THE
FUTURE OF
U.S. CITIES

THE
FUTURE
OF CITIES

TABLE OF CONTENTS

THE FUTURE OF CITIES

in partnership with

BCG

THE ASPEN INSTITUTE CENTER FOR URBAN INNOVATION

A wave of public sector innovation is profoundly shaping the future of U.S. cities.

Go to any city and you will find local leaders who are working with businesses and residents to identify problems and develop new ways to tackle them. As Bruce Katz and the late Jeremy Nowak state in The New Localism *"power increasingly belongs to the problem solvers. And these problem solvers now congregate disproportionately at the local level."*

We at the Centre for Public Impact, in partnership with the Center for Urban Innovation at The Aspen Institute and the Boston Consulting Group, set out to speak to these problem solvers in U.S. cities to understand how they are innovating to address residents' biggest challenges. And after over 50 hours of interviews and an extensive literature review, what we found was a diverse group of unheralded public servants, tirelessly using a vast range of tools and techniques to achieve public impact.

Due to increasing urbanization and economic concentration in U.S. cities, city governments have a huge ability to influence the quality of life of a growing share of the population. We believe in the power of cities to seize this opportunity to improve the lives of their residents. Our aim in this handbook is to share the experiences of city problem solvers we have spoken to, surface emerging practices that drive impact with innovation, and to extract lessons from our conversations. We hope the ideas presented provide a source of inspiration and act as a practical guide for cities looking to **innovate with intention** – and ultimately achieve better outcomes for all residents.

This is only the beginning. We intend to continue these conversations through convenings, follow-up research, and direct support to help cities translate the ideas we have raised here into positive action. We want to build networks and collaborate with anyone who feels passionately about the potential of cities. So we invite you to join our discussion online, tell us what you agree with, what you disagree with, and what else we should consider.

To join the conversation, and receive information on upcoming articles and events, visit our website www. centreforpublicimpact.org/ futureofcities and take part using #FutureofCities.

INTRODUCTION & SUMMARY

The challenges facing U.S. cities are more complex than ever.

Budgets are being squeezed, disrupting city operations and critical services. The deepening effects of climate change, coupled with deteriorating infrastructure, has led to near annual environmental catastrophes in our largest cities. And widening inequality means that the zip code we are born into is increasingly predictive of our future health and wealth.

But real momentum for change is building in, and spreading across, U.S. cities. Local governments are using new technologies and innovative methods to tackle problems and create more livable, equitable, and resilient cities. However, while approaches have matured considerably in recent years, city problem solvers told us that all too often a legacy approach to urban innovation – one that is opportunistic instead of strategic, concentrated in city hall, and fragmented along bureaucratic,

sectoral, and geographic fault lines – undermines the impact innovation could achieve. As Melissa Bridges, Performance and Innovation Coordinator for Little Rock, AR, put it *"Cities have got to change how we're doing things and come up with more creative ways to solve problems, and we're starting to see the beginnings of that."*

We spoke to over 45 city problem solvers and conducted an extensive literature review to understand how cities are evolving their approach to innovation to improve the lives of residents. What emerged from our conversations was that cities need to adopt three general practices to achieve impact in the face of the most pressing challenges:

1. ALIGN

innovation efforts both within city government and across sectors through bold, mission-driven strategies that target the most important problems for residents.

2. EMPOWER

the entire city ecosystem to tackle public sector problems by including city practitioners, businesses and residents as innovation partners.

3. GROW

an innovative culture that encourages continuous experimentation, defines performance metrics that reflect residents' experiences, and designs innovation pathways to achieve impact at-scale.

We also heard from city problem solvers that the key to driving impact with innovation was not just *what* cities do but *how* they do it. To achieve long-term impact, innovation must be anchored in **legitimacy**, **equity** and **agility**.

Legitimacy can be defined as the broad reservoir of support that allows governments to deliver positive outcomes for all. Without a strong relationship between government and residents, government's capacity to drive change will always be limited.

Equity means creating the conditions that facilitate equal access to new innovation and technology so that all residents can share in the benefits, and it also requires that cities confront the structural inequities which have led to poorer outcomes for historically marginalized communities.

And **agility** – the ability to respond quickly to change – is key to tackling dynamic problems with innovation, meeting residents' changing expectations, and capitalizing on new opportunities as circumstances shift on the ground.

Cities need to align, empower and grow innovation in a way that is legitimate, equitable and agile, if they are to achieve impact with innovation. We call this *innovating with intention.* By exploring these three emerging practices, we hope to provide city problem solvers with inspiration and practical guidance to continue to use innovation to achieve greater public impact.

ALIGN

Government-led innovation has the potential to drive profound transformation, shaping markets and galvanizing stakeholders in a single direction.

But we heard from city problem solvers that innovation across a city can often feel well-intentioned but directionless. City departments that should be working together to solve the *"horizontal challenges"* – such as mobility – have different and sometimes competing initiatives. *"Smart city"* solutions are often vendor-driven and deployed without residents' input. And innovation office projects may target a diverse array of problems but be disconnected from mayoral priorities.

This fragmentation is not altogether surprising, considering the historical structure of city departments, which are organized in vertical silos. But this scattershot approach to innovation can result in impact that is broad but not deep, and that oftentimes fails to solve the problems that matter the most to residents.

As Mark de La Vergne, Chief of Mobility Innovation, City of Detroit, MI, puts it: *"You need to make sure you're not just driving technology to problems that don't exist. We need to make sure we are tackling the most important problems that residents have."*

Cities around the U.S. are starting to change the way they approach innovation. They are coordinating innovation efforts in city government and across sectors toward the most pressing challenges that will have the greatest effect on residents.

To **align** innovation efforts, cities are:

ORGANIZING AROUND A SHARED MISSION

ANCHORING THE MISSION IN EQUITY

ORGANIZE AROUND A SHARED MISSION

Cities nationwide are increasing their impact by using a mission-driven approach to innovation, one that focuses the entire urban ecosystem on the most pressing problems for residents.

To ensure that these missions target important problems and have the necessary political support, city problem solvers are 1) setting the direction of innovation with residents and 2) integrating the mission with the city's priorities and stakeholders.

> *We have already done all the easy things. How do we mobilize everyone around tackling the hard things? That's the key to driving change.*

Noah Siegel
Interim Deputy Director, Portland Bureau of Transportation, Portland, OR

ORGANIZE AROUND A SHARED MISSION

1. Set the direction of innovation with residents

Cities have made great strides in applying new methodologies, such as human-centered design, to engage residents and incorporate their needs into the design of new approaches. However, that engagement often occurs too late in the process, with residents excluded from the initial decision-making. This threatens government legitimacy, as it can mean that the most important problems for residents are left unaddressed. Andi Crawford, Director of Neighborhoods and Citizen Engagement in Lansing, MI, summed up what cities should

do: *"We're here to build residents' capacity for success, so that they can clearly articulate what they need to improve their lives and their community."* Several cities have begun using crowdsourcing technology to engage residents and solicit their opinions on which innovation projects city hall should pursue. Many are also using other participatory mechanisms such as **citizen assemblies** to partner with residents in making decisions, or they are taking steps to meet residents where they live to ensure they understand their perspectives.

CASE STUDY: AUSTIN'S HOMELESSNESS ADVISORY COMMITTEE

The city of Austin, TX created the Austin Homelessness Advisory Committee (AHAC), which brings together 16 residents who are or have been homeless to set the direction for the city's approach to the increasing problem of homelessness in Austin. AHAC uses its broad group of partner departments and organizations – the Office of Innovation, the Department of Public Health, the Downtown Austin Community Court (DAC), and the Ending Community Homelessness Coalition – to recruit its members, using existing connections to people with lived experience of homelessness. AHAC meets once a month to share stories, develop prototypes, and help make decisions on how to tackle homelessness. *"We needed to find a way to build the lived experience into the system. And it really is as simple as pulling people together and building relationships,"* said Lincoln Neiger, a service designer for the city of Austin. AHAC has also given a sense of empowerment to the people involved, enhancing the legitimacy of city government: *"It means someone in my situation can be heard,"* said a resident recruited to the AHAC, who had lost her home due to a legal dispute. *"I'm not just a statistic. It gives me a level of esteem, value and importance. And it's woken the city up to understand just how many of us there are."*

ORGANIZE AROUND A SHARED MISSION

2. Integrate the mission with the city's priorities

City problem solvers told us that making headway on the biggest challenges requires executive support from the mayor and the relevant department heads. For that reason, innovation missions must not exist in a vacuum within city hall. City problem solvers are taking steps to align their missions with the city's priorities by collaborating with key departments to identify common goals, share resources, and define cross-department metrics. After developing their mission, some cities are going a step further and developing a detailed roadmap, outlining how they will achieve it.

CASE STUDY:
PORTLAND'S VISION ZERO

In December 2016, the city of Portland joined a growing number of international cities in adopting Vision Zero, a multi-agency initiative with the mission to eliminate all traffic deaths and serious injuries on the city's streets by 2025. Noah Siegel told us that setting such an audacious mission *"galvanizes the community by demonstrating that the city is serious about driving change."* The Vision Zero action plan was developed by a broad task force consisting of representatives from multiple agencies, city departments, community-based organizations, and residents, including the Portland Bureau of Transportation (PBOT), Portland Police Bureau, Portland State University, and a Pedestrian Advisory Committee. Guided by the action plan, various city departments work together to design, test, and deploy new interventions, solutions, and technologies that address the most common causes of traffic deaths. Although only a couple of years old, Vision Zero has started to change the way people think about transportation. *"We're seeing more people recognize that the traffic violence on our streets is preventable and that the costs of the status quo are paid unequally,"* says Safety Section Manager Dana Dickman. *"This recognition is pushing us all to make our streets safe for everyone."*

ANCHOR THE MISSION IN EQUITY

While urban areas are the engines of the U.S. economy, accounting for the vast majority of GDP, prosperity is unevenly distributed. Over the past three decades, inequality in health, wealth and income has increased substantially. In addition to the moral consequences, rising inequality poses a significant economic threat to the long-term financial sustainability of cities by reducing tax revenues, increasing health costs, and leaving the workforce without the skills necessary to compete for the jobs of the future. Many city problem solvers cite increasing equity as a primary goal of their innovation work.

But equity is seldom formally factored into the prioritization, design, and measurement of such initiatives. As a result, there are many examples of innovative technologies that actually exacerbate historic disparities between communities. To channel innovation toward improving equity, cities are 1) establishing equity as a core innovation principle, and 2) earmarking funding for equity.

> "Innovation should be about how you make sure new programs or process improvements improve the lives of residents who need it most."
>
> Justin Entzminger
> Director, Innovate Memphis

ANCHOR THE MISSION IN EQUITY

1. Establish equity as a core innovation principle

Making equity central to a city's innovation efforts sends a clear message to government and potential private sector partners that increased equity is a requirement for any new initiative. Cities are doing this by communicating their plans through their website, social media channels, and community engagement events. But these cities also acknowledge that good intentions are not enough; in fact, cities face significant threats to their legitimacy if they do not follow through on their commitment to equity. *"We have to think about equity in everything,"* said Thea Montanez, Chief of Staff, City of Hartford, CT. *"As we create opportunities, we must make sure they benefit all residents."* Cities are beginning to put equity at the heart of innovation by using frameworks that systematically guide the development, implementation, and assessment of new initiatives. In addition, some cities have gone a step further by developing robust action plans to address equity and inclusion.

CASE STUDY: PITTSBURGH'S ROADMAP FOR INCLUSIVE INNOVATION

In 2015, the city of Pittsburgh, PA decided to put inclusivity at the core of its innovation efforts by developing a three-year Roadmap for Inclusive Innovation. The Roadmap detailed six areas to focus efforts on improving equity, access and opportunity. These were in line with Mayor Peduto's vision of improving the quality of life of all Pittsburghers. Within each focus area, several goals and action items were outlined. For instance, one of the areas chosen to focus on was 'Close the Digital Divide'. Increasing digital literacy, expanding internet access, and promoting STEM learning were identified as goals. Action items were then listed under each goal – such as "expand literacy training, promote digital literacy in seniors" and "partner with My Brother's Keeper Initiative".

At the end of the Roadmap's lifespan in 2018, 80 percent of the desired goals laid out in the roadmap had been achieved. Debra Lam, Pittsburgh's former Chief of Innovation & Performance, stressed the importance of putting inclusiveness explicitly at the heart of innovation efforts: *"It's important to be intentional in terms of where innovation is happening. Really thinking about the impact on the broader community and society, to create inclusive innovation."*

ANCHOR THE MISSION IN EQUITY

2. Earmark funding for equity

As Farrah Parkes, Director of Digital Initiatives in the city of Philadelphia, PA told us, *"any innovation that really wants to make meaningful change needs to tackle the equity problem."* Some cities are signaling their commitment to improving equity by explicitly earmarking funds for projects that target equity and inclusivity. Cities can source these funds in a variety of ways, including seeking philanthropic support, underline generating new revenue through the sale of city assets, and carving out funding from operational budgets.

CASE STUDY: SAN JOSÉ'S DIGITAL INCLUSION FUND

A key goal of San José, CA's Smart City Vision is to create an inclusive city that ensures *"all residents, businesses, and organizations can participate in and benefit from the prosperity and culture of innovation in Silicon Valley."* One way San José is pursuing this goal is through the creation of a first of its kind $24 million Digital Inclusion Fund (DIF). Financed by access fees paid by telecommunication companies, the DIF will support programs to expand broadband access and increase digital literacy in the community.

San José's ambitious goal is to bring broadband connectivity and digital skills to 50,000 households over the course of the next decade – and the initiative explicitly earmarks funding to achieve this goal. By closing the digital divide, the city hopes to improve both educational and employment opportunities for those on the bottom rung of the socioeconomic ladder. Having been announced in February 2019, it is too soon to measure success but, in addition to connecting households to broadband, the program will look at educational and employment outcomes across the city. Shireen Santosham, the city's Chief Innovation Officer, told us that the DIF *"sends the message that people matter and human capacity shouldn't be determined by whether or not you have internet access. Your fate should be determined by your creativity, work ethic, and mindset. We want to make sure that kids born in Silicon Valley can have access to Silicon Valley jobs."*

E M P O W E R

City ecosystems are brimming with innovation. But we heard from city problem solvers that the power to innovate is siloed in the hands of a few – often in the city's innovation or technology offices.

While innovation offices across the country have produced tremendous results and created significant momentum for change, they cannot drive the necessary impact unaided.

As Brenna Berman, Executive Director at UI Labs and former Chief Information Officer of Chicago, IL, put it: *"innovation cannot stand alone, or exist in silos. If it does, it makes innovation one person's job and not an organizational mandate."*

Cities must therefore seek not to manage innovation, but to cultivate it across the entire city ecosystem by empowering city practitioners, businesses, and residents to come up with new

ways of tackling the city's most pressing challenges. And many cities are doing this to great effect.

To **empower** all actors in the ecosystem, cities are:

BREAKING DOWN BARRIERS TO INNOVATION WITHIN CITY GOVERNMENT

NURTURING CROSS-SECTOR PARTNERSHIPS

ENABLING RESIDENTS TO BE CO-DRIVERS OF INNOVATION

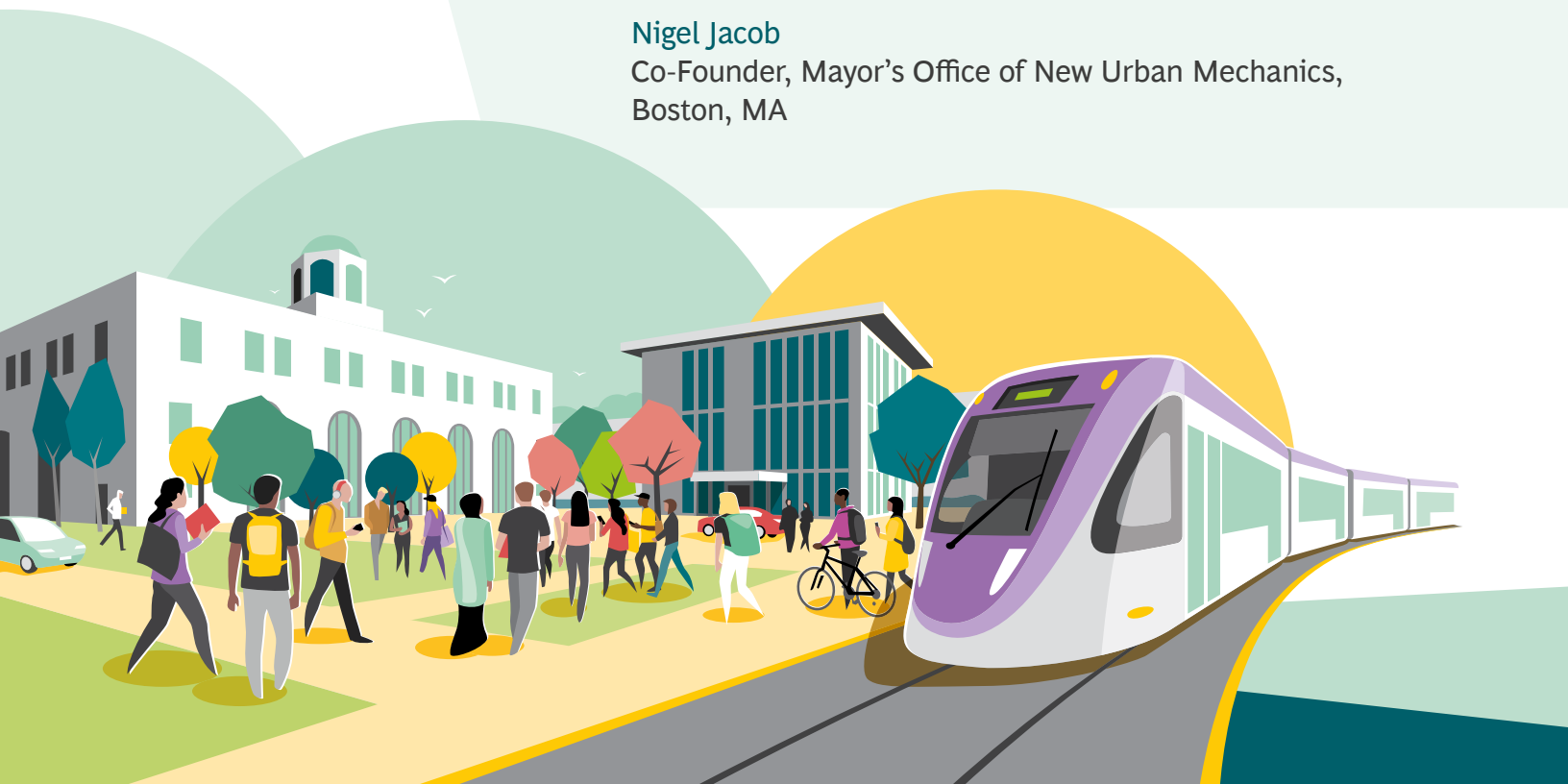## BREAK DOWN BARRIERS TO INNOVATION WITHIN CITY GOVERNMENT

Much of the information about how to improve the system is embedded in the system itself. But city problem solvers told us that often only a few individuals or an innovation team in city government have the power to put that knowledge to work. Cities around the U.S. are working to break down barriers for all city practitioners so that innovation can flourish at every level. To do this, cities are 1) enabling everyone to be an innovator and 2) assembling agile innovation teams.

"*All city employees should be empowered, encouraged, and given the leeway to innovate so that new and breakthrough ideas can come from every corner of a city's administration.*"

Nigel Jacob
Co-Founder, Mayor's Office of New Urban Mechanics, Boston, MA

BREAK DOWN BARRIERS TO INNOVATION WITHIN CITY GOVERNMENT

1. Enable everyone to be an innovator

Many cities are beginning to offer training and skills development in innovation methods, so that everyone in city government is able to identify and solve problems. Providing this training to city practitioners not only increases the capacity of cities to drive change but also sends the message to all of city government that innovation is a valued competency. According to Andrew Buss, Deputy Chief Information Officer for Innovation Management in Philadelphia: *"to create a culture of innovation in municipal government, it's critical that everyone be trained in innovation methodologies."* These trainings often involve the teaching of core innovation skills, including **human-centered design**, prototyping, and continuous improvement, and are hosted by city innovation teams or **external experts**.

CASE STUDY: DENVER'S PEAK ACADEMY

The city of Denver, **CO** set up Peak Academy, a training program to equip employees in city government with the ability to spot opportunities for efficiency in their day-to-day work and collaborate with colleagues to make a change. The training follows a three-pronged approach of 'see it, say it, solve it' – training practitioners in techniques to define problems accurately, establish a common language with colleagues to be able to talk about issues and their consequences for residents, and then tackle problems in a collaborative way.

Through Peak Academy, Denver has trained approximately 7,000 public sector workers. These city employees have gone on to implement innovations that have collectively saved the city close to $30 million. According to Brian Elms, Director of Peak Academy until August 2017: *"The training enabled people to talk in a common language about problems and gave them common techniques to be able to solve them together. City employees that had been through the training were changing the way they did things. And because it worked, more people started to come to the training."*
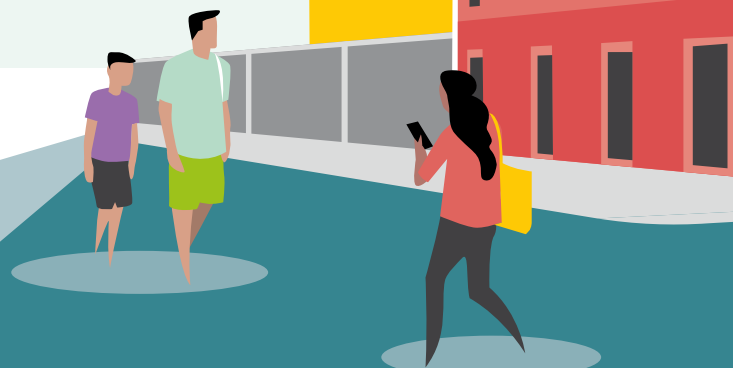
BREAK DOWN BARRIERS TO INNOVATION WITHIN CITY GOVERNMENT

2. Assemble agile innovation teams

The most important and complex challenges facing cities span the jurisdictions of several departments. Therefore, cities are beginning to take a more **agile approach** to teaming – using small, multidisciplinary teams that work in iterative, fast-paced cycles. This way of teaming encourages work across departments and best leverages the different skills and competencies that exist in city hall. Cities are expanding cross-functional teaming through various means, such as: creating multidisciplinary innovation teams; building official, non-project based links between teams; establishing "tours of duty", which involve innovation team members rotating through different departments; or even taking the bold step of restructuring whole departments to reflect new, interdepartmental goals.

CASE STUDY: BOSTON'S MAYOR'S OFFICE OF NEW URBAN MECHANICS (MONUM)

MONUM calls itself a design studio within government – a place for undertaking experiments to improve city services. For each innovation project, MONUM assembles a team comprising its own members and members from the department that are most relevant to the initiative. *"We look for people who can work with us in this out-of-the-box way,"* said Nigel Jacob. In order to form these teams, MONUM gains a deep understanding of department dynamics before any project. *"We spend time upfront with all these departments trying to understand who the likeliest collaborators are. We'll often go out of our way to build trusting relationships with different departments."* Jacob also stressed the flat, agile nature of the project teams, stating that they are careful not to *"recreate the city bureaucracy"* within teams. This ensures they can work in a fast-paced, reactive way which leverages everyone's skills equally. This way of agile teaming also ensures co-ownership of innovation initiatives. *"Different innovation labs previously would do the experiment and then throw it to the departments,"* said Jacob. *"But this doesn't make innovation a shared priority. If they're involved from the very beginning, there is a higher likelihood that they will take ownership of it in an ongoing way."*

NURTURING CROSS-SECTOR PARTNERSHIPS

The traditional public-private partnership (PPP) model has involved the city identifying a solution to a problem and then seeking out a vendor to provide it. But as the pace of technology accelerates and the complexity of problems grow, it has become increasingly difficult for cities to identify the *right* solution and vendor with any certainty. In response, cities around the country are starting to flip the traditional role of the city from regulator and purchaser to innovation catalyst and partner. Cities are doing this by 1) replacing static PPPs with dynamic, cross-sector coalitions 2) welcoming the creativity of the entire city ecosystem and 3) taking a 'problem-based' approach to procurement.

" Cities are beginning to realize that it is no longer them setting the agenda for change. The ones building the technology are moving so quickly that cities must be partners. "

Sascha Haselmayer
CEO, CityMart

NURTURING CROSS-SECTOR PARTNERSHIPS

1. Replace static PPPs with dynamic, cross-sector coalitions

When it comes to addressing the most pressing challenges, the public and private sectors can achieve far more together than either sector could achieve apart. As Krista Canellakis, San Francisco's Chief Innovation Officer, told us, *"it's critical to create a bridge between the public and private sectors because technology companies can help cities achieve greater impact."* But the complexity of the challenges facing cities and the pace of new technology mean that they need to engage a broader set of stakeholders, including those from other levels of government,

and bring solutions to market more quickly. Cities are doing this by moving from traditional, static PPPs in favor of dynamic, cross-sector coalitions made up of public, private, and social sector partners who are co-creating solutions to common problems. To be successful, these coalitions need to include stakeholders who represent different perspectives on the issue that is being addressed, have shared goals, and commit to putting residents' interests at the center of any solutions that are developed.

CASE STUDY: DETROIT'S MOBILITY INNOVATION INITIATIVE

The Detroit Mobility Innovation Initiative, spearheaded by the Boston Consulting Group, brought together a group of ten public, private, and social sector entities to devise approaches to key mobility issues in the city. The coalition worked together to define the problem within each of the key issues to ensure all stakeholders were aligned on the objectives. When designing the approach, the coalition set out clear roles, responsibilities and – crucially – constraints. *"Not understanding everyone's constraints is a challenge,"* said Mark de la Vergne. *"You've got to lay all those on the table pretty early. We all need to know each other's constraints so we can figure out a way to get around them."* By designing a cross-sector coalition around mutual interests, the group implemented six pilot programs to launch in a six-month period. Detroit's novel approach to PPPs enabled quick solutions and mobilized all the agencies' respective skills, capabilities and resources to meet the most urgent mobility challenges faced by residents, such as the city's severe traffic congestion.

NURTURING CROSS-SECTOR PARTNERSHIPS

2. Welcome the creativity of the entire city ecosystem

As the primary buyer in the multibillion dollar smart city industry, cities can use their market power to encourage and accelerate innovation by serving as a convener of public, private, and social sector stakeholders. By inviting all actors in the city ecosystem to innovate, cities can solve problems while also ensuring that new approaches align with their mission and values. U.S. cities are increasingly inviting private sector technology companies to solve urban problems in partnership with city authorities. For example, Pittsburgh's PGH Lab connects local startup companies with the city to test new products and services for three to four months. And New York's NYCx works with communities to identify urgent priorities, and challenges leading technologists across the world to solve them.

CASE STUDY: KANSAS CITY'S INNOVATION PARTNERSHIP PROGRAM (IPP)

Kansas City, MO provides a best-in-class model of how a living lab can channel private sector creativity toward the most pressing problems. Through Kansas City's 12-week IPP, entrepreneurs are given the opportunity to develop, test, and demonstrate innovative solutions using city data and infrastructure. The program benefits both the city and the entrepreneurs: the city has the opportunity to test the new technology at no cost, and entrepreneurs can develop a valuable use case for their products and services. After the test period, the city set up an accelerated procurement process to purchase the most promising products and services. To date, the city has adopted over half of the solutions it has tested. Bob Bennett, Kansas City's Chief Innovation Officer, told us that the IPP is used to invite *"people in the private sector with the necessary expertise to get fired up and come work with us."*

NURTURING CROSS-SECTOR PARTNERSHIPS

3. Take a 'problem-based' approach to procurement

Procurement in cities is typically solutions-based, slow, and cumbersome. Current procurement processes require cities to be prescriptive when requesting vendor proposals, even when the problem is not fully understood and the best solution is unclear. This approach to procurement also favors incumbent vendors, discouraging new entrants to the market, even though they may have more effective solutions to the problem at hand. As Shalini Vajjhala, Founder and CEO, Re:focus Partners, puts it: *"Procurement in cities is often product specific and not problem specific.*

The key is to flip procurement around so it can be an entry point to identify new partners and resources."

Many cities are fundamentally changing their mindset towards procurement, seeing it as a means of cultivating novel, creative ways to tackle problems. These cities are streamlining internal processes to eliminate inefficiencies, removing obstacles that deter suppliers from bidding, and eliminating superfluous elements that needlessly drive up suppliers' costs.

CASE STUDY: PHILADELPHIA'S FASTFWD PROCUREMENT MODEL

The city of Philadelphia has demonstrated how procurement can be used as an invitation for creative approaches to city challenges. In partnership with several private and social sector partners, including CityMart, Philadelphia built a problem-based model, FastFWD, which streamlined and codified its procurement process for pilot projects, reducing the amount of paperwork required for a typical Request for Proposal from 47 to 18 pages. The city then committed to opening up procurement in certain issue areas to a wider pool of applicants, through posting in forums where startups look for new opportunities. In one case, 137 companies from around the world submitted responses. *"We wanted to develop an approach that was more open, that allowed folks outside of city government to get a deeper understanding of the types of challenges that we were facing. We wanted to enable a more open venue for people to respond with their ideas,"* said Story Bellows, former Director of FastFWD. *"We wanted to ensure that we were engaging different people, and ensure that they saw the public sector as a place where they could contribute."*

ENABLE RESIDENTS TO BE CO-DRIVERS OF INNOVATION

A transformation is under way in cities' attitudes toward residents when it comes to innovation. Cities are moving away from treating residents as customers – a concept popularized by the spread of New Public Management – or as mere end users of a service. Instead, there is a recognition that residents have the best understanding of the problems facing their communities and possess critical knowledge about how to tackle them. Enabling residents to be co-creators and co-drivers of innovation is also the key to improving equity. As Ellen Hwang, Assistant Director of Strategic Initiatives in Philadelphia says: *"Co-creation is the ideal, but the bottom line is about inclusion, so that marginalized communities are at the forefront of what we do, not simply included as an afterthought."* Cities are therefore empowering residents to be co-drivers of innovation by 1) creating the space for residents to catalyze innovation and 2) innovating in partnership with residents.

> *The key is asking the questions that are most important to residents and, together, building to solve those questions.*

Jessica Kahlenberg
Innovation Strategy Advisor, Chelsea, MA

ENABLE RESIDENTS TO BE CO-DRIVERS OF INNOVATION

1. Create the space for residents to catalyze innovation

Cities are creating the platforms and channels that enable residents to contribute their knowledge and skills to new problem-solving approaches. Doing so not only taps into the expertise of residents – who know the problems intimately – but also strengthens the legitimacy of city government and increases the likelihood that cities are putting equity at the forefront of their approach. As Jeff Bross, Portfolio Manager at Data Driven Detroit, puts it: *"When residents are involved in the grassroots neighborhood planning process in a meaningful way, it sends the message that 'it's your neighborhood, you decide what happens to it.' It increases legitimacy for the resulting plans across the board."* Cities are using a variety of methods to encourage resident-initiated innovation, including citywide challenges and the **opening up of the city's data**, which both increases transparency and enables residents to analyze data, identifying answers to questions that cities are not even thinking to ask.

CASE STUDY: CHICAGO'S CHI HACK NIGHT

Since 2012, Chicago, has been hosting a weekly *"Chi Hack Night,"* where residents are encouraged to pitch and work on a civic technology project. *"The idea originated with residents who wanted to see more transparency from their government. We started a dialogue with civic technologists in the community who were interested in open government and wanted to see how they could contribute"* said Danielle DuMerer, Chief Information Officer and Commissioner of the Department of Innovation and Technology, Chicago. Many successful initiatives have been conceived and built over the years through Chi Hack Night, including an improved statistical model for predicting E. coli levels on Chicago beaches. The model, built exclusively by a team of Chicago civic tech community volunteers who donated over 1000 hours to the project, enhances Chicago's regular beach water quality inspection process. The model has led to such an improvement that the Chicago Parks Department has been using it since May 2016 to warn bathers of elevated bacteria levels. *"As a city we have limited resources to build tools and to work on problems. Having a community that's willing to work with us to solve various issues when we make data available is beneficial to our residents. This allows us to increase the capacity of the city overall to solve their current challenges"* said DuMerer.

ENABLE RESIDENTS TO BE CO-DRIVERS OF INNOVATION

2. Innovate in partnership with residents

As several city problem solvers told us: change moves at the speed of trust. One way that cities are strengthening their relationship with residents and building trust is by treating residents as partners in the innovation process. This approach both increases the likelihood of developing equitable solutions and enhances the legitimacy of city government. Cities are doing this in a number of ways, including employing individuals with lived experiences of the problems they are trying to solve – such as Durham, NC hiring an individual who was formerly incarcerated to support people newly released from jail – and by working with residents to collect critical data. *"Solutions are stronger when residents can advocate for themselves and their neighborhoods, and when they can identify what matters most to them,"* said Andi Crawford. *"Neighborhood connectivity is strengthened by a community coming together to solve an issue that matters to them."*

CASE STUDY: LITTLE ROCK'S 'LIGHTS ON' PROGRAM

Little Rock recently launched the 'Lights On' pilot program in response to the underreporting of damaged or obstructed streetlights. Following a half day work session with a neighborhood association, the city realized that public safety and darkened streets were a point of concern for residents. Rather than continued reliance on one-off calls to Little Rock's 311 system, the city organized canvassing events and sent out residents to comb the streets en-masse and report broken or blocked streetlights. *"After looking at the data in our 311 system for that particular neighborhood we observed that there had only been a handful of streetlight requests. It's a well-organized neighborhood so we set a date and time for volunteers to meet to walk the streets with mobile phones in hand and tag requests in the system,"* said Melissa Bridges. During a one night event, the city received information about 37 broken or dim lights. This was three times more repair ticket requests than had been issued over the past year in the same area. Little Rock plans to organize similar events in other neighborhoods in the hope that if it works for this issue it could work for others, like potholes and property blight.

G R O W

Across the country, cities of all shapes and sizes are testing and deploying diverse new ideas to a broad range of problems.

While the spread of experimentation in cities is cause for optimism, the incremental progress achieved by short-term pilots is not transformative enough to drive sustained, long-term impact for residents. We heard from city problem solvers that three main factors conspire to restrict the impact of new ideas.

The first is government's well-documented aversion to risk, which disincentivizes experimentation and reinforces the status quo. The second is its traditional approach to performance measurement, which does not adequately capture the impact of new approaches on residents' lives. And the third is an incremental approach to innovation that is not designed for scaling impact.
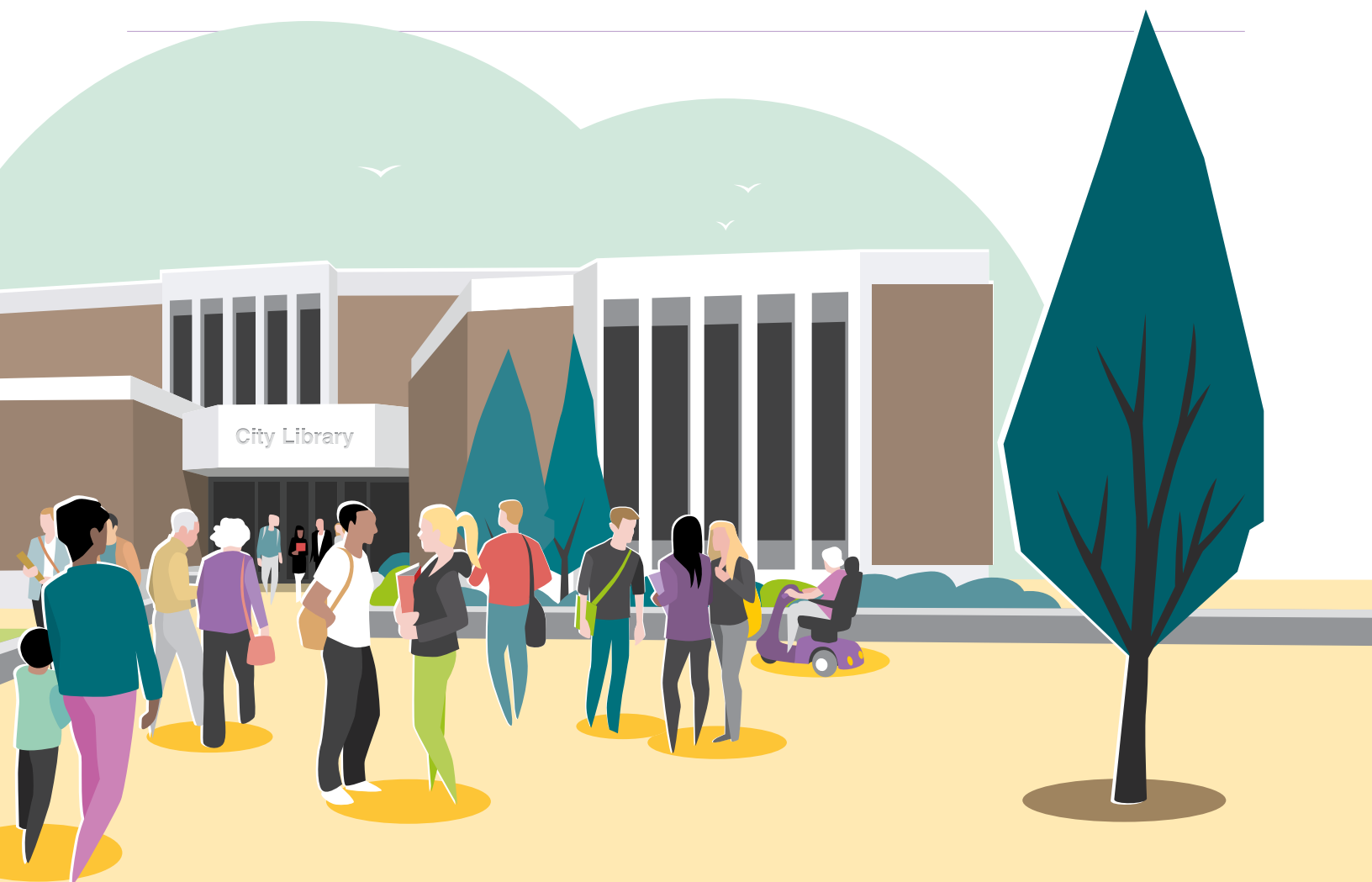
However, cities are overcoming these barriers and **growing** innovation by:
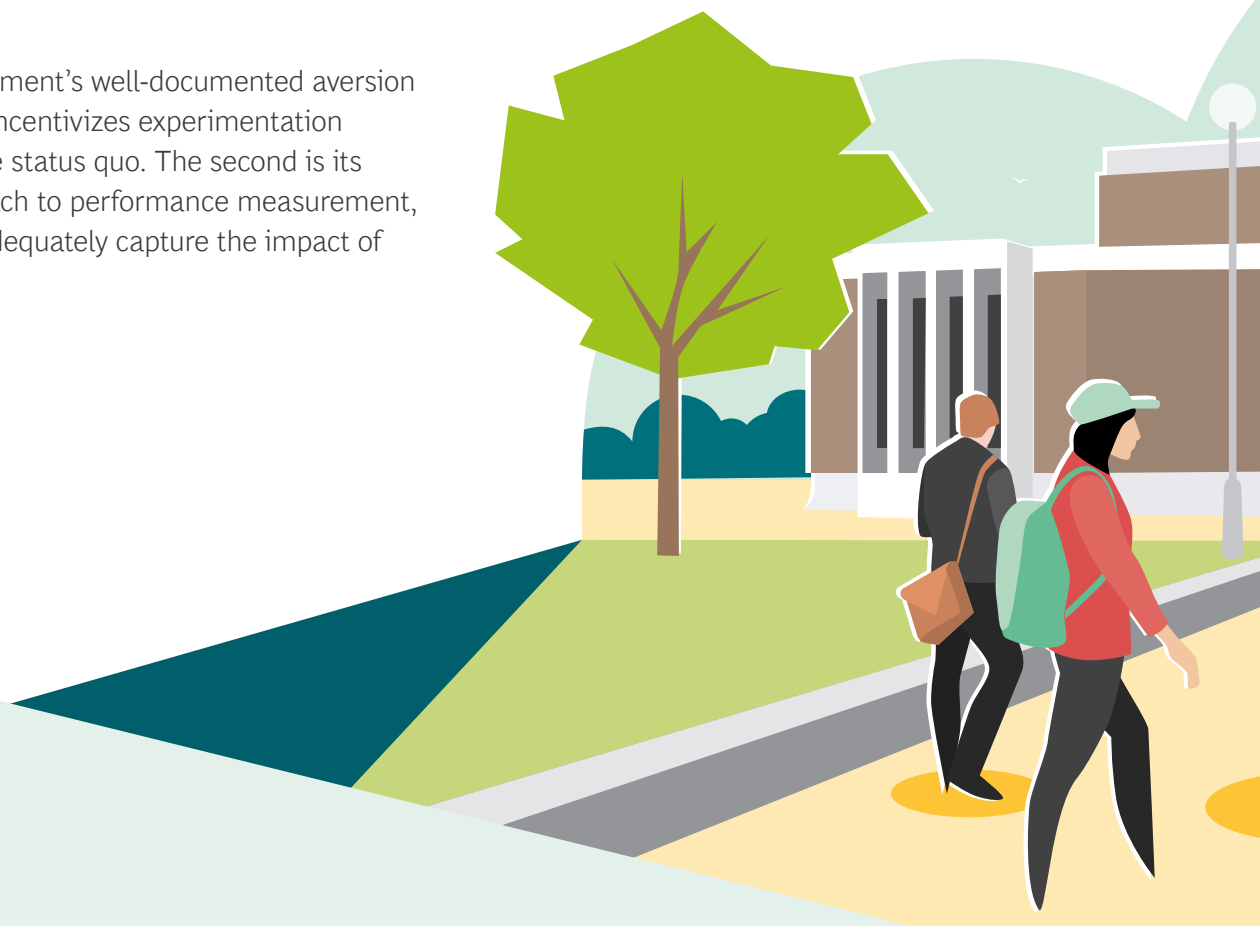
EMBRACING A CULTURE OF EXPERIMENTATION

BUILDING FEEDBACK LOOPS CENTERED AROUND RESIDENT EXPERIENCES

DESIGNING PATHWAYS TO ACHIEVE IMPACT AT SCALE

EMBRACE A CULTURE OF EXPERIMENTATION

Government is naturally risk-averse. When it comes to many core government functions, such as protecting the safety of residents or ensuring reliable services, this is a good and appropriate posture. At the same time, we know that such aversion to risk – particularly the fear of failure and its associated political risk – can stifle innovation and ultimately hinders the progress that residents expect from their governments. This is because those in the nation's city halls lack the incentive to experiment and disrupt the status quo. As Neil Kleiman and Steve Goldsmith observed in A New City O/S, *"the largest obstacle in the way of a pivot to problem-solving public employees is... their appetite for risk."* Cities are making strides in changing the culture both inside city hall and across the city – from one of a fear of failure to one of experimentation that embraces responsible risk-taking. City problem solvers are doing this by 1) contextualizing failure within city government, and 2) creating an open dialogue with residents.

> *It is foolish to think that doing the status quo protects you from risk or produces any new results. We have to experiment to achieve breakthrough innovation to really affect residents' lives for the better.*
>
> Grace Simrall
> Chief of Civic Innovation and Technology, Louisville, KY

EMBRACE A CULTURE OF EXPERIMENTATION

1. Contextualize failure within city government

The ability to experiment is critical if cities are going to successfully confront their most complex and dynamic challenges. Failure is a necessary ingredient of effective experimentation, but politically it's very difficult for cities to accept. This fear of failure inhibits progress because cities view an experiment's failure as an end-state, often to be forgotten or hidden, instead of what it really is – a critical component of learning and growth. As Nigel Jacob puts it, *"Every failure is something we can learn from and share."* Cities need to build a culture that values and promotes responsible risk-taking by creating the space, incentives and environment to support and reward city problem solvers who push the boundaries. City problem solvers stressed the need for this to be led by the mayor, who can then set the tone for the entire city government.

CASE STUDY: LOUISVILLE'S CULTURE OF EXPERIMENTATION

In Louisville, the Office of Civic Innovation & Technology has taken its cue from Mayor Fischer – a former entrepreneur – in embracing and promoting experimentation to drive *"breakthrough"* innovation. The team has worked hard to build a culture that embraces responsible risk-taking and contextualizes any failures as part of the learning process. Before every innovation effort, the team identifies what success and failure look like and openly communicates both potential outcomes to the public. *"It's very easy to get emotionally attached to an initiative,"* said Simrall. *"It became very clear to me that it would be very important for us, as part of our upfront pilot definition, to understand both what success looks like after our time-down period, as well as failure and to just agree to this up front, so that when we see failure happening there's no stigma attached to it. It really gives people the ability to be able to say, honestly, what's actually happening."* The team also seeks to promote this culture of responsible risk-taking throughout city hall with a number of programs. One example is Louisville's 'Metro Badges' program, which recognizes and rewards 'innovation pioneers' – individuals who are going above and beyond in their efforts to improve city government. *"We wanted to be able to provide more of a 365 days approach to recognition for innovation,"* said Simrall. *"And we are really starting to see that kind of innovation muscle being built up with our employees."*

EMBRACE A CULTURE OF EXPERIMENTATION

2. Create an open dialogue with residents

Experimentation, and the inevitable failures that come with it, has the potential to make city government look incompetent in the eyes of residents, if it is not understood in the proper context – as a purposeful, necessary step toward progress. But innovation needs to be visible to be valued, and therefore cannot only be focused on addressing internal, city government problems. *"Innovation and technology need to be issue-specific so that residents understand that this isn't about some new technology, it's about improving their lives,"* said Vana Hammond, Chief of Community Relations, Dallas, TX. Cities around the country are increasing the visibility and transparency of innovation by meeting with residents to discuss results, <u>publishing annual reports</u>, and using other more creative methods of sharing, such as <u>posting videos on YouTube</u> and asking for comment.

CASE STUDY: WASHINGTON'S LAB @ DC

The Lab @ DC uses scientific insights and methods to test and improve policies and provide timely, relevant and high-quality analysis to inform Washington, D.C.'s program and policy decisions. The Lab not only makes all project information available online but the team also regularly engages with residents in town halls, using these meetings to outline and seek input on project methodologies. *"Don't underestimate people. We talked about technical issues, for example teaching about causal inference and how confidence intervals work. And we got a lot of feedback along the lines of, 'hey thanks for not assuming we're dumb, but rather taking the time to really explain that stuff so we could be a meaningful part of the discussion',"* said David Yokum, Founding Director of The Lab @ DC. The Lab's approach ensures that the conversation channels are always open, instilling confidence in residents that the city is pursuing innovation that is in the best interests of community. Additionally, their transparent approach creates a culture where failure is seen not as an end point but as an opportunity to learn and improve. As Yokum added, *"if you're transparent about why you think something is a good idea and you couple it with a commitment to come back and admit if it's not working, people will appreciate that you are trying to get it right."*

BUILD FEEDBACK LOOPS CENTERED AROUND RESIDENT EXPERIENCES

Without performance measurement systems, it can be nearly impossible for cities to assess the impact of innovation on the lives of residents. But cities run the risk of missing the forest for the trees when they focus solely on measuring the performance of processes or services, without connecting with people to understand their lived experiences. *"People in the communities need to be there to help guide our understanding of what the problem is and fill in our knowledge gaps,"* said David Yokum. Cities need to redefine what

'success' means by supplementing traditional key performance indicators with people-centered metrics that directly assess if residents and thriving and if the city is living its stated values. Cities are doing this by building feedback loops that 1) listen to the voices of residents – so they don't just assess impact from their point of view but have a true understanding of residents' experience – and 2) measure equity explicitly to ensure innovation is benefiting all residents.

> **"** *There is a lot of interest and effort around smart city sensors and IoT devices that give us real-time data, but there are other sensors in our community, the residents, that are also giving us real-time data about the quality of their lives.* **"**
>
> Sly Majid
> Chief Services Officer, Austin

BUILD FEEDBACK LOOPS CENTERED AROUND RESIDENT EXPERIENCES

1. Listen to the voices of residents

To ensure cities are achieving their intended impact with a new initiative, they need to put residents at the center of performance measurement and conduct rapid iterations based on what residents tell them. *"We need to continue to learn from our residents – both those who are using the service but also those who are not – to learn why. It then needs to be a continuous iteration process to nurture the initiative all the time, to keep making it better,"* said Mark de la Vergne. However, when it comes to seeking residents' input, many cities focus narrowly on measuring satisfaction with a particular service without understanding the broader picture of residents' experience. Viewing impact through this tight lens can encourage policymakers to make **definitive statements about 'what works'** without appreciating the full scope of impact on the lives of residents. Cities are disrupting traditional performance measurement approaches by defining new metrics to understand residents' wellbeing holistically.

CASE STUDY: TULSA'S CITIVOICE INDEX

In 2018, Tulsa, OK launched the CitiVoice Index, a partnership with Gallup that aims to transform its typical approach to measuring impact. It marks a shift from gathering city-centric data on customers' satisfaction with city services to resident-centric data on the extent to which residents are (or are not) thriving. *"Measurement in cities is often focused on assessing city services. But most cities don't know how their citizens are truly doing. Our ultimate goal is to create cities where thriving is getting better all the time,"* said James Wagner, who spearheaded the initiative for Tulsa. Nearly 4,500 residents responded to the survey on questions ranging from access to basic needs and services to the strength of civic support in their neighborhood. To define how to measure 'thriving', the city formed a working group consisting largely of community leaders outside of city hall. The index has already provided tangible benefits to the city, informing policy developments, city programs, and their broader approach to partnering with local organizations. For example, in response to low levels of trust in the police among the African-American community, the city is launching an Office of the Independent Monitor (OIR) to provide greater accountability and transparency. Tulsa plans to conduct this survey every 18 months to track the impact of interventions such as OIR. As Wagner told us, *"We'd like to use this as a benchmark for us moving forward... Our plan is to deploy it on an 18-month cadence because 12 months is too short to implement real policy changes."*

BUILD FEEDBACK LOOPS CENTERED AROUND RESIDENT EXPERIENCES

2. Measure equity explicitly

Many cities strive to use innovation to improve equity among underserved communities. However, cities run the risk of perpetuating inequities unless they assess the impact of their innovation efforts through an equity lens, and apply the lessons in an iterative, continuous way. Many U.S. cities are mitigating this risk by assessing their mechanisms for data collection and performance measurement to ensure that **the data they collect includes all communities**, and that innovation is creating positive impact for the communities that need it most.

CASE STUDY: PHILADELPHIA'S INDEGO BIKE SHARE PROGRAM

The City of Philadelphia's Office of Transportation, Infrastructure, and Sustainability team put equity at the heart of the design and measurement of its bike-share program, Indego. *"In order to make something that worked for everyone, we needed to make sure equity was at the forefront,"* said Waffiyyah Murray, Better Bike Share Program Manager for the City of Philadelphia. To ensure that bikes were available to all communities, the team worked with residents, going to where they were, to crowdsource decisions about where to locate docking stations. Once Indego was up and running, the city analyzed the utilization data and saw that the docking stations in low-income neighborhoods were significantly underused compared to stations in more affluent neighborhoods. It was found that some residents in low-income neighborhoods could not afford the bikes, did not have access to credit or debit or did not know how to ride a bike. As a result, the city has revamped the payment system to give flexible payment and pricing options. For instance, the city introduced a cash payment option for the monthly membership to enable equal access.

DESIGNING PATHWAYS TO ACHIEVE IMPACT AT SCALE

Due to their reach and influence, city governments are uniquely positioned to drive change against the largest, most complex problems facing residents. To create impact at scale, cities are designing the pathways that enable initiatives to succeed and ensure the learnings from them are disseminated throughout the city. To do this, cities are 1) securing sustainable funding to expand pilots and 2) diffusing learned principles across the city.

> **"** *Government is the entity that is best positioned and capable of driving impact at scale.* **"**

Matt Klein
Executive Director, New York City's Mayor's Office of Economic Opportunity

DESIGNING PATHWAYS TO ACHIEVE IMPACT AT SCALE

1. Secure sustainable funding to expand pilots

Cities have increasingly turned to the private and social sectors to finance short-term pilots. This seed funding, often provided by philanthropic organizations, has led to many positive developments, enabling the flourishing of innovative ideas and the export of key innovation methodologies and disciplines. However, without a dedicated, sustained funding stream that continues after the initial experimentation phase, good ideas often suffer 'death by pilot' and do not achieve lasting impact for residents. While funding will continue to remain a barrier, cities are improving the chances of promising ideas reaching their full potential by building **agile funding streams** that can adapt and change as the idea grows and by securing funding commitments before the pilot starts.

CASE STUDY: LANSING'S 'LOVE YOUR BLOCK' PROGRAM

Lansing, MI launched its Love Your Block program in 2015 as a way to provide residents with the resources to improve their own communities. With $25,000 funding from Cities of Service, Lansing disbursed mini-grants to residents who worked to fight blight across the city. In light of the success of Love Your Block and the city's other neighborhood grant program, city hall worked with the city council to allocate general funds to continue the program. In order to secure that funding, city hall pointed to their participation in Cities of Service as proof that this type of initiative was considered to be best practice nationwide. Additionally, the city could show clear neighborhood improvements, such as cubic tons of dirt removed and the improvement of blighted lots. As Andi Crawford told us, *"the proof was really clear that citizens were doing cool things in their neighborhood. For very little money we could invest and not only see big results but also encourage a lot of goodwill in the community. It's up to us in city hall to build that capacity. Our goal is to help neighborhoods and groups at the very grassroots level build their ability to advocate for themselves and to identify projects that are important to them."*

DESIGNING PATHWAYS TO ACHIEVE IMPACT AT SCALE

2. Diffuse learnings across the city

It's increasingly common practice among cities to test and iterate new solutions with residents via small-scale pilots to determine their viability before embarking on a citywide implementation. But if cities focus solely on attempting to scale a specific pilot, they may miss other opportunities to drive impact. As Nigel Jacob told us: *"pilots are often 'one and done projects', that might work or might not, but cities don't pay enough attention to what is being*

learned." Many cities are maturing their approach to innovation by prioritizing learning over a narrow focus on scaling a specific solution. These cities are applying rigorous performance measurement to both pilots, and existing city programs, to identify core principles that can be used to improve programs, policies, and products that have already been deployed across the city.

CASE STUDY: NEW YORK CITY'S MAYOR'S OFFICE OF ECONOMIC OPPORTUNITY

The goal of the New York City's Mayor's Office of Economic Opportunity (NYC Opportunity) is to use evidence and innovation to reduce poverty and increase equity. When testing new interventions, the NYC Opportunity team approaches pilots with the goal of not only determining the viability of a new solution but also learning as much as possible about the problem. Then, regardless of the efficacy of the intervention being piloted, the team can apply key principles to programs, products, and policies that are already rolled out across the city. *"The goal should be to not only scale individual models,"* said Matt Klein, *"but also to scale the practices and learning principles that can be applied far more widely."* For example, in 2008 the city piloted a one-stop career center that took a sector-focused approach to job placement, as opposed to the more standard one-size-fits-all approach. Over two years, the team and its partners rigorously evaluated the performance of the sector-focused career center and found that it achieved significantly better outcomes than the standard centers. As a result, the city added two more sector-focused career centers but also, when NYC revamped its entire workforce system, learnings were taken from this experiment and a sector-focused, career pathways approach was chosen.

CONCLUSION AND CALL-TO-ACTION

U.S. cities find themselves at a unique inflection point in history.

The challenges cities face – aging populations, deteriorating infrastructure, extreme ecological change, widening inequality – are more complex than ever. At the same time, new technologies and maturing urban innovation mean that cities' ability to control their own fate has never been greater.

We believe local government can be the vanguard in creating cities that are more equitable, livable, and resilient. And cities all over the U.S. are showing how they can drive real change for residents by **aligning** innovation efforts within city departments and across sectors through mission-driven strategies; **empowering** city problem solvers, businesses, and residents to innovate; and **growing** an innovative culture that encourages continuous experimentation, defines performance metrics that reflect residents' experiences, and designs innovation pathways to achieve impact at-scale.

However, it is not only *what* cities do but also *how* they do it that's important if they are to achieve impact with innovation. The most innovative cities realize that **legitimacy, equity,** and **agility** are not just desired outcomes, they are also critical principles for effective innovation and long-term sustainability.

This handbook is the product of the city problem solvers we spoke to. But the conversation is just getting started. Our mission is to continue to deepen our understanding of how cities are innovating and create an ongoing dialogue where city problem solvers can continue to learn from their peers around the country. To make your voice heard and to find out more about our Future of Cities work, here's what to do:

Email us at futureofcities@ centreforpublicimpact.org

Visit our website **https://centreforpublicimpact.org/ resource-hub/the-future-of-us-cities/**

Comment on Twitter using #FutureofCities; Follow CPI on Twitter @CPI_Foundation, Facebook and LinkedIn.

ACKNOWLEDGEMENTS

Centre for Public Impact
A BCG FOUNDATION

Join the conversation

info@centreforpublicimpact.org
Follow us @CPI_foundation

THE
FUTURE
OF CITIES