five primary principles: (1) Universal and equal access to the internet, and digital literacy; (2) Privacy, data protection, and security; (3) Transparency, accountability, and non-discrimination of data, content and algorithms; (4) Participatory democracy, diversity, and inclusion; and (5) Open and ethical digital service standards. These set crucial guidelines, yet, unfortunately, the City's actions have fallen far short from these promises and little has been done to implement these principles.

For "smart city" technologies to deliver on their goals and promises, we urge the City to consider and implement these key principles:

- *Ban Discriminatory Technologies*. Enact bans on technologies that show discriminatory impact or threaten people's fundamental rights.

- *Community Inclusion*. Impacted people need to have a seat at the table throughout the project's lifecycle.

- *Restructuring Procurement*. The City's procurement process must be more transparent and include sufficient information and details for public review.

- *Impact and Risk Assessments*. The City should require agencies to conduct publicly accessible Racial and Non-Discrimination Impact Assessments and Environmental Impact Assessments before acquiring new technologies and throughout their lifecycle.

- *Clear, Concise Privacy Protections and Policies*. Meaningful notice must include information about the data collection, purpose, limitations, access, sharing, storage, and deletion. It must be clear and prominent and be written in plain language at a simple reading level.

[29] Declaration of Cities Coalition for Digital Rights, https://citiesfordigitalrights.org/assets/Declaration_Cities_for_Digital_Rights.pdf.

- *Privacy by Design*. The City and any involved party must work during all product stages to build privacy safeguards into "smart city" technologies.
    - *Data Minimization.* Only collect the minimal data needed. Clear limits on initial collection of personal information. Data should not be generated, collected, analyzed, retained, transmitted or aggregated excessively.
    - *Security and Encryption.* Data should be encrypted (in transit and in rest) and communications must be authenticated.
    - *Anonymize* data where possible.
    - *Minimal Retention.* Only keep data for as long as necessary.
    - The default way to give consent must be *Opt-In*, instead of *Opt-Out*. People should be in the position to decide how, when, and why their data is processed and with whom it is shared.
- *Data Ownership* must be with the individual where possible. People must have rights over their personal data, as well as data that is derived, inferred or predicted from their data, actions, and behavior.
- *No Third-Party Access*. Clear limitations on the access, sharing, or selling of data. Information should not be accessible for law enforcement without a warrant. Ban the access by or sharing with federal agencies, including Immigration and Customs Enforcement.
- *Open source and Open Standards*. Avoid proprietary solutions, vendor lock-ins, and long-term dependencies. Adopt initiatives like "Public Money, Public Code," which requires publicly financed software developed for public use to share its source code. Standard, interoperable protocols are in general also more secure and better tested.
- *Auditing and Reviewing Mechanisms*. All systems should be subject to independent, transparent review to ensure – and to assure the public – that such technologies are being used appropriately and treating personal information with the care required.
- *Accountability and Liabilities*. New York City must enable both regulatory oversight, and a private right of action, to remedy any violations of New Yorker's right to control their data.
- *Equitable Access*. Ensure technologies serve people and communities in need, not companies' shareholders.
- *Public Education*. Improve digital literacy and privacy education in order to show New Yorkers how technology, whether used by governments or private companies, impacts their lives.

Conclusion

We thank the Committee for the opportunity to provide testimony and for recognizing the need for oversight and regulation of "smart city" technology. The Council has a crucial role to play in setting guardrails, safeguarding New Yorkers' privacy interests and rights, and ensuring people's voices are heard when it comes to the technologies that shape and impact their lives and environments.

GOOD AFTERNOON, CHAIR HOLDEN AND MEMBERS OF THE COMMITTEE ON TECHNOLOGY. THANK YOU FOR INVITING ME TO SPEAK AT TODAY'S HEARING ON SMART CITIES.

MY NAME IS KAMAL BHERWANI.

I AM THE CHIEF EXECUTIVE OFFICER OF GCOM.

GCOM'S MISSION IS TO HELP GOVERNMENTS CREATE HEALTHIER, SAFER, AND MORE PROSPEROUS COMMUNITIES BY LEVERAGING TECHNOLOGY THROUGH OUR INNOVATION AND EXPERIENCE.

I AM SPEAKING TO YOU AS THE CEO BUT I AM ALSO SPEAKING TO YOU AS SOMEONE WHO HAS HELD MANY TECHNOLOGY POSITIONS THROUGHOUT MY CAREER IN NEW YORK CITY GOVERNMENT.

MY LAST POSITION WAS THAT OF OVERALL CHIEF INFORMATION OFFICER OF ALL OF THE HEALTH AND HUMAN SERVICE AGENCIES UNDER THE BLOOMBERG ADMINISTRATION.

THE SMART CITY CONCEPT, WHICH HAS GAINED POPULARITY WITHIN THE LAST DECADE, HAS BEEN ABOUT CONNECTING THE CITY'S INFRASTRUCTURE. EXAMPLES INCLUDE CONNECTED WATER METERS, CONNECTED LIGHTS, CONNECTED CAMERAS AND CONNECTED ENVIRONMENTAL POLLUTION SENSORS. THIS TECHNOLOGY HAS CREATED TREMENDOUS VALUE IN UNDERSTANDING WHAT IS HAPPENING IN REAL-TIME WITH THE CITY AND HAS ALSO CUT DOWN COSTS. THERE IS NO DOUBT THAT THERE IS MORE TO BE DONE TO INSTRUMENT THE INFRASTRUCTURE OF THE CITY OF NEW YORK.

HOWEVER, THE PANEMDIC AND ITS RESULTING ECONOMIC CRISIS HAS SHINED A HARSH LIGHT ON THE INEQUITIES THAT EXIST WITHIN THE CITY AND THAT IS THE NEXT PROBLEM TO TACKLE AS PART OF THE EVOLUTION OF A SMART CITY.

WHILE THE INITIAL SMART CITY CONCEPT FOCUSED ON THE INTERNET OF "THINGS" THE NEXT WAVE OF SMART CITY INVESTMENT SHOULD FOCUS ON THE INTERNET OF "PEOPLE". WE NEED TO FOCUS NOW ON HUMAN SIGNALS RATHER THAN MACHINE SIGNALS.

WE KNOW THE ASPIRATIONS OF ANY DEMOCRACY IS TO GET ALL OF ITS PEOPLE INTO A PLACE OF SELF-SUFFICIENCY AND WELL-BEING.

IT IS WELL KNOWN THAT IF YOU'RE POOR, YOU'RE MORE LIKELY TO BE SICK… AND IF YOU'RE SICK THEN YOU'RE MORE LIKLEY TO BE POOR…

BY USING TECHNOLOGY AND HUMAN SIGNALS I BELIEVE NEW YORK CITY CAN DRIVE BETTER OUTCOMES FOR ITS PEOPLE AND ALSO FOR ITS BUSINESSES. THIS HAS TO BE DONE BY TAKING A HOLISTIC APPROACH, NOT A TRANSACTIONAL APPROACH. CITY AGENCIES FOCUS ON TRANSACTIONS, MANY OF THEM IN-PERSON, WHETHER THEY'RE DEALING WITH INDIVIDUALS OR WITH BUSINESSES. THEY DON'T DEAL WITH THE END-GOAL – THEY DEAL WITH THE PROBLEM OF THE DAY. EVEN THE TRANSACTIONS THAT PEOPLE AND BUSINESSES DO ONLINE ARE FOCUSED ON A PROGRAM, OR A PART OF AN AGENCY. PEOPLE AND BUSINESSES DON'T HAVE AN ONLINE RELATIONSHIP WITH THE CITY OF NEW YORK. THEY HAVE AN ONLINE RELATIONSHIP WITH THE PART OF EACH CITY AGENCY THAT THEY HAVE TO DEAL WITH. WOULDN'T IT BE GREAT FOR ALL NEW YORKERS TO HAVE ONE PLACE TO GO TO FOR ALL ASPECTS OF THEIR DEALINGS WITH THE CITY?

THE OUTCOMES OF SELF-SUFFICENCY AND WELL-BEING WILL DRIVE INCOMES. AS PEOPLE ARE HEALTHIER, AND WEALTHIER, THE CITY WILL BENEIT. THE NEW INCOMES WILL DRIVE EVEN BETTER

OUTCOMES, AS THE CITY WILL HAVE THE CAPTIAL TO INVEST IN NEW OUTCOME-BASED PROGRAMS. IT IS A VIRTUOUS CYCLE.

IS THIS A PIPE-DREAM? IS THIS EVEN REMOTELY REALIZABLE? MY ANSWER IS YES. JUST FOLLOW THE EXAMPLES OF BIG TECH COMPANIES WHO HAVE INVESTED IN UNDERSTANDING THE HUMAN SIGNAL VERY WELL. THEY ARE ABLE TO USE THAT SIGNAL TO DRIVE OUTCOMES. FOR THEM IT IS ABOUT DRIVING A PURCHASING DECISION AT THE VERY POINT IN TIME WHEN SOMEONE IS LIKELY TO BUY SOMETHING THAT THEY OFFER. THEY UNDERSTAND THAT INDIVIDUAL HOLISTICALLY. THEY KNOW THAT, BY INVESTING IN UNDERSTANDING HUMAN BEHVIOR, THEY ARE ABLE TO INFLUENCE BEHAVIOR AND MAXIMIZE PROFITS. WOULD IT BE WRONG FOR THE CITY INVEST IN SIMILAR TECHNOLOGY TO DRIVE BETTER SUPERIOR SOCIAL AND BUSINESS OUTCOMES? COULDN'T WE DRIVE BETTER EDUCATIONAL OUTCOMES, REDUCE POVERTY, REDUCE CRIME, INCREASE COMMERCE AND INCREASE RESIDENT ENGAGEMENT?

THERE ARE MANY ISSUES TO SORT OUT IN ORDER TO ORCHESTRATE THIS. PRIVACY, GOVERNANCE STRUCTURE, BUDGET ALLOCATIONS, AND MANY OTHERS. NO DOUBT THAT THIS IS A SITUATION WHERE YOU HAVE TO MEASURE TWICE AND CUT ONCE. BUT THE JUICE WILL BE WORTH THE SQUEEZE. WHEN I WAS CIO IN THE CITY, MANY GOVERNMENT OFFICIALS FROM AROUND THE WORLD CAME TO NEW YORK TO SEE HOW WE WERE DOING THINGS. IT IS TIME TO FOR NEW YORK CITY TO LEAPFROG ONCE AGAIN AND SHOW THE WORLD HOW IT HAS USED TECHNOLOGY TO SOLVE THE BIG PROBLEMS AS IT REBUILDS FROM THE PANDEMIC. THE WINDOW OF OPPORTUNITY IS NOW.

AGAIN, THANK YOU FOR THE OPPORTUNITY TO PROVIDE MY THOUGHTS TODAY. I AM HAPPY TO TAKE ANY QUESTIONS.

THE NEED TO ACQUIRE A SOCIAL LICENSE TO RE-USE SMART CITY DATA THROUGH DATA ASSEMBLIES

Testimony to New York City Council Committee on Technology

Stefaan G. Verhulst

GOVLAB

HENRY LUCE FOUNDATION

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THE POTENTIAL OF SMART CITIES TO SOLVE PUBLIC PROBLEMS

A Case for Data-Driven City Planning

"Neighborhood Knowledge" Supports Resilient Communities

Star Childs Follow

Jul 24, 2018 · 6 min read

Brooklyn Greenway Case Study: Pedestrian and Bicycle Activity in Public Spaces

by Jennifer Ding / January 3, 2020

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DATA RE-USE

Data re-use will be a defining tool to respond to public problems, such as COVID-19, yet will require a “social license” and citizens’ input to be legitimate.

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THE DATA ASSEMBLY

A collaboration among and between citizens, civil rights organizations, key data holders and policymakers.

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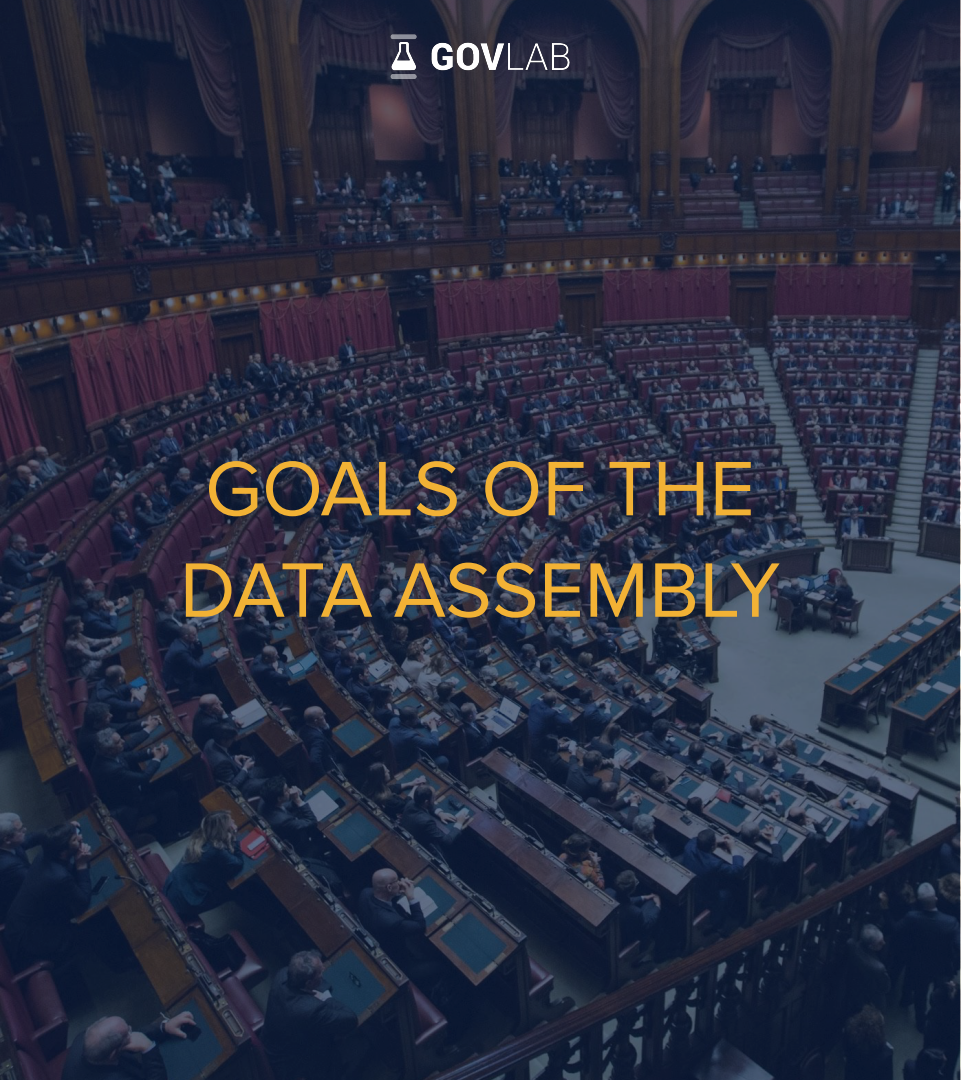
Bklyn Public Library

New York Public Library



- Identify varying concerns, expectations, and opportunities surrounding data re-use;
- Produce cross-cutting recommendations to support policymakers and practitioners
- Co-design framework for responsible data re-use

- LOCALIZED VALUE CREATION
- PLACE-BASED OPPORTUNITIES AND RISKS

- PURPOSE-DRIVEN RE-USE
- EQUITABLE BENEFITS
- MINIMUM VIABLE ANALYSIS

- FIT-FOR-PURPOSE DATA RETENTION
- END-TO-END DATA RESPONSIBILITY

- DATA PROVENANCE
- AGGREGATED AND ANONYMIZED DATA

- PARTICIPATORY ENGAGEMENT, CONSENT, AND DATA LITERACY
- COMMON FRAMEWORKS, METRICS, AND GUIDANCE
- TRANSPARENCY AND COMMUNICATION

- COMMUNITY ENGAGEMENT
- DATA STEWARDSHIP
- LOCAL ACTORS
- TRUSTED INTERMEDIARIES

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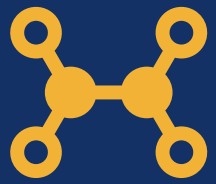
WHY WE NEED A DATA ASSEMBLY

To achieve broadly acceptable policy solutions that harmonize and address the needs of as many stakeholders as possible, we initiated deliberations with three cohorts involved in or impacted by data re-use:

A mini-public of New York residents that aims to be representative of various community groups and individuals;



An assembly of rights groups and advocacy organizations; and

A selection of data holders and policymakers operating in New York City.

EXPERT PANEL

Stefaan Verhulst
The GovLab

Gale Brewer
Manhattan Borough President

Nick E. Smith
NYC First Deputy Public Advocate

Zachary Feder
Open Data Program Manager, NYC Mayor's Office of Data Analytics

Paul Ko
Head of LinkedIn Economic Graph Analytics, LinkedIn

Jaclyn Sawyer
Director, Data Systems, Breaking Ground

Diana Plunkett
Manager, Strategic Initiatives at Brooklyn Public Library

Kathleen Riegelhaupt
Associate Director, Digital Policy, New York Public Library

Mariko Silver
President and CEO, Henry Luce Foundation

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DATA ASSEMBLY AS A METHODOLOGY TO MAKE SMART CITIES TRUSTWORTHY AND LEGITIMATE

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CROSS-CUTTING RECOMMENDATIONS

Match Urgency with Accountability

Support and Expand Data Literacy

Center Equity

Engage Legitimate, Local Actors

Develop Positions for Responsible Data Re-Use

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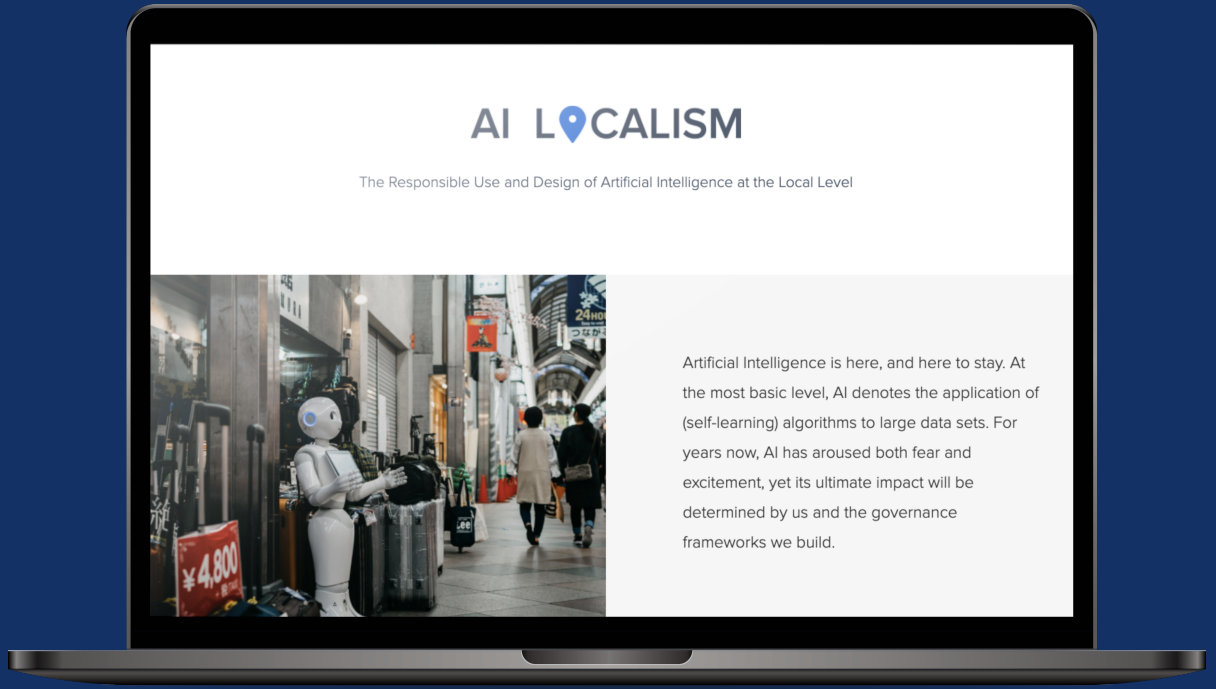
AI LOCALISM



To learn more about The Data Assembly
visit http://thedataassembly.org

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The need to acquire a social license to re-use smart city data through data assemblies

Written Testimony by
Stefaan G. Verhulst
Co-Founder, The GovLab,
Tandon School of Engineering, New York University

Before the New York City Council Committee on Technology

January 19, 2021

***

Chairman Holden and distinguished members of the Committee, thank you for allowing me the privilege to appear virtually before you today. My name is Stefaan G. Verhulst, Co-Founder of and Chief Research and Development Officer at the Governance Lab ("The GovLab") at New York University. The GovLab is an action research center whose mission is to strengthen the ability of institutions—including but not limited to governments—and people to work more openly, collaboratively, effectively and legitimately to make better decisions and solve public problems. I had the unique pleasure of addressing this committee two years ago on how to leverage and share data for urban flourishing (and in particular, how to do so through an approach known as data collaboratives, which I will explain further below).

Though I speak today on similar issues, we live in a vastly different world than in 2019. Over the last year, the city has faced enormous challenges. To date, the COVID-19 pandemic has sickened an estimated 493,000 New York residents and killed over 25,000. An economic crisis

left 14 percent of all workers without jobs by September and closed thousands of small businesses. Protests forced the city to reckon with questions of police accountability and long-standing inequities.

In crises such as these, calls for the city to harness technology and data to help policy-makers find solutions grow louder and stronger. Many have spoken about accelerating already ongoing work to turn New York into "a smart city"—using digital technology to connect, protect, and improve the lives of its residents. Some of this proposed work could involve the use of sensors to collect data on how people live and work across New York City. Other work could involve expanding the city's relationships with private organizations through data collaboratives. Data collaboratives, which are central to our work at the GovLab, are a new form of collaboration that extends beyond the conventional public-private partnership model, in which participants from different sectors exchange their data to create public value. The city already operates one such data collaborative in the form of the NYC Recovery Data Partnership, a partnership that allows New York-based private and civic organizations to provide their data to analysts at city agencies to inform the COVID-19 pandemic response. I have the privilege of serving as an advisor to that initiative.

Data collaboration takes place widely through a variety of institutional, contractual and technical structures and instruments. Borrowing in language and inspiration from the open data movement, the emerging data collaborative movement has proven its value and possible positive impact. Data reuse has the potential to improve disease treatment, identify better ways to source supplies, monitor adherence to non-pharmaceutical restrictions, and provide a range of other public benefits. Whether it is informing decision-making or shaping the development of new tools and techniques, it is clear that data has tremendous potential to mitigate the worst effects of this pandemic.

However, as promising and attractive as reusing data might seem, it is important to keep in mind that there also exist widespread concerns and challenges. Like all tools, the technologies that make up a smart city, and the data they generate, can be used well or badly, in ways that align with local values and expectations and in ways that do not. As you are all no doubt aware, in Toronto, city leaders signed onto a billion-dollar plan with Sidewalk Labs, an Alphabet subsidiary company, to transform a slice of the city's waterfront into a "neighborhood of the future" without consulting residents early enough in the process. Local opposition and concerns about sensor-enabled surveillance eventually led to the project's cancellation.

In order to avoid a similar crisis of legitimacy in New York, it is essential that we build trust among all stakeholders, and especially the general public. That is why it is incumbent on policymakers and others who would use data for the public good to exercise extra due diligence in doing so. They need to both ensure they can limit the application of technology to the originally identified purpose and that the application matches local expectations and values. Any reuse of data must be accompanied by a "social license" to do so, by which I mean the ongoing approval within those communities the project seeks to help, as well as other stakeholders. I firmly believe (and history has shown) that without trust and legitimacy—themselves products of an open, transparent, and participatory planning process—no smart city project can ever succeed.

The Data Assembly

Aware of this need to build trust and legitimacy, and also of ongoing city-led efforts to use data in the pandemic response, The GovLab recently launched a project that we call the Data Assembly: a Citizens Assembly on the Re-use of Data. Built in collaboration with the Henry Luce Foundation, the project aims to enhance public participation in the re-use of data for COVID-19 in

New York City. In particular, the Data Assembly sought to increase understanding among policymakers and others about how different communities feel about the underlying issues, and especially about risks and benefits that are inherent to data reuse. Current signals about social attitudes and values toward data tend to come primarily from op-ed pieces in newspapers and broad surveys of public opinion. Such snapshots of opinion tend to be quite simplistic and lack a context for meaningful deliberation. Deliberative public engagement methodologies, such as those used for the Data Assembly, offer a more context-rich approach, allowing us to understand how different constituencies make value judgements and how they perceive challenges and risks involved in data sharing.

Through the summer of 2020, we sought diverse and actionable input toward developing a responsible data re-use framework. Our work relied on virtual “mini-public” deliberations which we co-hosted with the Brooklyn Public Library and New York Public Library. The deliberations took place among three cohorts: data holders and policymakers operating in New York; rights groups and advocacy organizations; and New York city residents. Participants in each group received short briefings about data re-use followed by examples of hypothetical applications (inspired by real world cases) of using data for COVID-19. The exhibits prompted conversations about what types of data re-use participants considered appropriate, and under what conditions. My colleagues and I facilitated these discussions, encouraging participants to reflect on why they felt the way they did and what general principles city leaders should use when thinking about data re-use.

EXHIBIT A Mobility Data Analysis	A telecommunications company collects location data from devices that downloaded certain apps and opted in to the app tracking where they are. Apps are maps, step counters, and weather apps unrelated to public health. The company processes data to remove identifying features such as names, phone numbers, and device identification numbers. It shares its aggregated data with health agencies, local government, and university researchers to help them assess adherence to lockdown policies. Data is kept for the crisis duration. Assessments of it may be used in a variety of ways, such as informing future policy changes or redistributing enforcement to different neighborhoods.
EXHIBIT B Consumer Data	Consumer spending during the pandemic falls drastically. A major credit card company analyzes its consumer spending habits throughout the pandemic and stages of reopening. The company follows an internally defined procedure to aggregate and anonymize the data. The company and a local economic recovery government agency announce a partnership that will allow the agency to conduct analyses of consumer data in a safe sandbox environment (an isolated environment on a secure network). Insights from the analysis are used for internal decision-making within the government agency.
EXHIBIT C 311 Data	A city government department is responsible for responding to and triaging non-emergency calls and complaints from city residents. During the pandemic, the number of calls related to social distancing and face covering-related complaints spike. The majority of these complaints are directed to the city's police department, which is one of the agencies supporting the enforcement of social distancing rules. Information about complaints and resolutions is recorded on the city's open data platform, including date, neighborhood, incident address, complaint type and description. This information is stored on the open data platform indefinitely.

Table 1: The Data Assembly Re-Use Exhibits

These engagements differed from traditional public hearings and solicitations in that they provided people from a variety of backgrounds the space to develop ideas collaboratively and co-create solutions to problems they saw every day. Not only did these conversations reveal under-examined perspectives but also sophisticated attempts to weigh value against risk. While

not everyone is an expert in data science, we found that everyone interacts with data in some way and has instinctive and often quite informed views on its use.

The mini publics offered nuance that only diverse public input can provide, and revealed the complexity needed to design and evaluate a data re-use project. We firmly believe that understanding such complexity, and building on it, is key to enhancing public trust of data re-use, and thus to unlocking some of the very real potential that technology offers in addressing the Covid-19 pandemic.

Toward a Responsible Data Re-Use Framework

We extracted major points and expectations from the three deliberations into a report titled *Responsible Data Re-Use Framework.* This report is intended to provide general design and governance considerations when re-using data for public good .

The report includes a *Design Wheel of Data Re-Use* which provides organizations a checklist to consider public expectations and development options. The checklist includes the following elements (the Appendix contains more details):

- *Why*, the purpose, scope, and limitations of data reuse;
- *What*, the data assets needed and their technical requirements;
- *Who*, the actors involved and their responsibilities;
- *How,* the operational strategy and governance framework for data re-use;
- *Where,* the local focus and contextual and jurisdictional implications of a project;
- *When,* the duration of the data re-use effort, including data retention, termination, and modification.

The wheel does not prescribe how organizations should resolve the questions it raises. That work needs to be done by organizations themselves, in collaboration with the public, according to the specific components of the project. One of the findings of our research concerns the wide variability of needs and optimal structures for data reuse. Our intention was therefore to provide a broad framework, but to ensure enough flexibility for contextual adaptation.

Figure 2: The Design Wheel of Data Re-Use

We presented these findings to the public and city leaders on October 21, 2020 through an expert panel and virtual town hall discussion. The panel featured reflections on the Data Assembly's findings and recommendations from Manhattan Borough President Gale Brewer, New York City First Deputy Public Advocate Nick E. Smith, NYC Open Data Program Manager Zachary Feder, representatives from the Brooklyn and New York Public Library, and Henry Luce Foundation President and CEO Mariko Silver.

The broad support for the initiative we received from the participants and townhall attendees suggests a new methodology that the city might embrace for future technology and

data re-use proposals. By using mini-publics, the city can do more than just ensure it is engaging with various groups. It can engage New Yorkers in co-developing city policies, principles, and priorities. We are now building on this more targeted, nuanced citizen engagement strategy to tap into stakeholders' perceptions on effective and legitimate local governance of AI projects through our AI Localism initiative.

Cross-Cutting Recommendations

The Data Assembly initiative produced additional insights that could be instructive for future projects. In addition to the design principles noted above, the report includes some attitudes and principles that can guide data re-use on COVID-19 or smart city work more generally. Participants in all three mini-publics expressed support for increased responsible e-use of data for public interest purposes, though this expanded support does not excuse organizations from responsible data practices and other basic duties of care. Participants also expressed a desire for data re-use efforts to ensure equity by including legitimate, local actors to create public value from data rather than prioritizing state or federal actors. Our analysis of the conversations further revealed a need to promote data literacy through institutions such as public libraries and to help organizations create positions within their organizations devoted to coordinating data re-use, positions we call data stewards.

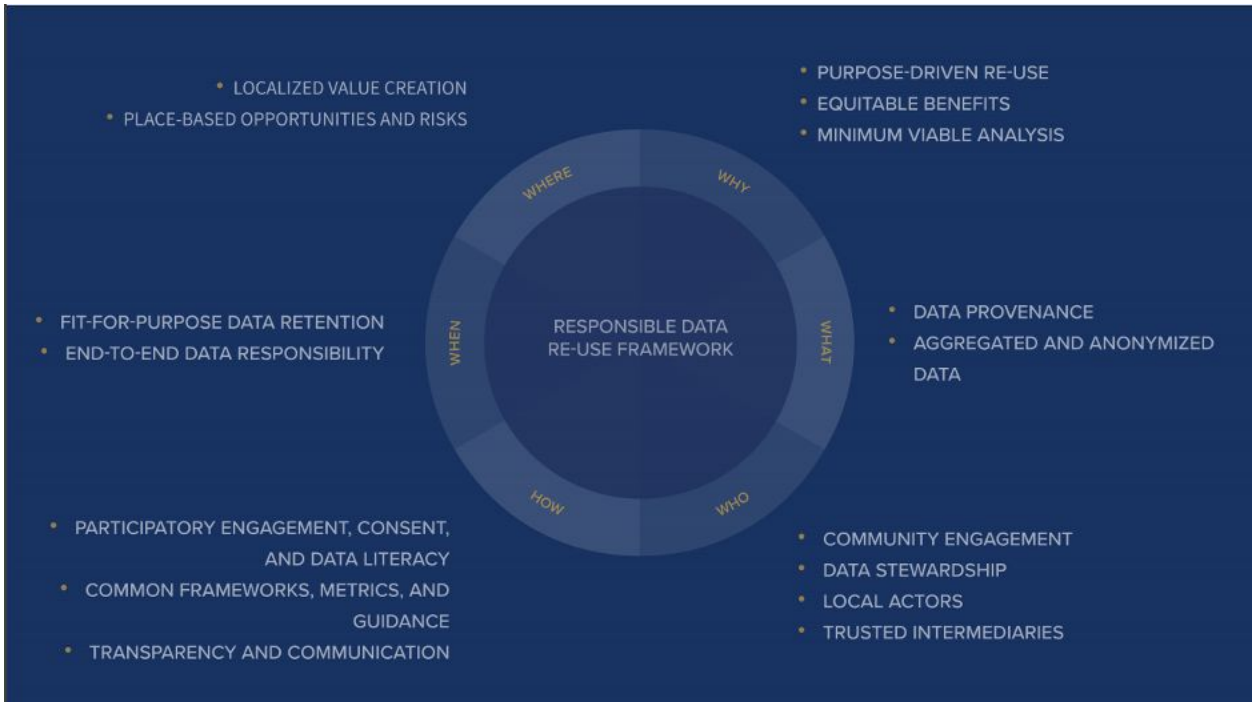
Figure 3: Recommendations from The Data Assembly

My colleagues and I at The GovLab believe the Data Assembly methodology offers the city a new way forward on the issues under discussion today, as they relate to smart cities. In our view, oversight cannot just be a reactive process of responding to complaints but a proactive one, inviting city residents, data holders, and advocacy groups to the table to determine what is and is not acceptable. Amid rapidly changing circumstances, the city needs ways to collect and synthesize actionable and diverse public input to identify concerns, expectations, and opportunities. We encourage the city to explore assembling mini-publics of its own or, failing that, commission legitimate partners to lead such efforts.

New York faces many challenges in 2021 but I do not doubt the capacity of its people to overcome these struggles. Through people-led innovation and processes, the city can ensure that data re-use conducted as part of the smart city is deemed legitimate and more effective and targeted. It can also support the city in ensuring work across the city is more open, collaborative, and legitimate.

Appendix: The Responsible Data Re-use Framework

The below framework is informed by The GovLab's Data Assembly deliberations and is organized according to the Why, What, Who, How, When, and Where of data re-use. The framework intends to support a move toward more equitable, ethical, and sustainable data re-use efforts in the public interest.



WHY: ***the purpose, scope, and limitations of a data re-use project***

1. What is the purpose of this data re-use project? Clearly outline the mission and goals.
2. How will this project benefit the community and inform decision-making to address COVID-19?
3. Is the re-use of data necessary for this project? Consider if this data re-use is the most direct, least invasive means to achieve the intended purpose.
4. Who are the target audiences of this project?
5. What steps will this project take to capture under-served, "data-invisible" populations?
6. What are the risks posed to the subjects and communities used in this data collection by re-using this information?

WHAT: ***the standards, formats, and technical requirements of data assets used in a project***

1. Where did the data come from?
2. Are the potential biases, limitations, and previous uses of the datasets clearly outlined?
3. Has the data provenance — the origin, biases, limitations, and past dataset use — been communicated to other collaborators and stakeholders?

4. What efforts have been made to mitigate biases and limitations of the dataset?
5. Has the data been aggregated and anonymized to protect individuals and groups involved in the data?
6. What steps have been taken to avoid the inadvertent re-identification of data subjects in relatively small samples?
7. How does the data re-use initiative ensure that “data invisibles” are not left behind when targeting service delivery?
8. What are the risks associated with the data visibility of previously “data invisible” groups? Consider these risks even for projects intended to benefit these communities.
9. What safeguards will be put in place to protect these datasets (and thereby the people from whom the information was collected)?

WHO: ***the actors, their custodial duties, data access criteria, and rights and responsibilities involved in a project***

1. State the actors involved in the project and their sector criteria (i.e. data provider, data user, data subjects, members of the public, community leaders, local governments, non-profits, businesses, academia, trusted intermediaries, or intended beneficiaries.
2. What type of re-use of data is most appropriate and potentially impactful by each actor?
3. How will this project engage with stakeholders during the planning stages of the project?
4. Has this project embedded data steward roles throughout the data re-use lifecycle to ensure the data is clean, accurate, and handled carefully and ethically?
5. Have “trusted intermediaries” been identified and included in the project planning and implementation process? Do some of these intermediaries have legal knowledge that can support more effective data re-use?
6. What steps will be taken to support community-led data literacy training and education? Including intermediates in these initiatives can help spur community engagement.
7. Are the institutional actors involved data literate? What steps have been taken to strengthen their data literacy skills?

HOW: ***the operational strategy and governance framework for data re-use***

1. Have data subjects and community leaders been consulted throughout the project’s planning stage?
2. Has a representative community panel been consulted on appropriate types of data re-use before the project start date?
3. Are data subjects clear on which data activities are enabled by their consent? Specifically, is the upfront ability to opt-out of data re-use — including re-use of aggregated data — offered to subjects before the start of the project? Bolstering data literacy initiatives can help ensure that this consent language is clearly communicated to data subjects.
4. Have legal agreements between data suppliers and data users been made publicly accessible? Are these documents publicly published? Are these documents translated into short, accessible language for the public?

5. Has a transparency charter regarding the intentions, operations, parties involved, and outcomes of a data re-use effort been created and communicated to the public?
6. Has the decision-making methodology, including how authorities collect, process, share, analyze, and re-use data, been shared with the public?
7. Can the data provenance be tracked and justified for data re-use in this project? Are the scope and limitations of the data publicly represented in a transparent manner?
8. Does the project have a third-party oversight board that influences data re-use and ensures it is carried out in an ethical manner?

WHEN: ***the duration of the data re-use effort, including data retention, termination, and modification***

1. Ensure the data is only held for as long as necessary to address the core issue or to answer the key question that is driving the re-use project.
2. Have any future-oriented or exploratory analyses of the data received renewed consent from data subjects?
3. Are data subjects informed on their ability to opt out of data re-use prior to the initiation of the new project/analysis?
4. What are the best practices identified from this project? What are the areas of improvement? Gather end-to-end data feedback from stakeholders and collaborators highlighting challenges, risks, and opportunities at the planning, collecting, processing, sharing, analyzing, and re-using stages of the data lifecycle. Policies, procedures, and oversight should be designed and deployed with a focus on navigating inevitable shifts in circumstance over time. Have these findings been published to help future projects?

WHERE: ***the local focus and contextual and jurisdictional implications of a project***

1. How does the re-use of data address local, community-based problems and opportunities?
2. How will the project ensure that the data is held for the shortest amount of time needed to reach its intended mission?
3. What protocols are in place to protect subjects and areas included in sensitive aggregated location data?
4. How are risks and challenges of geo-location identified, assessed, and mitigated by data stewards and third-party oversight boards?
5. What protocols are in place for parties to relinquish access or destroy re-used data after it has served its purpose? How will these processes be verified?
6. What is the process for parties to renew consent from data subjects to hold and study the aggregated data for a longer period of time if needed?

Read more about the Data Assembly and the results of The GovLab's mini-publics at: https://thedataassembly.org/.

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Testimony of Mona Sloane before New York City Council Committee on Technology on Oversight – Smart City

Brooklyn, January 17, 2021

Dear Chair Holden and Members of the Committee:

Thank you for the invitation to testify, I appreciate the Council's attention to new questions that arise in the context of the "smart city".

My name is Dr. Mona Sloane, and I am a sociologist based at New York University. I draw on a decade of research experience at the intersection of cities, society, design, technology and policy.

I hold a PhD in Sociology from the London School of Economics and Political Science, where my dissertation focused on architecture and urban space design, and I am currently a Fellow with NYU's Institute for Public Knowledge (IPK). I also serve as Adjunct Professor at NYU's Tandon School of Engineering, where I also work with Julia Stoyanovich and Steven Kuyan on building the Center for Responsible AI. I am the Principal Investigator of the Terra Incognita research project[1], which focuses on understanding how New Yorkers create *digital* public space in the COVID-19 pandemic, as well as the "Procurement Roundtables" project, which focuses on innovation in technology procurement. My professional expertise encompasses the topics of equity in urban design, technology ethics, artificial intelligence (AI) policy, technology procurement, and digital public space.

Cities have always been at the heart of technological innovation and progress. The growing significance of smart systems, automated decision-making systems (ADS), and AI technologies underlines this premise: cities around the world are increasingly taking to these systems in order to keep their complex operations running – a phenomenon that has further been amplified by the pressures cities face in the COVID-19 pandemic. At the same time, there is mounting evidence that ADS and AI technologies can amplify inequality. There is a clear need for regulatory guardrails that enhance, and not hinder, innovation.

[1] For more information, visit https://newpublic.org/terra-incognita.

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NYC can lead the way. New York City, arguably, is a leader in the ongoing policy discourse around algorithmic fairness and equity. In order to retain and expand this position, and center the wellbeing, prosperity, and self-determination of every New Yorker, I want to suggest that the Council considers the following points when mapping the field of the "smart city":

- **There is no technological fix to social problems**. The history of urban design in the United States is a history of segregation and oppression. The ongoing legacies of this systemic oppression have found their way into the "smart" technologies we use today. For example, risk scoring algorithms used for loan decisions rely on ZIP code to predict the likelihood of default[2], effectively automating the harm of redlining. Predictive analytics used in policing show racist patterns[3], and transport pricing can systematically disadvantage communities of color[4]. As we move towards the "smart city", we must be mindful of the many ways in which technologies embed oppressive politics and instead embrace a cross-disciplinary dialogue on problem-solving that centers the voices of those communities whose problems are being solved.

- **The privatization of infrastructure is a risk**. Stripped of resources and funding, but also lacking technical expertise, capacity, and talent, local authorities often have to rely on private actors to implement and maintain critical technological infrastructures, such as broadband, processing software, or information systems. This phenomenon has been amplified by the economic devastation caused by the COVID-19 pandemic[5]. With the shift into private ownership, local decision makers and the public lose oversight and power over these infrastructures and their maintenance. This can result in their breakdown, which can severely affect the social fabric. The largescale privatization of critical infrastructure such as water and sewage disposal systems or the transport system in the United Kingdom sets a dark precedent. Conceptions of the "smart city" must learn from these experiences and ensure public ownership and oversight of critical technological infrastructure.

- **Localism plays a new role in how we create good "smart cities".** The research that I have conducted in the summer of 2020 on the emergence of digital public space in NYC during the pandemic (report "Terra Incognita: NYC", forthcoming) strongly indicates a new

[2] Kroll et al., 2017, "Accountable Algorithms", https://scholarship.law.upenn.edu/penn_law_review/vol165/iss3/3/
[3] O'Donnell, 2019, "Challenging Racist Predictive Policing Algorithms under the Equal Protection Clause", https://heinonline.org/HOL/LandingPage?handle=hein.journals/nylr94&div=20&id=&page=
[4] Transform, 2019, "Pricing Roads, Advancing Equity", https://www.transformca.org/sites/default/files/Pricing_Roads_Advancing_Equity_Combined_FINAL_190314.pdf
[5] See, for example, Mar Hicks, "Built to Last", Logic Magazine, Issue 11 "Care", August 31, 2020, https://logicmag.io/care/built-to-last/.

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significance of locality: people have forged deeper connections with their neighbors and their neighborhood. At the same time, the technology needs differ from community to community, but all communities need and deserve access to technological infrastructures, from broadband to computers and classes in libraries. At the same time, locality becomes increasingly relevant in the context of technology policy and governance innovation, a phenomenon that Stefaan Verhulst (The GovLab) and I have called "AI Localism"[6]. Examples of AI Localism range from local regulation of AI-powered facial recognition technology, to new local procurement rules pertaining to AI technology, or public education programs on AI that are offered locally. Good "smart city" innovations must build on both these developments and strengthen local technology knowledge and capacity among citizens and policymakers.

Against this backdrop, I want to offer three recommendations:

1. **A "Smart City" Working Group**. I recommend that the Council create a working group that generates a socio-spatial map of technology concerns and needs of New Yorkers across all five boroughs. This map should not only focus on access to broadband, but also map out the different activities of communities and the technologies needed for these activities. For example, small local businesses in Queens have different technology needs than parent groups in Brooklyn. I recommend that the working group be comprised of community leaders, representatives of advocacy groups, researchers, and technologists, and that the Council select the members of this group base on an open call for applications.

2. **Procurement Innovation**. I also recommend that the Council focus on procurement innovation for "smart city" technologies that includes a new focus on impact assessment and mechanisms for public oversight.

3. **Focus on Justice**. I recommend that the Council develop strategies for focusing "smart city" innovation and projects on the most pressing socio-political and -ecological issues of our time via the frame of justice. All "smart city" projects and innovations the City engages in should have a focus on racial, generational, gender, disability, and environmental justice, as well as their intersection with other categories of identity and concerns.

I want to thank the Council and Chair holden for the opportunity to testify and want to underline that I believe that New York City can and will continue to set precedents of local leadership in just technology development and governance innovation.

[6] For more information, please see https://ailocalism.org/.

I support the use of sound-sensing technology to mitigate noise pollution in New York City.

Noise pollution is getting worse. The technology to amplify sound in cars and on motorbikes has made it very easy to produce high decibel sound with small easily installed electronics. Altering mufflers on vehicles to produce excessive noise is also easy.

One solution is to use sound-sensing technology to identify perpetrators of high decibel sound and penalize them and so act as a deterrent.

Noise sensing technology in the Smart City

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I request the chance to testify for two to four minutes about the potential environmental health and environmental justice benefits of using noise sensing technology as part of a Smart City plan. Cities throughout the world have begun to pilot test different kinds of noise sensing technology. The SONYC program in New York City is excellent, but there is room for pilot projects that use other forms of sound sending.

A sampling of cities that are testing or using sensing technology

Regina, Canada

https://www.cbc.ca/news/canada/saskatchewan/regina-loud-cars-city-council-1.5699834

Calgary, Canada

https://calgaryherald.com/news/local-news/city-eyes-network-of-noise-sensors-to-curb-calgary-clamour

Beijing, China

http://www.chinadaily.com.cn/china/2017-07/14/content_30112411.htm
https://www.thebeijinger.com/blog/2018/04/19/beijings-decade-long-car-horn-ban-now-upheld-automated-detectors

Paris, France

https://www.motorauthority.com/news/1124883_paris-is-testing-noise-radar-to-automatically-ticket-loud-cars
https://www.reuters.com/article/us-france-noise-motorcycles/paris-suburb-pioneers-noise-radar-to-fine-roaring-motorcycles-idUSKCN1VK1AA

London, England

https://www.msn.com/en-gb/news/newslondon/supercar-drivers-threatened-with-fines-after-londons-first-noise-cameras-installed-in-knightsbridge/ar-BB19N6Uk

Submission Date: 22 January 2021 via Email

NYC Council - Committee on Technology

Topic: Smart City Oversight / Strategy / Results

Date: 19 January, 2021 via Zoom

To: NYC Council - Committee on Technology

CC: NYC Mayor's Office - Office of the Chief Technology Officer City of NY

Panelist: Shane Nantais (808 855 5708 / core@magmachamber.org)

Residency: Community Board 2 - Manhattan East Village

Organization: Referred to speak by BetaNYC email.

Representing self as engaged citizen and digital professional. Formerly worked at (in digital divisions) Pfizer, Viacom and Google in NYC.

Testimony Topic: NYC Smart City Priorities from a Savvy Citizen

Thank you Moderator, Chairman Holden, as well as my esteemed fellow panelists and participants. I appreciate the time to speak about our Smart City strategies, priorities and tactics for New York City now and in the future.

New York City should remain at the vanguard of Smart City planning, action, analysis, engagement, and adjustment. A Smart City is a dynamic complex system that is never "Done" and always in "progress."

Top Three Smart City Legislative Priorities:

I - Metro Wide Smart City Long Term Plan

II - Digital Rights as Human Rights

III - Post Covid "MVP" Smart City "Hackathon" / LEAN problem solving

I. Create a community engaged and comprehensive **New York City Metropolitan Area** Smart City Strategic Plan** for next 5-10-15 years. I could be mistaken, but that last smart city in depth document was a 2015 addendum to the OneNYC2050 Plan
    A. Engaging citizens, SMBs, arts and cultural orgs and other key stakeholders including our visitors / tourist / part time NYCers
    B. Get public feedback on the plan in a LEAN manner (go fast, learn, but don't break things!)
    C. Create a framework to execute the plan in strategic phases with community input
    D. Unveil a robust Smart City NY Metro Area Operating plan with transparent outcomes metrics and clearly tracked milestones
    E. Make sure to include people OUTSIDE of NYC and Tourists/Visitors as we need to ensure our city retains its top professional talent and top global tourism industry as well.
    F. **Metropolitan area is outside the legislative scope of NYC Council but it is imperative to coordinate with our neighboring metropolitan states such as New Jersey, Connecticut and even Upstate New York for things such as transportation coordination, IoT Deployment and data sharing agreements, best practice sharing and multi-state procurement power. Clearly, we can only guide legislation NYC but we can influence other councils and coordinate in good faith inspiring our neighbors and aligning service delivery around our shared community who use the Metropolitan area for home, work and or play.

II. Establish Digital Rights as a Human Right protected by the NYC Human Rights Commission

A. This area is foundational and vast. I will not cover all of my POV in Testimony but I'd be happy to do follow ups on this topic

B. Top Aspects of Digital Rights as Human Rights

1. The Right of internet access (Internet as new public utility)
2. The Right of Personal Data Ownership, Agency and Access
3. The Right of Recourse and Remedy when/if rights violated

In short - we should have a "GDPR" for New York City. Please see the work that California and Vermont have this area in the last few years.

This isnt a nice to have - its also top of the agenda at Davos this year.

References:

California CCPA - Context:

https://www.ciodive.com/news/how-a-real-estate-developer-gave-california-a-head-start-in-data-privacy-le/555012/

Davos Digital Identities, Trust and Civil Society

https://www.weforum.org/agenda/2021/01/davos-agenda-digital-identity-frameworks/

- Building trust with citizens around the secure usage of personal data will be

  key to creating effective frameworks.

- Policymakers need to move as quickly as the technology.

III. Post-COVID “MVP” Smart City Plan could include immediate design thinking and rapid deploy and learn actions around areas such as

Think of this as the “Hackathon” that helps us to get the longer term metropolitan strategy mentioned in #1 NYC Metro Smart City Plan

A. A Smart City is a Healthy City - How can wellness be front and center for NYers during and post-covid?
B. Restaurants from surviving to thriving - more city sponsored co-working kitchens? Producing healthy food @ scale
C. Welcoming Tourists safely and securely back to NYC
D. Food safety and security as well as increased access via greentech / green roofs and community-based food cooperative kitchen/garden/food makerspaces (similar to point b)
E. Privacy-preserved and medically verified vaccination record exchange capabilities (Potential use of Blockchain Ledger Tech)
F. The City as a Platform for independent workers and SMBs
    1. City negotiates tech service rates for its businesses
        a) Note - This is for those who WISH to participate because they are small and don’t have scale to get better rates, bigger companies will likely decide to use their own negotiating leverage. Or join us!
            (1) IE Salesforce.com Contracts
            (2) Paypal or Merchants Fees in general
            (3) HRIS Software (Both for 9-5 jobs and Ad Hoc)
        b) Think of the city as a ‘preferred partner’ of these tech companies - passing along a **group discount** to our member businesses and independent freelancers - not administrative overhead or carry cost for city
    2. City creates “pop-up” grant program for newly started businesses and NFPs to have storefront / meeting space (Esp when so much commercial real estate is empty)

See this example in Sydney that I'd love to replicate here in NYC. In their case, Sydney owns these spaces. In NYC's case, we should partner with city businesses small or larger to match them with short term tenants (A grant or tax credit? paid from City to owner)

The "grantee" could be a business moving from online to bricks and mortar, or a former chef starting a delivery-only "ghost kitchen," or an artist able to show and sell new work.

https://www.cityofsydney.nsw.gov.au/cultural-support-funding/short-term-creative-spaces-program

https://www.brandx.org.au/short-term-empty-property

3. City creates Lifelong learn and certification centers where city residents of any age and test and validate their current skills as well as learn as more for free or sliding scale
4. The Learning Centers both grow the workforce and retrain workers as well as provide verification for employers

Please know I'd love to help meaningfully contribute to this initiative and am able to provide further information and answer any questions. For now, I'll leave you with a reference from City of Sydney's digital strategy. I look forward to watching NYC evolve into the smartest, most sustainable, liveable and dynamic city on the planet.

Thank you for listening (or reading) to my testimony. I am always available to answer in depth questions. Please contact me by phone or email.

End of Testimony.

YouTube Link of recorded testimony: https://youtu.be/PcZCZvFi1Us

Shane Nantais LinkedIn: https://www.linkedin.com/in/shanenantais/

REFERENCES - CITY of SYDNEY DIGITAL FRAMEWORKS / PLAN

Please note the framework is based on "digital rights as human rights" or at the very least of ethical usage.

Referenced from:

https://www.cityofsydney.nsw.gov.au/strategies-action-plans/smart-city-strategic-framework

Our smart city strategic framework identifies the 5 outcomes we want to achieve with **smart, ethical and secure use of data and technology**, underpinned by smart infrastructure:

1. Supporting connected and empowered communities. We co-create the design and provision of city services and facilities with our communities. And we empower our communities to make more effective decisions by using open data and having the skills and tools to innovate and thrive.
2. Fuelling global competitiveness and attracting and retaining global talent. We embrace digital disruption to foster an innovation ecosystem, cultivate a culture of experimentation and sustain Sydney's position as a global magnet for talent.
3. Futureproofing our environment and bolstering resilience. We make purposeful use of data to monitor, predict and manage city conditions and the impacts of shocks and stresses on our city and community. We embrace new technologies that accelerate our progress to a carbon-neutral future.
4. Cultivating vibrant, liveable places. We use data and technology to help us optimise street space allocation and prioritise active transport, improve how we plan, build and maintain infrastructure, assets and systems, and enhance the experience of the physical city.
5. Providing customer-centric efficient services. We use data to understand the community's needs and preferences so we can provide joined-up, personalised and responsive services. We embrace smart technology and operating models to provide the efficient services our communities expect.

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January 21, 2021

To the NY City Council, Committee on Technology:

I don't believe enough is being done in the city to address the health hazards of the extreme noise we live with; that is why I am in favor of sound-sensing technology to mitigate noise pollution in New York City.

I reside in Hamilton Heights. While I accept that New York can be noisy, this year the noise level in my neighborhood has exploded, reaching decibels I've never had to endure before.The cause is inconsiderate, attention-seeking drivers who have modified their mufflers and exhaust systems to create an unconscionable level of noise. The other day I was passed by a muscle car driving slowly up the street, in a seeming attempt to cause the longest amount of pain, SCREAMING its engine. I felt so much pain I thought I was going to throw up. It was so physically upsetting that by the time the driver finally passed I was shaking. And of course I wasn't alone on the street—hundreds of people around me, up in their apartments, were also held hostage to whatever anger this aggressive driver was trying to impart.

I've tried calling 311, but as soon as I put down the phone I get an email saying the police have investigated my complaint of "loud talking" and didn't find any issues. It's a joke. To me this proves how little prepared NYC is to even acknowledge, much less deal with, the noise we deal with every day.

My street is also plauged by two loud buzzing sounds emanating from different buildings, but there seems to be absolutely no way to bring this to anyone's attention and get it fixed.

I don't know a lot about the sound-sensing technology that is being proposed, but if it is something that can detect and track city noise, and eventually help solve or mitigate the problem, it's long over due and should be put into effect immediately.

Thank you for your consideration,

Kristi Roberts

HARVARD Kennedy School
JOHN F. KENNEDY SCHOOL OF GOVERNMENT

Statement of
Rebecca Williams
Technology and Public Purpose Fellow at Harvard Kennedy School Belfer Center for Science and International Affairs

Before the New York City Council
Committee on Technology
Hearing on Smarty City Oversight

January 19, 2021

Introduction

Chairman Holden and Distinguished Members of the Committee, thank you for the opportunity to testify today on smarty city oversight, I regret that I could not make this time virtually. My name is Rebecca Williams and I am a Fellow at the Harvard Kennedy School Belfer Center for Science and International Affairs participating in their Technology and Public Purpose (TAPP) project and I am spending the 2020-21 academic year assessing potential risks smart city technology may pose, assessing current policies and practices, and developing recommendations for the public, governments, and vendors to prevent these harms. Prior to my role as a TAPP Fellow, I used my legal and city planning training in a variety of city management roles tackling energy policy, affordable housing, and code enforcement, and spent 7 years of experience as an advocate, consultant, and civil servant developing various government data and IT policies (including many related to open access). While my research is currently underway, I would love to continue a dialogue with the Committee on Technology on this matter and would be happy to share my findings with the Committee at the completion of my fellowship. It should be noted that my testimony hear today is representative of my views and does not reflect those of the Harvard Kennedy School.

Potential Harms of Smart City Technology

First of all, I would like to applaud the New York City Council on hosting this hearing on the oversight of smart city technologies. There has been an uptick of public outcry related to smart city technology use globally, including but not limited to pushback by local activists[1] and scholars[2] to development of the Sidewalk Labs' flagship "smart city" project in Toronto, objection to the use of the Mobility Data Specification[3] in Los Angeles, and concerns regarding the budding Port Covington TIF[4] in Baltimore, as well as public concerns with New York City's very own LinkNYC project potential Amazon's HQ2[5]. Simultaneously, police departments have been under scrutiny for leveraging "smart city" technology as an extension of their surveillance technologies, such as when smart streetlight footage of protesters was shared with law enforcement in San Diego[6]. While many of these concerns have been reduced to "privacy" I would like to share

[1] https://www.blocksidewalk.ca/
[2] https://some-thoughts.org/
[3] https://ladot.io/wp-content/uploads/2018/12/What-is-MDS-Cities.pdf
[4] https://pc.city/
[5] https://www.forbes.com/sites/victoriapavlova/2018/11/08/in-amazons-competition-for-hq2-was-data-the-ultimate-goal/?sh=12e3d37bd039
[6] https://www.voiceofsandiego.org/topics/government/police-used-smart-streetlight-footage-to-investigate-protesters/

with you some additional harms I have outlined in the blogpost "*What's so Dangerous About Smart Cities Anyway? Perspectives on Public Purpose"* on December 16, 2020[7]:

Lack of Community Input

A first order issue is does the community where "smart city" technology will be deployed want it? To know the answer to this question means ongoing engagement with a community and robust dialogue about types of data collection, how that might contribute to the collective good, and all the trade-offs involved. Given the other possible harms involved (see below), projects should not be pursued at all unless the community is on board for an articulated outcome. Challenges for community input on "smart city" technology include ensuring that approval is informed (perhaps via trusted experts and intermediaries) and identifying the appropriate level of approval (e.g., neighborhood v. city, majority v. unanimous). Examples like Sidewalk Lab's poor public reception (procedurally as well as substantively) to their Master Innovation and Development Plan highlight the need for this dialogue to take place before the procurement process takes place. Cities like Boston and Seattle have attempted to systematize community input on "smart city" tech with a Boston Smart City Playbook[8] (which highlights the need for right-tech versus high-tech approaches to civic problem solving) and Surveillance Impact Report[9] processes (which highlights the need for public comment, working group, and council approval of new surveillance technologies).

Erosion of Privacy and 4th Amendment Protections

While community input is a first order issue to deploying "smart city" technology, the rest of these harms are not delineated in any sequential or ranked order. As technology development moves faster than law, there is a trend of technology expanding possible searches by law enforcement and that expansion being challenged in court as a violation of our Fourth Amendment protection from unreasonable searches and seizures. While an individual's actions or movements in public spaces have historically fallen outside the scope of Fourth Amendment protections, recent case law has inspired some legal scholars, such as Andrew Ferguson, to examine how digital may be considered

[7] https://www.belfercenter.org/publication/whats-so-dangerous-about-smart-cities-anyway
[8] https://monum.github.io/playbook/
[9] https://www.seattle.gov/tech/initiatives/privacy/surveillance-technologies/about-surveillance-

differently. In "Structural Sensor Surveillance" 106 Iowa L. Rev. 47 (2020)[10] Ferguson considers how automated, continuous, aggregated, long-term acquisition of personal data with "smart city" sensors may trigger Fourth Amendment scrutiny under current Supreme Court doctrine. Separate from Fourth Amendment protections, as a matter of public policy, one may consider other harms that may occur from an erosion of privacy including social detriment and a loss of liberty. How are "smart city" technology contracts construing their privacy policies? Lastly, as "smart city" technology collects more and more data that can be used to re-identify people, the cybersecurity of any information collected becomes an integral aspect of overall privacy protections. A data breach could lead to re-identifying someone and causing threats to their safety and wellbeing or economic loss.

Chilling of 1st Amendment Rights

In the U.S. the first amendment protects the five freedoms of: speech, religion, press, assembly, and the right to petition (protest) the government. The surveillance imposed by "smart city" could have a chilling effect on community members feeling comfortable participating in these protected activities for fear of harassment or retaliation by the state. As more instances of filming protestors are documented (such as in San Diego streetlight cameras, Miami University, Hong Kong) one could reasonably anticipate to be filmed and identified in public space. If public space becomes a place where one fears punishment, how will that affect collective action and political movements?

Discrimination / Oppression

Because "smart city" tech is applied to a given neighborhood, it shares the potential for discrimination rife in urban planning and public safety history and also a new power of extending those inequities to the digital worlds term that many have coined as "digital redlining". Potential harms that flow from disproportionate use or disparate community impact include loss of opportunity, economic loss, and social determinants (dignitary harms, constraints of bias). Cities, such as Baltimore and DC[11], have closed-circuit television (CCTV) installed in in majority nonwhite areas, on average, then in majority white neighborhoods. Detroit has come under scrutiny by local activists for using facial recognition

[10] https://ilr.law.uiowa.edu/print/volume-106/structural-sensor-surveillance/
[11] https://cnsmaryland.org/2020/11/19/police-cameras-disproportionately-surveil-nonwhite-areas-of-dc-and-baltimore-cns-finds/

technology in public housing[12], spurring the introduction of Federal legislation[13] to prohibit "the use of biometric recognition technology in certain federally assisted dwelling units." These biases compound as data collection from strategically placed "smart city" and other surveillance technology increasingly inform policy decisions such as predictive policing. Seattle's surveillance law requires Equity Impact Assessment reporting[14] as part of their surveillance technology review process, but to date the city has articulated an inexpertise in measuring this impact other than examining how it comes up in public comment.

Loss of Accountable Government

Lastly as governments continue to outsource technology services to private vendors the vendors at play take on a quasi-government function[15] without many of the accountability measures built into government functions such as public records access, public auditors, or consequences for elected officials if services do not meet community members expectations. Moreover, if care is not taken with data governance, community members may be further vulnerable to corporate influence via "surveillance capitalism." As "smart city" must be considered as a potential extension of police surveillance and its biases, it must also be considered as a potential extension of corporate surveillance. At what point does a single corporation have "vertical integration" (in terms of personal data) of a whole neighborhood? This corporate influence (via data, and sheer size of these vendors) was central to Sidewalk Toronto criticism, Amazon HQ2 criticism, and Port Covington criticism. For the data aspect, some cities have retained data rights in their contacts (e.g., GovEx's Data Ownership and Usage Terms[16]) or "open standards" (Mobility Data Specification) for access to data collected by the private sector but this raises new questions of what data the vendor be collecting and managing and what data should governments be collecting and managing. Namely, does this collection protect individuals and is the collection fit for its purpose[17]? Ultimately data collected for the purposes of consumer payment is more granular than what is needed for collective city planning and very different from data collected for the purposes of law enforcement. In addition to this fitness for

[12] https://www.nytimes.com/2019/09/24/us/politics/facial-recognition-technology-housing.html
[13] https://www.congress.gov/bill/116th-congress/house-bill/4008/text?r=11&s=1
[14] https://www.seattle.gov/tech/initiatives/privacy/surveillance-technologies/additional-surveillance-reports
[15] https://www.resite.org/stories/bianca-wylie-on-the-critical-design-process-of-democracy-in-smart-cities
[16] https://labs.centerforgov.org/data-governance/data-ownership/
[17] https://journals.sagepub.com/doi/10.1177/016555159502100204

purpose considerations, many alternatives[18] to data governance have emerged as potential approaches to navigating data spaces that must consider individual and collective purposes[19], as well as competing individual, corporate, and public interests. How is data access explicitly or implicitly included in "smart city" vendor business models or contracts? (i.e., Is part of the bargain that the vendor retains data as a good in exchange for the hardware they provide?) Where no or less money is exchanged, how is data access considered in public private partnerships and other test bed scenarios?

I am currently receiving feedback on the above outline of harms and some of feedback that I have heard to date includes additional concerns about reflecting community desires (e.g., who decides what data is collected?), additional concerns around data governance (e.g., concerns of consent to collect information), and additional concerns re: procurements (e.g., privatization of public spaces via this technology, vendor lock-in, perpetuating further surveillance solutions at the expense of other solutions). I would be happy to share with the Committee my final outline of harms and related government assessments when they become available.

Conclusion

In addition to examining policy for the oversight of smart city technology procurement, I call on the Committee to consider policy to prevent the harms outlined above. In considering these harms the Committee may want to examine the Public Oversight of Surveillance Technology (POST) Act to see if it sufficiently covers "smart city" technology and expand that legislation beyond the police department to capture surveillance technologies deployed by other departments. As mentioned at the top of the testimony, it would be my pleasure to continue this dialogue with the Committee and share additional findings from my research.

[18] https://foundation.mozilla.org/en/initiatives/data-futures/data-for-empowerment/#10-data-governance-approaches-explored

[19] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3727562

Testimony on “Oversight - Smart City”, delivered to the New York City Council Committee on Technology Hearing.

Clayton Banks, Chief Executive Officer, Silicon Harlem - January 19, 2021

Good afternoon, Chair Holden and members of the Committee on Technology. My name is Clayton Banks and I am the Chief Executive Officer of Silicon Harlem. Thank you for the opportunity to testify today.

Silicon Harlem is a telecommunication and infrastructure technology team. Our expertise in Smart City strategies spans from broadband and sensors to virtual and autonomous technology. **Most conceptions of a smart city revolve around data whereas our concept revolves around people.** We have a goal to ensure that deploying smart city initiatives do not create another digital divide. Thus, our goal today is to offer key strategies to “pre-empt” the next digital divide and ensure a New York City smart city.is designed to serve all.

The first strategy is **targeting the distribution of new emerging technologies** that often follows economic incentives and results in inequitable distribution. The city should examine the location and siting plans of smart city pilots and assign priorities to underserved communities.

Our next strategy is to include advanced **universal access and disability justice** in our smart city. The city should work with organizations that have expertise in this area and co-design with the disability community to establish the equivalent of an ADA compliance standard that guides accessibility in our smart city.

Another strategy is to establish a **civic tech trust** that has more flexible contracting policies to hire underrepresented technologists from our public schools and support community workforce development programs.

We would like to see the city create **social responsibility standards and key equity indicators,** integrated into the framework of any smart city project, and investment.

We ask the city to consider and utilize **crowdsourcing based applications** and other interactive features to encourage everyday New Yorkers to engage in the city's expanded “smart city” open data. (eg. a portal where anyone can take a picture of a garbage bin and upload to the map with a comment that suggests that it's (damaged).

It is important for the city to push for smart city projects to have **participatory budgeting/auditing**, co-creating processes with the community, and use plain and multilingual languages in the terms and conditions across all projects..

We also encourage the city to integrate an **anti-discrimination impact analysis** into the contracting procss of smart city projects. The impact analysis, and an accompanying statement, should factor in the approval of smart city projects to protect nyc vulnerable communities. (e.g. racially biased facial recognition may not pass the impact statement requirements)

Finally, we advocate to prioritize bridging the connectivity gap. You "can't have a Smart city if even one person is not connected". The city could mandate smart city projects to contribute to the funding of **internet connectivity.** Smart city projects should contribute to basic needs of underserved communities to get connected to the internet for access to smart city applications, online learning, telehealth, and remote work.

Thank you for the opportunity to testify on the oversight-smart city hearing and I would be happy to answer any questions.

Testimony for Tue. Jan 19, 2021: Committee on Technology"

I live at a street corner in the South Bronx and we are constantly barraged with loud music and other disturbances that come in the wake of this behavior. In summer volume is frequently over 80 decibels, both during the day and at night. A nearby bar plays extremely loud karaoke on the street. All this goes until 2am and later. The loud music in the day interferes with residents' ability to effectively work from home, especially during this pandemic.
We are working with our local precinct to find solutions to curb noise and hope you can support the community through equipping them with the tools they need.
Please investigate how the use of sound-sensing technology to mitigate noise pollution in New York City can alleviate this situation and target the offenders in a focused way.

I would like to testify in favor of sound-sensing technology in order to ameliorate noise pollution.

I am the founder of the now nearly 1000-member facebook group *WaHi and Inwood for Respectful Decibels,* which sprang from the inordinate amounts of noise we residents of the area were subjected to since May 2020. The facebook group is demographically diverse and representative of the area, and we have been featured in several news articles in both English and Spanish. We are currently in the process of collecting impact statements from members regarding the health effects we have suffered from noise this year. These effects included lack of sleep, anxiety, children's study and health effects, hospitalization, loss of work, and even death (following heart attacks after fireworks).

We are aware that the noise code is meant to protect the health of everyone, of every demographic, and vocation, from health care worker to veteran to pre-school teacher to bartender. We are also aware of the many challenges faced with enforcing the noise code, not just regarding the perpetrators of the noise and the police or DEP, but also, those who are perceived to be “snitches” in our current complaint-based system. We have heard many stories of elderly persons and people living in certain areas who are afraid to make 311 complaints despite suffering from inordinate amounts of noise, for fear of retaliation from those who choose to violate the noise code, and sometimes engage in other health and safety violations as well (such as drag racing or detonating fireworks in highly-populated areas).

Using technology to aid in upholding the noise code, and with it, a liveable environment and sonic environmental justice, not only makes enormous practical sense, but will help bring New York City on par with other cities around the world. Many of our members cheered when the UK introduced “noise cameras” to send tickets to extra-loud vehicles, such as those with souped up modified mufflers intended to replicate the sound of gunshots. (This particular method of ticketing requires noise ticketing via license plates, in the same way as speeding is ticketed via license plate, not drivers license. This is a worthy goal, in particular as it reduces the possibility for conflict.)

An investment in this technology is also of financial benefit: enforcement is less burdened, tickets may be collected from those who have already spent money to make extra noise (such as modifying mufflers, or installing massive speakers in their cars). It will also help unburden the financial cost of the health effects of noise, which are significant.

The CDC classifies noise above 85dB as able to cause hearing loss. This is an objective number that needs an objective measurement to protect health, just as water quality is measured before reaching the tap, not after. My group is currently partnering with SONYC from NYU to help objectively quantify noise levels at hotspots in our neighborhoods. We understand that the technology as highly advanced, and has been carefully developed so as not to be able to distinguish the content of any conversation. We are excited and grateful and looking forward to being able objectively quantify our suffering in these locations.

I strongly support the use of noise-sensing technology in the Smart City plan. Many members of my group have indicated a strong support of noise-sensing technology as well.

Please don't hesitate to contact me if you have any questions.

Thank you, sincerely,

Claudia Schaer

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STATEMENT OF
ALBERT FOX CAHN, ESQ.
EXECUTIVE DIRECTOR
SURVEILLANCE TECHNOLOGY OVERSIGHT PROJECT, INC.

BEFORE THE
COMMITTEE ON TECHNOLOGY
NEW YORK CITY COUNCIL

FOR AN OVERSIGHT HEARING CONCERNING SMART CITIES.

PRESENTED
January 19, 2021

Good morning, my name is Albert Fox Cahn, and I serve as the Executive Director for the Surveillance Technology Oversight Project ("S.T.O.P."). S.T.O.P. advocates and litigates for New Yorkers' privacy rights, fighting discriminatory surveillance. I want to begin by thanking you for the invitation to testify at today's oversight hearing concerning smart cities.

1. The False Promise of Smart Cities

As the world's urban areas are growing, we are many asking how to build sustainable cities. In 2014, John Wilmoth, Director of UN DESA's Population Division, stated that "our success or failure in building sustainable cities will be a major factor in the success of the post-2015 UN development agenda".[1] For many, the answer to the sustainability issue is the creation of so-called "smart cities" – in other words, to increase the use of technology in our urban areas.[2] Supporters of smart cities claim that by integrating the internet of things, artificial intelligence, and networks of sensors into urban neighborhoods, we can collect and deploy data to make our children smarter, our commutes faster, increase sustainability and even save lives.[3] But this is a utopian view of what technology can do for our society.[4] The last few years have time after time illustrated how vulnerable society becomes when we blindly trust that new technology will be better than the systems it replaces and that new tech can be launched without significant testing and oversight. Smart city initiatives promise better urban neighborhoods through data collection. At bottom, this means increased use of surveillance technology, raising privacy concerns as well as the question of physical responsibility.

2. Risk of Governmental Abuse

The risk of governmental abuse of technology is not an alarmist threat of what could happen in the future, it is already happening. S.T.O.P. has time and time again expressed concern for how New Yorkers' basic rights to privacy are violated by the NYPD's growing use of facial recognition and other forms of biometric surveillance. These technologies allow the police to turn a walk down the block into a warrantless search by the use of surveillance system without the need of a court authorization. The thought is disturbing, but it is even more alarming when one contemplates the use of such technology near political protests, health care facilities, an alcoholics anonymous meeting, or anyplace else where New Yorkers have heightened privacy concerns.[5] The smart city initiative would increase the use of these intrusive surveillance systems even further, including, among other things, the implementation of acoustic monitoring technology to measure the noise levels around the city. The privacy impact of such technology is huge; we would practically be only one software update away from warrantless wiretaps of every New Yorker walking down the street.

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[1] https://www.un.org/en/development/desa/news/population/world-urbanization-prospects-2014.html

[2] https://www.mckinsey.com/business-functions/operations/our-insights/smart-cities-digital-solutions-for-a-more-livable-future#part1

[3] *See* Timothy Williams, *In High-Tech Cities, No More Potholes, but What About Privacy?*, New York Times (Jan. 1, 2019), https://www.nytimes.com/2019/01/01/us/kansas-city-smart-technology.html?searchResultPosition=3.

[4] *See e.g.* John Lorinc, *Smart cities will be cleaner, accessible, even more democratic, proponents say. But governments adopting new tech must contend with risks, too*, Toronto Star (updated Jan. 05, 2021), https://www.thestar.com/news/atkinsonseries/2021/01/04/smart-cities-will-be-cleaner-accessible-even-more-democratic-proponents-say-but-governments-adopting-new-tech-must-contend-with-risks-too.html.

[5] *See Statement of Albert Fox Cahn, Esq. Executive Director Surveillance Technology Oversight Project, Inc. Before the Committee On Public Safety New York City Council For A Hearing Concerning, NYPD's Roll Out Of Body-Worn Cameras & Introduction 1136-2018*, submitted November 18, 2019, https://static1.squarespace.com/static/5c1bfc7eee175995a4ceb638/t/5dd31d2ee51d1670591b13de/1574116654793/2019-11-18+Body+Cams+Testimony+v+FINAL.pdf.

Surveillance tools pose a privacy threat to all of us, but they pose a particularly potent threat to members of our immigrant communities. All too often, these systems create a risk of information-sharing with federal agencies, including ICE. For example, the NYPD for years has contracted with the private firm Vigilant Solutions, which operates a nationwide database of over two billion license-plate data points.[6] Shockingly, in 2016 we learned that Vigilant Solutions was not just contracting with local police departments, but also with ICE.[7] Perhaps most disturbingly, the NYPD relies on Vigilant Solution's artificial intelligence to map out social networks, label New Yorkers as "criminal associates," and create databases based on the company's unproven algorithms.[8] This is just one example of the governmental abuse of surveillance technology that is already happening in our city. Then consider the exponential increase of data collected and processed in making New York City "smart" – the potential privacy impact of New Yorkers is horrifying.

3. Risk of Abuse by Third Parties

In addition to the risk of governmental abuse of the systems used, and the data being collected is the increased risk of outside threats. The last few years have shown how increased use of technology also makes us more vulnerable, with the Cambridge Analytica Scandal one of the most infamous examples of abuse.[9] Instead of progress we see how technical development often is hijacked by rogue state powers and their corporate enablers. Corporations and unscrupulous world leaders use technology to influence public opinion and democratic processes and institutions.[10] As an example, Vladimir Putin's Russia has been accused of interfering not only in the U.S. 2016 election but also in the UK Brexit referendum the same year.[11] One of the latest examples of a coordinated effort to undermine security measures is the SolarWinds Hack.[12] The hack, which was uncovered late 2020, is suspected to be another attack carried out by Russian hackers. The targets of the attack included U.S. federal agencies as well as large American companies such as Microsoft, and the extent of the damage is still under investigation.[13]

Municipalities like New York City are not spared from these threats. Indeed, we are only one hack away from all data collected being used by those we do not wish to have access to it. The smart city

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[6] *See* Rocco Parascondola, *Exclusive: NYPD Will Be Able to Track Fugitives Who Drive Past License Plate Readers Across the U.S.*, N.Y. Daily News (Mar. 2, 2015), https://www.nydailynews.com/new-york/nypd-track-fugitivesdrive-license-platereadersarticle-1.2133879.

[7] The Domain Awareness System collects the license plate data scanned by the approximately 500 license plate readers operated by the NYPD and combines it with footage from cameras and other surveillance devices around the city. The NYPD holds on to the license plate data for at least five years regardless of whether a car triggers any suspicion. See Mariko Hirose, *Documents Uncover NYPD's Vast License Plate Reader Database*, ACLU (Jan. 25, 2016, 10:30 AM) https://www.aclu.org/blog/privacy-technology/location-tracking/documents-uncover-nypds-vast-license-plate-readerdatabase.

[8] *See id.*

[9] *See* Nicholas Confessore, *Cambridge Analytica and Facebook: The Scandal and the Fallout So Far*, The New York Times (Apr. 4, 2018), https://www.nytimes.com/2018/04/04/us/politics/cambridge-analytica-scandal-fallout.html.

[10] *See e.g.* Abigail Abrams, *Here's What We Know So Far About Russia's 2016 Meddling,* TIME (Apr. 18, 2019, 8:20 AM EDT), https://time.com/5565991/russia-influence-2016-election/.

[11] *See e.g.* Patrick Wintour, *Russian bid to influence Brexit vote detailed in new US Senate report*, The Guardian (Jan. 10, 2018, 10:15 EST), https://www.theguardian.com/world/2018/jan/10/russian-influence-brexit-vote-detailed-us-senate-report.

[12] *See e.g.* Alyza Sebenius, *SolarWinds Hack Followed Years of Warnings of Weak Cybersecurity*, Bloomberg (Jan. 13, 2021, 6:00 AM EST), https://www.bloomberg.com/news/articles/2021-01-13/solarwinds-hack-followed-years-of-warnings-of-weak-cybersecurity.

[13] *Id.*

initiative turns the urban neighborhood into a data collection machine, making New York City even more vulnerable to attacks.

4. Risk of Flawed and Biased Technology

Another issue that needs to be addressed is the technology used in making a city "smart". Artificial Intelligence (A.I.), machine learning, and biometric measuring technologies are used in order to process the enormous amounts of data collected in smart cities. The technologies used are more often than not both flawed and biased.

Algorithmic discrimination through the use of Automated Decision Systems (ADS) is one example of this. Due to the large datasets collected and analyzed in a smart city, ADS offers an attractive technology to simplify decision making while still taking all collected data into account.[14] At a first glance, ADS seem to offer understaffed and cash-strapped cities the promise of efficient, accurate decision-making support. However, while ADS are sold to the public as "objective" and "scientific", they are frequently just as biased as human decision makers, if not more so. Only ADS regularly discriminate opaquely, often leaving victims without any legal redress. Even worse, one biased ADS can impact thousands of civilians, having a far larger discriminatory impact than any one human decision maker could. With built-in bias, the impact of using ADS in such a large scale as an integrated part of a smart city can be devastating. This is especially true for community members already suffering from discrimination.

Another example of flawed technology is the systematic discriminating technology of facial recognition systems. As documented by M.I.T. and Stanford researchers, many commercial facial recognition systems are incredibly accurate for Caucasian men under certain test conditions, but they fail up to one-third of the time for Black women in those same exact conditions.[15] Facial recognition systems have similarly been shown to perform poorly on the elderly and children.[16] The harmful consequences of over-surveillance are well-documented,[17] as is the fact that communities of color disproportionately suffer from its adverse effects.[18] Increasing this type of technology as part of a smart city project therefore could have immense negative effects of the people of New York.

5. Concluding Remarks

When discussing the development of these smart-city initiatives we must ask ourselves if the technology of smart cities on one hand, and a free, democratic society on the other hand may co-exist. The last few years' examples of misuse of technology illustrate how the technical development may be used as a tool to threaten human rights and undermine our democratic institutions rather

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[14] *See e.g.* Robert Brauneis & Ellen P. Goodman, *Algorithmic Transparency for the Smart City* (20 YALE J. L. & TECH. 103, 114-115 (2018), https://yjolt.org/sites/default/files/20_yale_j._l._tech._103.pdf.

[15] MIT Press, Study finds gender and skin-type bias in commercial artificial-intelligence systems, available at https://news.mit.edu/2018/study-finds-gender-skin-type-bias-artificial-intelligence-systems-0212.

[16] Jack Corrigan, *Experts Tell Congress Facial Recognition's Bias Problem May Be Here to Stay*, NextGov, available at https://www.nextgov.com/cio-briefing/2019/07/experts-tell-congress-facial-recognitions-bias-problem-may-be-herestay/158320/.

[17] *See, e.g.*, Carlos Torres et al., *Indiscriminate Power: Racial Profiling and Surveillance Since 9/11*, 18 U. PA. J.L. & SOC. CHANGE 283, 299–300 (2015).

[18] *See, e.g.*, Barton Gellman & Sam Adler-Bell, Century Found., *The Disparate Impact Of Surveillance* (2017).

than improve people's lives. We must not only look how the technologies are supposed to work but also how they may be abused. After all, New York is not a computer, it's a community. [19]

[19] Shannon Mattern, *A City Is Not a Computer* ,Places Journal (February 2017), https://placesjournal.org/article/a-city-is-not-a-computer/.

Aggressive and Violent Noise Decibel Level Technology Needed

Due to several factors, cars in neighborhoods throughout the 5 boroughs, but especially in outer areas of the Bronx. Queens and Manhattan are using their cars and exhaust systems as weapons to torment pedestrians, children, and anyone in their homes. The excessive drag racing and muffler exhaust levels is unreasonably loud is new but could easily be deterred if enforcement and actions were taken. Technology at certain high traffic areas could easily pick out these cars. It is obvious the drivers do not abide by the law or have any concern for human life besides their own immediate satisfaction.

This has made working and school from home impossible to join in on Zoom calls. If a car is speeding by with loud mufflers and sets off over 10 car alarms in a block - something is seriously WRONG.
These same cars go through lights, crosswalks, do donuts in the middle of school crosswalk areas.
Simple task - catch the license plates through technology and enforce the law. Many have "paper plates". then boot the cars. They park in front of hydrants and standing only zones. These problems are not "quality of life" They are **LIFE** and **DEATH**. It is only through sheer abundance of caution before I cross a street that I have not been mowed down.

To review - decibel level technology, red-light cameras and needed enforcement (impounding/fines, etc.) could easily hamper the car and motorcycle violence that many New Yorkers are experiencing in these extremely difficult and trying times.

Thank you!

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