Scaling innovation in Sioux Falls through problem-oriented governance

A practical approach to expanding and maximizing the value of innovative practices in local government

April 7th, 2020

Arjun Shah <arjunshah15@gmail.com>,
Lisa Setrakian <lisasetrakian2010@gmail.com>,
Nicolas Diaz <nicolas.diaz.amigo@gmail.com>
Masters in Public Policy Candidates (2020), Harvard Kennedy School

Prepared for: Allie Hartzler,
Department of Innovation and Technology, City of Sioux Falls, SD

Faculty advisor:
Jorrit de Jong, Faculty Director at the Bloomberg Harvard City Leadership Initiative

Social and Urban Policy Concentration advisors: Chris Avery and Julie Boatright-Wilson

Table of Contents

Executive Summary

In the final month of writing this report on public innovation for the City of Sioux Falls, the COVID-19 pandemic stormed the world. We reflected on the relevance of our work as we watched local leaders -- mayors, governors and the officials they work with -- rush to meet this crisis. The disruption to everyday routines would require innovative and nimble approaches for an uncertain future. This was the focus of our research: to understand how governments can equip themselves to innovate when faced with big challenges.

Sioux Falls has been part of a growing trend to address critical challenges through new methods, fresh perspectives, and novel ways of collaboration. Their Innovation Team, unusual in a typical municipal bureaucracy, **helps the City create new, implementable and impactful ideas by collaborating on City projects and spreading a culture of innovation**. But as a new group, the Innovation Team is concerned with how to fulfill its role in facilitating innovation and how to scale their positive effect on the City.

The role of innovation: Reinventing government to put the problem at the center

When the public sector faces a complex policy issue, the common response is to breed solutions from existing structures and expertise. An alternative approach, called problem-oriented governance, reorients traditional government functions around the problem to find novel ways to address it as a whole.

Given its mandate for co-creating solutions to civic challenges, the Innovation Team is uniquely positioned to foster problem-oriented governance. Incorporating a framework that identifies key capabilities needed for problem-orientation, we created a **facilitation guide for the Innovation Team to assess municipal projects and create ways to strengthen the City's problem-oriented approach**. The guide actualizes the theoretical capabilities needed to address a problem through a set of simplified indicators. We piloted this guide to create assessments and recommendations for three on-going projects dealing with complex municipal issues.

Scaling innovation: Strategic choices to increase the impact of the Innovation Team

To expand the City's ability to address civic challenges, we developed a strategy to extend the Innovation Team's reach. Our recommendations took lessons on institutional growth from peer innovation teams and applied them within the context of Sioux Falls. We recommend the Team:

- Works where the Innovation Team's insight and resources **provide immediate value**
- **Leverages access to technology projects** within the Dept. of Innovation & Technology
- Uses existing **mayoral priorities** to create productive collaborations
- **Documents the impact** of previous wins using qualitative data
- Extends its reach through a **funnel of engagement with other departments**
- **Broadens the Team's role and skill set** to become a valuable partner for any project
- Establishes **formalized processes** for starting new projects

• • •

A turn towards a problem-oriented role and long-term impact will help the Innovation Team and the City of Sioux Falls be better prepared to face the urban challenges of the 21st century.

The context: Sioux Falls Innovation Team

In 2018, Mayor Paul TenHaken was elected upon the promise of bringing his experience as a tech entrepreneur into the City.[1] He rebranded the Central Services Department as the new Department of Innovation and Technology (DOIT), installing a new Director and an Innovation Coordinator.[2] Both members of the new Innovation Team were hired from private-sector entrepreneurial and marketing backgrounds. The team was asked to foster innovation throughout the City government, one of the four pillars of TenHaken's administration.

But in the absence of a specific role in the City bureaucracy, their mandate remained nebulous. The Team stepped into any role where their creativity and fresh perspective could create new, implementable and impactful ideas - fulfilling the purpose of innovation but without any larger, cohesive mission.

Early success and forward momentum

The Innovation Team found its first major role in overseeing the creation of a new transit initiative.[3] The City wanted to revamp its spotty bus service, which is mostly used by a low-income, aging, and widely-spread population. Many other cities facing this challenge would have looked to their transportation department, finding ways to cut certain routes or hire more drivers. Instead, the Mayor appointed a cross-departmental collaboration including firefighters, community organizers, librarians, and transportation specialists, led by the Innovation Team. They approached the problem with a human-centered design methodology, gathering information on the actual needs of citizens and co-designing solutions with their transit users. This process resulted in a novel approach: an on-demand bus service to be piloted this year.

The Innovation Team's success leading the transit initiative - a large, visible City priority - affirmed their ability to create positive changes in Sioux Falls. They were effective in managing a cross-boundary collaboration that tackled a challenging problem with a new methodology. The team operated in a problem-oriented way - putting the shortcomings of the current transit system at the center of their work. With momentum, the Team now looks to scale their impact.

[1]Kaysen, Ronda. "Sioux Falls Mayor Embraces Technology to Help Residents." AARP, January 8, 2020. https://www.aarp.org/home-family/friends-family/info-2020/paul-tenhaken.html.
[2]"Reisdorfer Appointed Director of Innovation and Technology." *City of Sioux Falls*, September 11, 2018. https://www.siouxfalls.org/news/2018/September/11/appointment.
[3]Bloomberg Cities. "Innovation in the Heartland: How Sioux Falls Is Turning Public Problem-Solving on Its Head." Medium, March 27, 2019. https://medium.com/@BloombergCities/innovation-in-the-heartland-how-sioux-falls-is-turning-public-problem-solving-on-its-head-1fc843a9f12f.

The Innovation Team reaches an inflection point

Translating the success of the transit initiative to other City challenges has produced concerns regarding the replicability of the cross-collaborative model. Though the Team was successful as facilitators of a problem-oriented approach to transit - gathering perspectives, gaining a deep understanding of the problem, and proposing a novel solution - they seek to take those key aspects of what makes problem-oriented projects work and apply them to other challenges.

With the transit project reaching maturity, the Innovation Team is now responsible for identifying new projects and partnerships. The Team faces a series of strategic choices to expand the value they create for the City. The challenge of scaling their impact is compounded by a leadership vacuum left by the departure of the Director of DOIT in early 2020. The direction the small team (one full-time Innovation Coordinator and one Specialist) goes will change their ability to partner with departments in important projects and spread a culture of innovation.

Our research focuses on role and scale

Innovation in the public sector - defined as the creation of new, implementable and impactful ideas - has the potential to make governments more responsive to the needs of constituents and more effective with limited resources.[4] But, as seen in Sioux Falls, the challenge for governments is to effectively organize people and resources that enable innovation. Innovation offices face the difficult work of navigating their outsider role while trying to provide value.

We sought to help the Innovation Team think systematically about the role of innovation and provide insight on how to scale an untraditional municipal office through two questions:

> **Research Question 1**: What practical steps can governments take to enhance their capability to operate in a problem-oriented way?
> **Research Question 2**: Given its opportunities and constraints, what strategic choices should the Innovation Team make to expand its ability to create public value?

The subsequent sections address each question. First, by focusing on the field of problem-oriented governance, we explored a theoretical framework developed by Mayne, de Jong, and Fernandez-Monge (2019)[5] of the capabilities required for the public-sector to address large social problems. We then transformed the framework into a set of indicators to assess the degree to which these capabilities exist in projects. We tested these indicators with three City projects and developed findings on how to improve their approach to the problem. This process translates to the Innovation Team's desired role.

Second, we explored a set of questions related to scale by interviewing the municipal innovation offices around the U.S. We combine the learnings of other cities within Sioux Falls context to generate strategic recommendations for the Innovation Team in the short, medium and long term; these recommendations support their ability to scale. For our detailed methodology, see Appendix A.

[4] For an academic review of public-sector innovation and innovation offices, see Appendix B.
[5] Quinton Mayne, Jorrit de Jong, Fernando Fernandez-Monge. "State Capabilities for Problem-Oriented Governance." *Perspectives on Public Management and Governance* Volume 3, Issue 1, (August 2019): 33–44, https://doi.org/10.1093/ppmgov/gvz023.

Applying problem-oriented governance in Sioux Falls

Problem-oriented governance reorients the approach of government so the problem is at the center of the work, improving a city's ability to respond to difficult challenges. But problem-orientation is hard, requiring departments to step out of their existing processes. We argue that the Innovation Team can take the role of a facilitator of problem-orientation across different City projects. As noted, the Innovation Team has already assumed this role as it guided a cross-departmental collaboration to success in the transit initiative. To that end, it is important to identify and replicate aspects of problem-orientation. We enumerated the capabilities of problem-orientation put forth by Mayne *et al*. in a facilitation tool used to assess and improve the approach used by City projects. We then tested the tool on three current Sioux Falls projects.

What's the big deal? Why should cities become problem-oriented?

Cities face many **wicked problems** (see below), and the responsibility to tackle these problems often falls to municipal governments. Governments typically approach problems using their conventional methods. But wicked problems do not have predefined solutions - their complex nature proves that doing "more of the same" will not solve these problems.

Problem-orientation opens the door for innovative work by refocusing the bureaucracy to look outside its conventional procedures and instead at the problem itself. When done well, problem-orientation drives public officials to:

- **Collaborate** outside of traditional bureaucratic boundaries
- **Explore beyond their current knowledge** and capacities
- **Question long-standing assumption**s and considers new hypotheses
- Test entirely new approaches through **iteration and reflection**
- Use evidence and **data to drive decisions and monitor performance** against goals
- **Avoid implementing quick, technical fixes** to complex, multi-layered problems

While many governments recognize these practices as a paragon, they often grapple with how to bring them into practice in a systematic way.

Wicked problems are hard to deal with

Wicked problems[6] are deeply embedded, multilayered social challenges with no known or straightforward solutions. Their root causes are often contested or uncertain. City governments encounter wicked problems all the time. Abandoned properties, for example, affect economic, social, budgetary and public health dimensions. Their root cause could be linked to factors as diverse as the job market, housing prices, inequality, provision of social services, and racism. A siloed response to housing abandonment may neglect one or several of these dimensions. Other examples of urban wicked problems include homelessness, obesity, and adapting to climate change.

[6] The concept of wicked problems was penned by Horst W. J. Rittel and Melvin M. Webber in 1973.

Three capabilities for problem-oriented innovation

Mayne *et al.* have researched how governments can effectively tackle wicked problems through problem-oriented governance. They theorize **three structural capabilities** required for organizations to excel. For real examples on what these capabilities look like, see Appendix E.

Reflective Improvement Capability. The ability to thoroughly diagnose the problem, link activities to desired outcomes, reflect on the project's performance, and continuously adapt in light of new information gathered. To **develop an intentional plan to confront the problem**, the organization should:

1. Develop a **coherent theory of change** that motivates the work. This is made up of strategic goals that relate to individual tasks and the desired outcome.
2. **Continuously iterate** on the theory of change. This requires managing activities and extracting lessons to improve performance and update assumptions.

Collaborative Capability. The ability to leverage an array of relevant resources and expertise through sustained dialogue among diverse perspectives. To **gain a proper understanding of the problem and enhance solution co-creation**, the collaboration should involve a breadth of stakeholders and a depth of quality relationships.

1. **Breadth** ensures relevant actors are involved, including those across agencies and from higher and lower levels, along with residents, and for- and non-profit organizations.
2. **Depth** ensures that all team members are empowered to propose solutions, and that they convene regularly.

Data Analytic Capability. The ability to foster collective intelligence by collecting a variety of data and leveraging infrastructure and human capital to analyze and interpleverage ret it. To **make sense of the complexities of the problem**, it is important to use all available resources and information and have the capacity to collect, process, and analyze various forms of knowledge. This includes both **quantitative** and **qualitative** data.

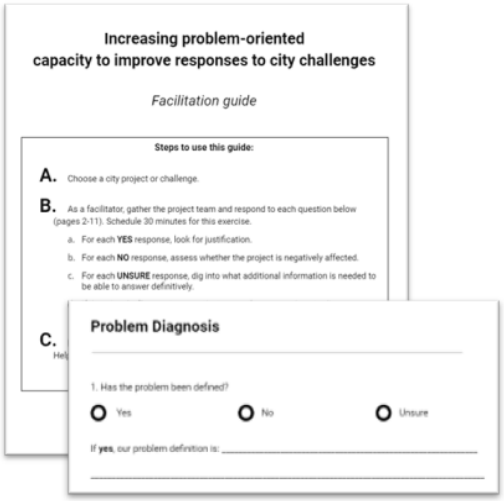
An example of effective problem-orientation: Sioux Falls' transit reinvention

One of the Innovation Team's earliest priorities was a reinvention of its transit system.[7] The multi-year collaboration leveraged input from a cross-boundary task-force that used human-centered design. After a year of investigating the concerns of transit users and residents, the City is now preparing to test a radical, on-demand expansion of transit that leverages dynamic route optimization technology. The project shows **reflective improvement capability**, as it considered multiple theories of change in order to find the one best suited to improve the resident's transit experience. It shows **collaborative capability**, as it brought together urban planners, disability activists, transit experts, and other stakeholders. It shows **data analytic capability**, as it investigated what other cities were doing to innovate in transit.

[7] Bloomberg Cities. "Inside the Sioux Falls Innovation 'War Room'." Medium, March 27, 2019. https://medium.com/@BloombergCities/inside-the-sioux-falls-innovation-war-room-54e4bf036f24.

Introducing a tool to systematically evaluate capabilities in problem-oriented work

The three capabilities identified by Mayne *et al.* are a useful framework for understanding the success of different problem-oriented projects. Teams that excel in all three develop thorough and intentional plans through **Reflective Improvement**, capitalize on the insights of different types of information through **Data Analytics**, and bring together important perspectives through **Collaboration**. However, it is not immediately clear how to assess problem-oriented capacity: what factors indicate whether an organization is strong or weak in each capability?


Increasing problem-oriented capacity to improve responses to city challenges

Facilitation guide

Steps to use this guide:

A. Choose a city project or challenge.

B. As a facilitator, gather the project team and respond to each question below (pages 2-11). Schedule 30 minutes for this exercise.

a. For each **YES** response, look for justification.

b. For each **NO** response, assess whether the project is negatively affected.

c. For each **UNSURE** response, dig into what additional information is needed to be able to answer definitively.

C.

Problem Diagnosis

1. Has the problem been defined?

Yes No Unsure

If **yes**, our problem definition is: _____

We designed the **problem-orientation facilitation guide** to transform Mayne *et al.*'s capabilities framework into a practical and actionable resource for teams engaged in problem-oriented work. This is an adaptation of Mayne *et al.*'s research. For example, we place **Problem Diagnosis** as a first step, as it is critical to deeply understand the problem before addressing it. In the guide, we establish component indicators for each capability, decomposing the complex attributes of the capability into simple yes/no questions. A project team can **assess** the strength of their approach and **create next steps** for improvement by reflecting on these questions (see an example below).

The guide, presented in Appendix D, can be used to facilitate discussions with any team looking to improve their ability to tackle wicked problems more holistically. We tested it with three Sioux Falls projects, assessing each team's problem-oriented capacity and deriving recommendations to improve each team's approach. Summaries of insights developed through the tool are included in the following sections.

The problem-orientation facilitation guide in action: an example

Question 19 of the guide asks whether the team has performed benchmark analysis to investigate approaches used by other organizations. The team's ability to gather information from a variety of sources, including organizations tackling comparable problems, is a strong indicator of their *Data Analytic Capability*. After reflecting on this question, a team may realize that they should increase their outreach to peer organizations. Using the tool, they understand that benchmarking is an important data source, and may be able to improve their work as a result.

19. Has the team researched what comparable organizations have done to address this problem?

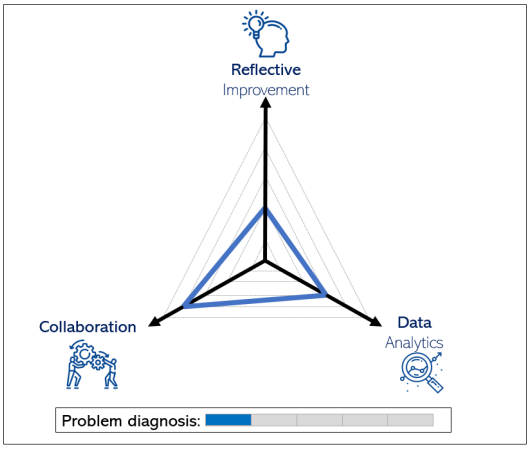
Yes No Unsure

Facilitating problem-orientation in Sioux Falls

To test the value of the tool presented in the previous page, we facilitated discussions with three teams in Sioux Falls currently tackling multi-layered urban challenges. We ran this as a pilot to test the tool, acting as a proxy for the Innovation Team who would carry out future facilitations. First we assessed their problem diagnosis and problem-oriented capabilities and then we brainstormed actions to plug any gaps.

Neighborhood Revitalization[8]

The problem
The Terrace Park neighborhood is experiencing a downturn in outcomes (e.g., property values, crime), and is perceived to have a decreasing quality of life. The team, composed of members from eight City departments, has sought to reverse this downward trajectory.



While the team has made tremendous efforts in fostering effective collaboration within a cross-boundary effort, we identified room for improvement in their **Problem Diagnosis** and **Reflective Improvement,** based on:

- The decision to carry out an infrastructure project aimed at reducing crime before gaining a deeper understanding of the problems experienced by the neighborhood.
- A misalignment and lack of specificity around the team's goals for Terrace Park.

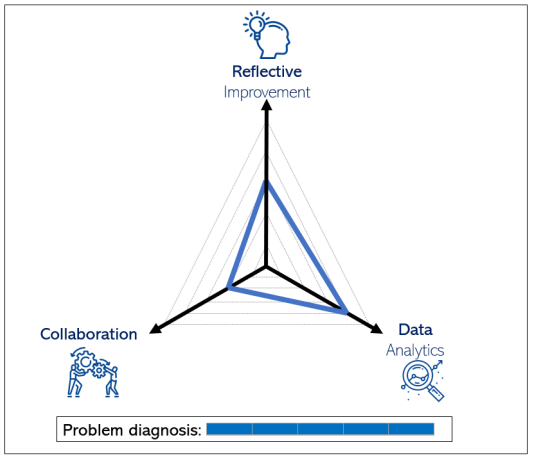
Out of the discussion, we uncovered the following steps to improve the team's approach:

- **Explore the Problem**: Focus the team's effort on exploring the causes of Terrace Park's decline, as this will result in more meaningful interventions. Focus first **step**s on administering the neighborhood survey to collect first-hand information from residents and business owners on the problems Terrace Park experiences.
- **Avoid Quick Fixes**: Team members should not downplay the complexity of the problem by pigeonholing solutions into their expertise (e.g., the Lights superintendent proposing to add streetlights to resolve the problem). Quick fix solutions divert resources that could be used for a larger effort.
- **Create Specific Goals**: Develop measurable subgoals that are part of the larger goal to reserve the neighborhood's downward trajectory. These will guide the team's activities.
- **Discuss Purpose**: Use the bimonthly meetings to revisit the team's planned activities and progress towards goals, and whether these continue to be the optimal way to tackle the problem, given new information gathered from recent progress.

[8] For the full assessment and recommended action steps for each capability, see Appendix F.

Fire prevention and inspection[9]

The problem
The Sioux Falls Fire Rescue (SFFR) department seeks to optimize its limited capacity for fire inspections to reduce the risk of ignitions across the City. The team seeks to increase their efficacy by prioritizing the highest-risk buildings in the inspection schedule. The team has developed a predictive-model to identify these at-risk buildings.



In our session, SFFR displayed a deep understanding of the problem. However, we identified room for improvement in their **Reflective Improvement** and **Collaboration**, based on:

- Goals that are not specific, measurable or time-bound. The current goals make it difficult to assess whether the new inspection schedule is effective.
- Difficulty measuring the impact of reallocating fire inspections, as many unmeasurable factors contribute to fire risk.
- A small task force that is limited to SFFR members and lacking other, necessary skills.

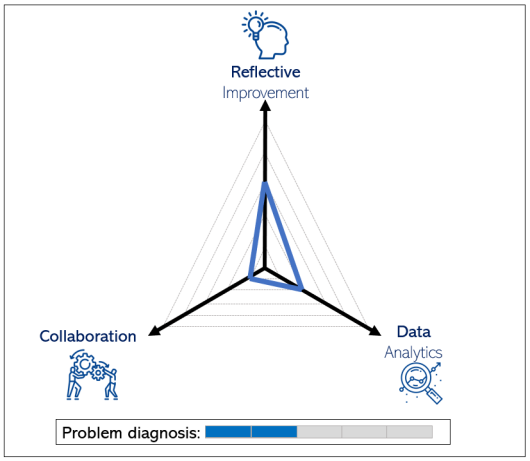
Out of the discussion, we uncovered the following steps to improve the team's approach:

- **Create Specific Goals**: Set time-bound targets for the current goal of increasing the efficacy of inspections. For example, the goal of the new inspection schedule could be to reduce the number of city-wide ignitions by 10% in the next year. By measuring progress towards this goal, the team can assess whether its plans were effective.
- **Measure Progress**: Because ignitions can be affected by many things other than the schedule change, the team can incorporate more nuanced measurements to gauge whether the inspections are more effective than before. One example could be to compare the number and type of fire code violations found in buildings under the new schedule: if targeting is more effective, inspections will identify buildings with the most severe violations. Addressing these violations may help decrease the risk of ignition.
- **Expand the Task Force**: Invite new partners to the table to create a sustained collaboration that can build off of different perspectives and skill sets outside the realm of SFFR. Leverage new partners to combine quantitative insights from the model with qualitative, on-the-ground context. In particular, consider engaging with:
    - *A technical expert,* who can provide a deep understanding of the predictive model and help update it as new insights are learned
    - *Inspectors,* who can help provide evidence that can validate and improve the plan and who can propose updates to inspections in light of targeting at-risk buildings
    - *Community organizations and residents,* who can provide perspective on the communities living in at-risk buildings and on what methods are more effective in lowering the fire-risk of these buildings

[9] For the full assessment and recommended action steps for each capability, see Appendix G.

Police recruitment[10]

The problem
With an increasing need to address the drug crimes in Sioux Falls, the Mayor has recognized a challenge with the City's ability to recruit street-ready officers. A new project team has begun exploring ways to increase the number of recruits this year by 35%, focusing on a marketing solution to increase the number of total applicants.



This is a nascent project within the City, still in planning phases, so we identified room for improvement in **all capabilities,** based on:

- A limited focus on marketing solutions, instead of considering all sources of the problem (e.g., considering attrition in the application process).
- The reliance on quantitative data to understand the problem, while forgoing benchmarking and interviews with past and present police officers that could help the team deeply understand the problems with recruitment.
- Team dynamics that inhibit a deeper understanding of the problem, with some team members unwilling to change the application process, and others concerned that pushing back may jeopardize their position on the team.

Out of the discussion, we uncovered the following steps to improve the team's approach:

- **Revisit Key Assumptions**: Open discussion with relevant stakeholders about what could cause the recruitment shortage, which includes marketing as well as applicant attrition. Provide evidence that attrition is a root cause of the problem, as this will test underlying assumptions.
- **Explore Qualitative Data**: Conduct interviews with past and present police to gain a nuanced understanding of the application process and the key motivators of recruitment. Qualitative data can uncover causes of applicant attrition, which can help push the team to consider non-marketing solutions.
- **Psychological Safety**: Gather the mayoral team's support for the project team, to state that this is not an issue of blame, and all options (including changes to the application process) need to be available to solve the problem. Mayoral buy-in should help each team member feel they can work honestly without negative consequences.

[10] For the full assessment and recommended action steps for each capability, see Appendix H.

Enhancing the public value of an innovation office

Public innovation offices have the challenging task of operationalizing innovation in government. This not only requires making conventional organizational decisions, like identifying the office's mission and assembling a team with appropriate skills, but also strategizing how to manifest innovation through projects and deciding whether there is value in spending time and resources to spread innovative methods to other departments.

While the previous section explored the role the Sioux Falls Innovation Team can take to facilitate problem-oriented governance, **this section explores organizational decisions the City can make to operationalize approaches like problem-oriented governance and scale the Team's impact**. To get here, we conducted research on different city innovation offices to understand how they have established their presence in the city and scaled their operations. As a result, we present a series of strategic recommendations specific to the context of Sioux Falls.

Organizational decisions for scaling impact

Our literature review revealed that innovation offices face a common set of organizational challenges.[11] By virtue of their existence outside traditional bureaucracy and their relative novelty, innovation offices today operate in many different ways. The form that they take is a reflection of their function: for Sioux Falls, the organizational decisions they make will impact their ability to satisfy their role as facilitators of problem-oriented governance. Consulting the Sioux Falls Innovation Team about their most pressing challenges, we narrowed our focus to **seven key organizational decisions** (detailed in Appendix J). These issues are critical to ensuring the sustainability of the Innovation Team, and their impact around the City.

Organizational decisions	
Innovation type	What is the role of the innovation office?
Guiding methodology	How does the office approach projects?
Organizational placement	Where is the office positioned in the city?
Prioritization criteria	What criteria are used for prioritizing projects?
Metrics to measure impact	How does the office determine its effectiveness?
Funding sources	How is funding for the office sourced?
Spreading innovation	How can the city create a culture of innovation?

[11] OECD. "Enhancing Innovation Capacity in City Government," October 26, 2019. https://doi.org/10.1787/f10c96e5-en.; The full list of organizational challenges is presented in Appendix L.

Learning from the diversity of innovation offices

To help Sioux Falls answer these organizational questions, we gathered insights from other municipal innovation offices. As a first finding, we noted that innovation offices take on a variety of roles across different cities, dictated by mayoral priorities, constituent needs, and the skill sets available. Overall, we observed four distinct trends in the role of innovation in cities:

	**Service redesign**	Take existing government workflows and make them leaner, more efficient and more effective.
	**Performance management**	Closely supervise strategic goal setting and monitor activities to improve department and/or citywide outcomes.
	**Technology promotion**	Adopt new technologies to remain on the cutting edge and potentially increase efficiency of city services.
	**Problem-oriented experimentation**	Establish a collaborative effort to tackle complex challenges where traditional bureaucratic structures are not fully equipped to do so.

See Appendix C for a detailed overview of these innovation typologies.

As a result of the different roles, there is variety in how innovation offices are organized; the form fits the office's function. We interviewed **eight municipal innovation offices** to understand their organizational choices, the strategic trade-offs of those choices, and how those choices benefited their ability to fulfill their mission. We selected offices that are either comparable to Sioux Falls or have exhibited particular success in sustaining their innovation model, so that the lessons learned from these cities would be most beneficial for the Innovation Team.[12] Key insights and advice from innovation offices interviewed are detailed in Appendix K.

Innovation offices interviewed and their innovation type			
Atlanta, GA	Service redesign; Performance management	**Peoria, IL**	Problem-oriented experimentation
Denver, CO	Service redesign	**Rochester, NY**	Problem-oriented experimentation; Service redesign
Long Beach, CA	Problem-oriented experimentation	**South Bend, IN**	Problem-oriented experimentation; Service redesign
Los Angeles, CA	Problem-oriented experimentation; Service redesign	**Tulsa, OK**	Problem-oriented experimentation; Service redesign; Performance management

[12] For detailed characteristics of innovation offices interviewed, see Appendix I.

Recommendations to scale public value

In this section, we translate lessons learned from our interviews with innovation offices to create a scaling strategy for Sioux Falls. The following recommendations to expand the Team's reach and impact are developed through our understanding of the City's context.

Align work to mission in the short-term

The Innovation Team's self-stated mission is to **"facilitate new approaches to civic problem-solving in collaboration with our coworkers, neighbors, and community"**.

The Innovation Team's focus in the short term should be to align projects to their overall mission. This means applying problem-solving expertise to complex challenges facing the City. The Innovation Team is at an inflection point and has reached the later stages of its first major engagement. Rallying behind the Team's mission will provide clarity for proceeding with new work in the future, while simultaneously demonstrating the Team's value.

i. Work where the Team's insight and resources provide immediate value[13]

The Innovation Team should work on projects where they can capitalize on their existing expertise in problem-solving. As we explored in the previous section, methodologies that follow a problem-oriented approach, like human-centered design, can enable project teams to tackle complex problems at its root. This methodology dives deep into a problem and iteratively tests solutions, which connects to the Team's mission. Because the current Innovation Team is well-versed in human-centered design, **we recommend that the Team prioritizes projects that are appropriate for applying the human-centered design methodology**, as opposed to incorporating other methodologies which may require skill sets that are not currently available.

Different skill sets and methodologies

Some innovation offices have chosen to drive their work through the application of only one or two methodologies. For example, Washington, D.C.'s The Lab focuses on RCTs and other scientific research methods and Denver focuses on process improvement training.

Maintaining a focus on human-centered design can immediately benefit projects like *Library Website Redesign* and *Neighborhood Speed Reduction*.[14] There may be future opportunities to incorporate new skill sets and offer different services to project teams.

ii. Leverage access to technology projects within DOIT

There has been some internal debate regarding the placement of the Team in the Department of Innovation and Technology (DOIT), and whether it should instead move to another placement like the Mayor's Office. There are several political and financial considerations that affect this decision, including the City's ability to expand the number of direct reports to the Mayor.

[13] Icons are used to denote lessons derived for the key organizational decisions (from the previous page).
[14] A full list of ongoing departmental priority projects (BHAGs) is included in Appendix L.

However, if the Team remains in its current placement, **it should consider leveraging its proximity to IT to select projects that add public value**. In Sioux Falls, DOIT provides enterprise-wide services (including, besides innovation, IT and Communications), with engagements across every other department. Because IT offices typically maintain a variety of services and handle requests for new procurements, departments often keep technology services without a clear understanding of the needs of their users. In this way, technology projects can coexist with innovative problem-solving approaches to help IT procure the right technology for the department's goals.

South Bend intertwines innovation and technology

In South Bend, the DOIT-based Chief Innovation Officer seeks to link innovation with projects focused on technology. Because they have control over what the city procures, they are able to select key projects and insert a human-centered design methodology that ensures that the product or platform purchased is aligned with the needs of its users. One example includes a utility billing platform requested by Public Works - the innovation team used the opportunity to create an easier payment service for residents.

iii. Use existing mayoral priorities to create productive collaborations

Fulfilling the Innovation Team's mission requires collaborating with other departments. It is therefore vital to strengthen the Team's relationships with other departments. The Team should **prioritize projects among departmental BHAGs ("Big Hairy Audacious Goals")**. In consultation with senior leadership, departments create lists of 2-3 BHAGs that they plan to pursue. These projects are typically complex, and require departments to rethink how they operate in order to meet the goals. The BHAGs are reported to the Mayor's team, and progress towards these goals is monitored.

The latest list of BHAGs has 30 projects from which to choose (see Appendix L). To narrow down this list, the Team will have to **navigate trade-offs between delivering quick wins in projects with short turnarounds and facilitating complex problem-oriented challenges** that may require a longer involvement and convening of multiple stakeholders. The latter may not provide immediate measurable benefits, but they could be the first step towards progress in long-standing City challenges.

To understand the complexity and potential impact of a problem-oriented approach to BHAGs, we offer the following criteria:

- Number of internal and external stakeholders involved
- Measurability of outcomes
- Previous collaborative engagement with the department
- Willingness of the department head or project lead to discover new solutions, as opposed to improving existing processes

Communicate value in the medium-term

In our empirical case studies, we have found that cities with innovation offices (including those of similar size to Sioux Falls) have more employees with a variety of complementary skill sets.[15] As the Team prepares to extend its reach in the medium- to long-term, it will have to find ways to communicate its value to make the case for devoting more city resources towards innovation.

iv. Document the impact of previous wins using qualitative data

Compared to other city functions, an innovation team's projects can be varied and nebulous, making its impact hard to measure. When the Innovation Team produces positive outcomes from its projects, it should take the opportunity to communicate their value to other departments. **We therefore recommend that the Sioux Falls Innovation Team prioritizes collecting qualitative data on their impact through surveys and testimonials.**

Surveys and testimonials can provide valuable feedback, and document the efficacy of the Team. We first recommend the creation of a survey administered to project partners following the completion of a project. We also recommend asking partners to serve as advocates on their behalf. While direct evidence of impact of innovation is important, testimonials from previous partners can generate city-wide buy-in.

It is important to note that many innovation offices are concerned with demonstrating a positive return-on-investment. However, Mayor TenHaken has made innovation a pillar of his administration; thus, his buy-in to the Innovation Team's mission safeguards its existence. Still, to promote long-term sustainability, it will be important to demonstrate its impact through feedback collected from project partners.

Denver and Peoria document and celebrate their partner successes

Innovation offices like Denver Peak Academy and Peoria's Innovation Team document their impact through survey forms and testimonials. After each project engagement, Denver collects an Innovation Form from teams to capture efforts through a series of questions.[16] In Peoria, the Chief Innovation Officer advocates the benefits of creating videos to showcase their work.

v. Extend reach through a funnel of engagement with other departments

As the Team continues to grow, it will face pressure to engage with a growing number of projects and collaborations, forcing it to prioritize its attention. In order to navigate this tension between engaging with many departments while acknowledging their limited capacity, the Team must become flexible in how they engage with other departments.

A multi-year collaboration to rethink a city challenge involves a heavy commitment, but a two-hour seminar to introduce a working group to a particular methodology does not. Innovation offices that have managed their time effectively find ways to offer value in varying ways, while communicating expectations and options with partners early on.

[15] The innovation offices interviewed, and their respective employee sizes, are detailed in Appendix I.
[16] Denver's Peak Performance Innovation Form is in Appendix L.

A **funnel of engagement** could be organized in terms of low, medium, and heavy levels:

Low engagement:

- Serve as a hub to connect people with innovation resources available outside the City.
- Produce videos and guides that demonstrate how to apply different innovation methods.
- Share online content dedicated to celebrating "innovation wins" by other employees and project teams (see recommendation #4).

Medium engagement:

- Conduct facilitation session using the Problem-Oriented Facilitation Guide (introduced in the previous section) to quickly identify gaps in capabilities necessary to improve a team's approach to a problem.
- Run workshops with project teams on human-centered design or another methodology (see Tulsa example below).
- Place "innovation interns" in departments for a limited period.

Heavy engagement:

- Take on an active role as a full-time project manager; develop an implementation plan for handing off responsibility as the project transitions from ideation to maturity.
- Join as a member of a cross-boundary collaboration such as the transit initiative.

Tulsa engages with departments through innovation workshops
The Tulsa Office of Performance, Strategy and Innovation has expertise in lean-six sigma, a methodology used to improve existing processes. To spread these innovative methods to other departments, the office runs workshops where participants immediately apply their learnings to current projects of their choosing. Training often fails when teaching in the abstract; instead, participants can quickly see the value of innovation and learn how to apply it in their own work.

Ensure sustainability in the long-term

The Innovation Team's focus in the long-term should be to embed itself as part of the City's fabric so that it is as vital as any other bureaucratic office. Meeting this goal will help preserve the Innovation Team in future administrations, and allow the Team to carry out its most impactful work.

vi. Broaden the Team's role and skill set to become a valuable partner for any project

As the Innovation Team considers expanding its personnel, **it is critical to revisit the type of role it wants to have in the City**. Innovation teams differ markedly in their mission and role (see Appendix C for *typologies of innovation*). The team is currently problem-oriented, but could expand in a new innovation type, like performance management or service redesign. Depending on the evolving demands of the City leadership and residents, the Innovation Team may see an opportunity to increase public value through a new type of innovation.

Hiring decisions will depend on the type and methodologies the Team chooses. **Future hiring should bring skill sets that are aligned with the Team's purpose**. For example, service redesign typically requires skill sets in project management and process reengineering (such as lean-six sigma). The table in Appendix C outlines skill sets suited for four types of innovation.

vii. Establish formalized application processes for starting new projects

As the Innovation Team expands its work and personnel, it is important to create a clear and consistent process for how the Team responds to project requests. With demand stemming from many departments, the Innovation Team will want to ensure that projects are worthwhile. **Therefore, we recommend creating a formalized application process for departments to submit project requests to the Innovation Team.**

The Innovation Team's current Project Discovery Worksheet[17] asks applicant departments to outline the vital elements of the problem they are trying to solve. The team can adapt the sheet for a structured selection timeline. Right now, departments expect that asking the Team for help will result in a partnership; a formal application process sets the expectation that filling out the worksheet does not automatically result in a partnership with the Innovation Team. Rather, the Innovation Team can select projects that they see being most aligned with their mission and where they see their skills and effort providing the most impact.

The selection timeline can be modeled after the yearly application cycle used by Long Beach's Office of Civic Innovation (see Appendix K). A systematized approach ensures that the Innovation Team controls its workload and focuses on the Mayor's priorities.

Sample Project Request-Approval Timeline

February	Departments/employees submit proposals to team Team consults with Mayor to select priority projects
April	Select projects Scope out work and resources needed Work with applicants not selected to improve proposal for next cycle
September	Request project approval from city council

As the Innovation Team expands its reach through different projects, **we also recommend developing a funding system where departments appropriate funds to support the Innovation Team in return for their services**. Cities like Long Beach and South Bend have assumed this approach, as departments fund the innovation office based on the employee-hours allocated to their projects. This approach requires departments to be more cognizant of how they engage with the Innovation Team: departmental leaders will want to ensure that projects are worthwhile, and the financial stake in the project will incentivize them to be strong project partners.

[17] The Innovation Team's Project Discovery Worksheet is in Appendix L.

Conclusion

The Sioux Falls Innovation Team is working to refine its role and scale its impact. This report aimed to support the Team in these challenges through two research questions:

Research Question 1: *What practical steps can governments take to enhance their capability to operate in a problem-oriented way?*

Problem-orientation enables governments to thoroughly address difficult problems by guiding the response away from typical bureaucratic solutions and toward multidisciplinary and iterative problem-solving approaches. Through our empirical work in Sioux Falls, **we found that government teams capable of identifying their gaps in problem-orientation were able to create steps to improve their problem-solving approach**.

To this end, we developed a tool to identify the strengths and weaknesses of a team bringing problem-oriented governance into practice. This tool includes indicators that highlight how teams can improve their problem diagnosis, reflective improvement, data analytics, and collaboration. Because of their mandate to bring new perspectives into local government, we found that innovation teams are uniquely positioned to facilitate improvements using this tool. However, the tool can be used by any team to assess their approach to a wicked policy problem and brainstorm ways to enhance their overall problem-oriented capacity.

Research Question 2: *Given its opportunities and constraints, what strategic choices should the Innovation Team make to expand its ability to create public value?*

In Sioux Falls, the Team is trying to extend its reach in order to foster a culture of innovation and to collaborate on complex city projects. But they are facing challenges around key issues, like defining their role, prioritizing projects, operating with a limited budget, measuring their impact, and spreading innovative methods.

Other city innovation offices face similar questions and their insights can guide Sioux Falls. Building off the experiences of other innovation offices, and accounting for the particular context of Sioux Falls, we created a set of recommendations intended to **align their work to their mission, communicate their value throughout the City and ensure their sustainability**. We believe this strategy will provide clarity for the Innovation Team on how to scale its impact.

• • •

Public-sector innovation is hard: bureaucracy often calls for clear division of labor. Innovation requires government to step outside its traditional capacities and operate in new, leaner ways. Faced with evolving challenges, innovation is becoming increasingly important. Our municipal, state and federal officials need to have the problem-solving capacity to address unprecedented and unexpected challenges. We hope that our research provides public officials with the foundation to systematically think about how governments can institutionalize innovation.

Appendix A - Methodology

This Policy Analysis Exercise is the summation of the work we carried out in the 2019-2020 school year. The end product was produced iteratively, as our conception of the problems facing the Sioux Falls team and the scope of our work were refined. We used a multi-pronged approach, combining public management literature to incorporate relevant frameworks; benchmarking to understand the horizon of municipal innovation; and stress-testing our recommendations to Sioux Falls. This appendix details the methods used to develop the major findings in each section.

Introduction

Interviews with stakeholders in Sioux Falls to understand context and identify current challenges related to scaling innovation:

- Previous Director of Department of Innovation and Technology
- Innovation Coordinator
- Innovation Specialist
- Mayor of Sioux Falls and Mayor's Chief of Staff

Review of the public management literature on innovation in government, including reports on innovation in government from the OECD[18] and Hartley[19] on municipal innovation.

Problem Oriented Governance Applied In Sioux Falls

Review of problem-oriented governance and its component capabilities, based on de Mayne *et al*. This framework for innovation provided a foundation for this section: we wanted to understand the benefits of problem-orientation in the context of Sioux Falls, and develop a method of identifying any team's capacity for problem-oriented innovation.

Assessment of three current projects in Sioux Falls. The neighborhood revitalization, fire inspection, and police recruitment projects were used as opportunities to work with project teams in thinking through their selected approaches to addressing a problem. We simultaneously translated strengths and weaknesses to indicators of their capacity for problem-orientation. We revisited these projects as we revised our final list of indicators.

Iterative development of problem-orientation indicators and the facilitation tool. The tool allows us to put into practice the theoretical aspects of the original Mayne *et al.* paper. We created a set of indicators and packaged them as questions within a facilitation tool for the Sioux Falls Innovation Team. Because this novel tool attempts to push the problem-orientation literature forward, we were careful to develop these indicators iteratively. In refining the indicators of problem-oriented capacity, we:

---

[18] OECD, 2019.

[19] Hartley, J. "Innovation in Governance and Public Services: Past and Present." *Public Money & Management,* Volume 25, Issue 1, 2005: 27-34. https://www.tandfonline.com/doi/abs/10.1111/j.1467-9302.2005.00447.x.

- **Interviewed** two authors of the original paper, Jorrit de Jong and Fernando Fernandez-Monge, and a third researcher working on a related project, Angelo Kalaw. These interviews tested the validity of the indicators in the facilitation tool.
- **Applied** the facilitation tool to three Sioux Falls projects. The primary goal of applying the tool to real projects was to identify 1) how well the facilitation tool could assess the Team's capacity to address the problem, and 2) how useful it could be to facilitate insights on how to bolster deficits in the Team's approach. To test the tool, we (as proxies for the Innovation Team) assessed some projects as a third-party observer and had other team members assess their own projects. Based on the assessments, we scored their problem-oriented capabilities on a five-point scale.
- **Refined** the facilitation tool with the Sioux Falls Innovation Coordinator. Her experience using the tool provided insights on 1) different ways the tool can be used in projects, 2) the general accessibility of the tool and 3) how city employees react to this type of facilitation during their regular course of business.

Enhancing the Public Value of an Innovation Office

Literature review of the organizational characteristics of municipal innovation offices across the world, in particular the 2019 OECD Report on city innovation. Our review of innovation offices revealed a set of shared structures (e.g., funding, project prioritization, measuring impact) that support the office's unique role in the city. From our review, we compiled a list of the most challenging organizational problems that innovation offices face (listed in Appendix K).

Survey the Innovation Team in Sioux Falls, asking which organizational problems from the list are most relevant at present. This narrowed our scope to a set of seven challenges which would be the focus of our benchmarking.

Benchmarking other city innovation offices around the United States to understand their approach to these seven challenges relative to Sioux Falls. The list of cities was compiled through our review and with the help of the Sioux Falls Innovation Coordinator. Cities were chosen because either the innovation office had a positive reputation; the city was demographically similar to Sioux Falls; or the innovation office exhibited unique traits that would help us understand the reach of municipal innovation.

In-depth interviews with innovation offices. For the final list of cities, we conducted structured interviews with the head of each innovation office. We asked the same set of questions regarding their perspectives on the large organizational challenges facing Sioux Falls.

Iterative development of recommendations for the Sioux Falls Innovation Team, based on the findings from our interviews, benchmarking and research. We provided a potential answer for each of the seven organizational challenges, and developed a set of principles for the short-, medium- and long-term that would help the Team enhance their public value.

Appendix B - Innovation in municipal government

As the public sector faces increasing pressure to adapt to the challenges in the 21st century, many agencies have embraced innovation as a way to invest in their ability to create *new*, *implementable* and *impactful* programs and policies. In the United States, local innovation has been increasing as municipalities are facing demands to provide more services with less resources against a backdrop of national gridlock.

Governments pursue innovation as a way to generate more public value and impact, responsiveness to citizen demands, and enhanced efficiency of public services[20] (Hartley, 2005). In seeking new ways to tackle pervasive challenges such as homelessness, continuously improve current services, or keep up with the latest technological tools, senior leaders must put their focus not in coming up with novel ideas themselves, but also in promoting a culture of innovation that empowers stakeholders at multiple levels.

Over the last decade a great deal of attention has been given to how public sector organizations manage the process of internal innovation, in regards to the motivations[21], drivers [22], types[23], barriers[24], enabling attitudes[25] and empowering organizational arrangements[26].

One particular organizational structure- the **innovation office** - is becoming increasingly popular.[27] According to the OECD[28], 89 innovation offices in city government currently operate across the world. These new institutional arrangements focus specifically on fostering innovation within the bureaucracy, and take part in innovative projects across the city.

There is wide variation in mission, institutional arrangement, resources, methodologies of innovation offices. Some are nimble shops with a mandate to tackle a specific issue, while others are tasked with providing support to every department within the city. In our empirical

---

[20] Hartley, 2005.

[21] Lues, B. "The role of local government in using social innovation for improved service delivery: A 21st century strategy with reference to South Africa", *African Journal of Public Affairs*, Volume 9/3, 2016: 70-80, https://repository.up.ac.za/bitstream/handle/2263/58221/Lues_Role_2016.pdf?sequence=1&isAllowed=y.

[22] ANAO, "Innovation in the Public Sector: Enabling Better Performance, Driving New Directions Better Practice Guide." *Australian National Audit Office, Canberra*, http://www.anao.gov.au.

[23] Walker, R.M. "Innovation type and diffusion: an empirical analysis of local government", 2006. https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1467-9299.2006.00004.

[24] Voorberg, W., V. Bekkers and L. Tummers. "A systematic review of co-creation and co-production: Embarking on the social innovation journey", *Public Management Review*, Volume 17/9, 2015: 1333-1357, http://dx.doi.org/10.1080/14719037.2014.930505.

[25] Glor, E. "Key factors influencing innovation in government", *The Innovation Journal: The Public Sector Innovation Journal*, Volume 6/2, 2001. http://innovation.cc/volumes-issues/key-factor-gor.pdf.

[26] Rivera León, L., P. Simmonds and L. Roman. "Trends and Challenges in Public Sector Innovation in Europe", *European Commission*, http://ec.europa.eu/DocsRoom/documents/13181/attachments/1/translations

[27] Innovation is not a new activity for the public sector, and does not necessitate the existence of an innovation team. Governments at all levels have had to incorporate new ideas and tools, such as adopting IT systems or changing their procurement schedule. A senior leader in a public agency may even decide to be intentional about innovation without setting up a new team.

[28] OECD, 2019.

review of the 89 city innovation teams in the OECD report and the 21 Chief Innovation Officers listed by GovTech[29], we observed that there are distinct roles that municipal innovation offices can fill. The typology we propose in Appendix C outlines four distinct roles, or mission, that they can fill. These *typologies* are useful for explaining how and why these offices work. Each of these typologies are innovative, as they focus on creating new, implementable and impactful solutions, but they also differ substantially in how they organize their work, how they relate to other departments, and the human resources that they require.

[29] Mullholland, J. and Knell, N. "Chief Innovation Officers in State and Local Government." *Govtech.* March 28, 2014. https://www.govtech.com/local/Whos-Making-Innovation-Official.html

Appendix C - Typology of innovation teams

Service redesign

Take existing government workflows and make them leaner and more efficient by tackling the pain points and enhancing the user experience.

This approach enables innovation by bringing new perspectives to the revision of out-dated and burdensome processes.

Sample skill sets needed:

- Project management
- Lean-six sigma
- Process reengineering

Example: Denver Peak Performance improves on existing processes by making them more efficient, using tools from project and change management and behavioral insights.[30]

Performance management

Closely supervise strategic goal setting and monitor activities to improve department and/or citywide outcomes.

This approach enables innovation through a data-driven perspective that generates accountability mechanisms that promote the adoption of new solutions.

Sample skill sets needed:

- Data visualization
- Stakeholder engagement and communication
- Budget and financial analysis

Example: Somerville[31] works with different agencies to prepare for performance meetings where directors present their data and approaches to senior leaders.

Technology promotion

Adopt new technologies to remain on the cutting edge and improve the quality of life of residents.

This approach enables innovation by offering new mechanisms to update day-to-day operations within departments and around the city.

Sample skill sets needed:

- Product management
- Data analytics
- Human-centered design

Example: Kansas City's Emerging Technology Initiative pursues technologies that improve residents lives (e.g. free public wifi, smart sewers, and responsive traffic signals).[32]

Problem-oriented experimentation

Establish a collaborative effort to tackle complex challenges where traditional bureaucratic structures are not fully equipped to do so.

This approach enables innovation by assembling different perspectives, investigating the root cause of the issue, and iteratively devising and testing new solutions.

Sample skill sets needed:

- Human-centered design
- Root cause analysis
- Data analytics

Example: Rochester's Innovation office investigated the roots of poverty and has prototyped new transit initiatives to connect low-income communities with the economic hubs.[33]

---

[30] See city write-up in Appendix K: Denver, CO.
[31] Somersat |Sommervillema.gov - City of Somerville, MA. https://www.somervillema.gov/somerstat.
[32] Emerging Technology Initiative (Smart City) | KCMO.gov - City of Kansas City, MO. https://www.kcmo.gov/programs-initiatives/emerging-technology.
[33] See city write-up in Appendix K: Rochester, NY.

Appendix D - Facilitation guide for problem-oriented capacity

Increasing problem-oriented capacity to improve responses to city challenges

Facilitation guide

Steps to use this guide:

1. Choose a city project or challenge. It can be an established initiative or a nascent idea.
2. As a facilitator, schedule 30 minutes for this exercise with the team members currently tackling (or, in the case of a nascent idea, that could potentially tackle) this challenge.
3. Ask the group to respond to each question below.
    a. For each **YES** response, listen for the evidence that supports that assertion.
    b. For each **NO** response, talk through whether the project is negatively affected by this gap.
    c. For each **UNSURE** response, seek clarity on what additional information is needed to be able to answer definitively.
    d. If there is **misalignment** among the team in answering the question, ask the members to discuss different perspectives and understand the sources of misalignment.
4. After each section (Problem Diagnosis, Reflective Improvement, etc.), list the questions where the team identified **NO**, **UNSURE** or **misaligned** responses that may be detrimental to the project's performance.
5. Use the **Reflections** section at the end to think through the areas that need attention based on the identified gaps. Help brainstorm action steps to plug those gaps.

Problem Diagnosis

1. Has the problem been defined?

O Yes O No O Unsure

If **yes**, our problem definition is: _____

_____

.

2. Is there evidence that points towards a problem?

O Yes O No O Unsure

3. Has a target population been defined?
For example, a problem may affect only some neighborhoods in the city, or individuals who are of a certain age or ethnicity.

O Yes O No O Unsure

4. Was sufficient time spent investigating the problem prior to suggesting any solutions?

O Yes O No O Unsure

5. Does the problem definition avoid the inclusion of a proposed solution?

Solutions are often contained in problem definitions, which narrows the understanding of complexity. For example, if we define the problem as "we lack a smartphone app for city services", we already know that the solution is to develop an app. However, stating "citizens do not know how to effectively communicate their complaints to the city" can lead to many potential answers.

O Yes O No O Unsure

6. Are team members avoiding pigeonholing the problem into pre-existing processes?

An inclination of cross-departmental teams is to attempt to fix a problem by doing more of what they are already doing. For example, in a public health task force, the public works department may see the solution as increasing weekly garbage pickups because that's the service they provide elsewhere. While there is nothing wrong with that, you want to be careful not to oversimplify a complex problem into known fixes.

O Yes O No O Unsure

Analyze your Responses

List the questions where the team identified gaps.

*These are questions where you answer **NO** but, upon reflection, want to be able to answer **YES:***

_____

_____

_____

Reflective Improvement Capability

Defining Purpose

7. Are there defined goals?

⭘ Yes ⭘ No ⭘ Unsure

If **yes**, our goal(s) are: _____

_____

_____

_____

_____

.

8. Do the goals address the problem (defined in *Problem Diagnosis*)?

⭘ Yes ⭘ No ⭘ Unsure

9. Are the goals **SMART** (Specific, Measurable, Achievable, Relevant, Time-bound)?

- **Specific**
  Are the goals - including their intention, steps, and resources - clear?

⭘ Yes ⭘ No ⭘ Unsure

- **Measurable**
  Are the goals trackable using data?

⭘ Yes ⭘ No ⭘ Unsure

- **Achievable**
  Are the goals reasonable, considering available expertise and resources?

O Yes O No O Unsure

- **Relevant**
  Are the goals important to achieve the broader purpose?

O Yes O No O Unsure

- **Time-bound**
  Are the goals established for a specified time period?

O Yes O No O Unsure

10. Is there a testable plan to accomplish these goals?
A testable plan can be written as "If we do _____, then we will see _____".

O Yes O No O Unsure

If **yes**, our testable plan(s) are: _____

_____

_____

_____

_____

.

Remaining Adaptable

11. Does the team continuously revisit and improve goals, plan, and assumptions?
Complex challenges require adaptation, especially when new evidence is gathered.

O Yes O No O Unsure

12. Is performance (activities, goals, and progress) being tracked?

O Yes O No O Unsure

13. Are team members held accountable for progress towards goals?

O Yes O No O Unsure

14. Is the team able to redirect resources/budget to adapt to new evidence?
Sometimes teams may have the mandate to innovate, while other times they may just be acting as implementers of decisions previously made.

O Yes O No O Unsure

Analyze your Responses

List the questions where the team identified gaps.
*These are questions where you answer **NO** but, upon reflection, want to be able to answer **YES:***

_____

_____

_____

Data Analytic Capability

Gathering Information

Quantitative Data

15. Does the project consider the use of relevant datasets?
Possible sources include existing, city-owned data (e.g. registries, processed data); external entities collecting data (e.g. county, state, hospitals, NGOs); publicly-available (e.g. Census); academic/research (e.g. reports)

⭘ Yes ⭘ No ⭘ Unsure

16. Is this high quality data?

- **Accurate**

⭘ Yes ⭘ No ⭘ Unsure

- **Granular**

⭘ Yes ⭘ No ⭘ Unsure

- **Comprehensive**

⭘ Yes ⭘ No ⭘ Unsure

- **Timely**

⭘ Yes ⭘ No ⭘ Unsure

- **Clean**

⭘ Yes ⭘ No ⭘ Unsure

Qualitative Data

17. Does the team consult tacit knowledge?
Stakeholder groups, like operating staff or residents, may have a deep understanding of the problem.

⭘ Yes ⭘ No ⭘ Unsure

18. Does the team consult codified knowledge?
Documents, like ordinances or memos, may illuminate wisdom contained in existing approaches.

⭘ Yes ⭘ No ⭘ Unsure

Benchmarking

19. Has the team researched what comparable organizations have done to address this problem?

⭘ Yes ⭘ No ⭘ Unsure

Using Information

Level of analysis

20. What level of analysis is being used? *Mark all that apply:*
- ❏ None
- ❏ Descriptive - summarizes statistics on collected data
- ❏ Diagnostic - identifies causal relationships
- ❏ Predictive - forecasts future outcomes based
- ❏ Prescriptive - determines action directly from data
- ❏ Performance tracking - evaluates (in)actions and outcomes over time

21. Are these analyses the most appropriate for the current understanding of the problem?

⭘ Yes ⭘ No ⭘ Unsure

Resources for Analysis

22. Does the team have access to the resources required to turn data into meaningful and actionable insights?
Possible resources include analysts, software, or hardware.

O Yes O No O Unsure

23. Do data storage systems allow data and analysis to be easily accessible, updated and combined?
The data infrastructure in the city may hinder the ongoing sharing and/or combination of multiple sources of data through legal barriers or incompatible formats.

O Yes O No O Unsure

Applying the analysis

24. Is analysis used to understand the problem?

O Yes O No O Unsure

25. Is analysis used to inform planned courses of action?

O Yes O No O Unsure

26. Is analysis used to assess the impact of activities?

O Yes O No O Unsure

Analyze your Responses

List the questions where the team identified gaps.
*These are questions where you answer **NO** but, upon reflection, want to be able to answer **YES:***

_____

_____

_____

Collaborative Capability

Leveraging Different Perspectives

27. Has the team considered different stakeholders who could be relevant to the problem and potential solutions?
One tool for deepening your understanding of an issue is to map out the different stakeholders. Possible actors represent: Multiple teams/departments/agencies within government, higher and lower levels of government, Non-profit sector, Private sector, Business owners, Residents.

O Yes O No O Unsure

28. Does the team contain all necessary perspectives (from within and outside government) needed to enhance the team's understanding?

O Yes O No O Unsure

29. Does the team possess the necessary skill sets to accomplish their work?

O Yes O No O Unsure

30. Are there stakeholders with sufficient political power to implement solutions?

O Yes O No O Unsure

Managing Different Stakeholders

31. Are members aligned on the goals and activities of the project?
A team may propose a common objective, but in practice each department may be seeking to accomplish their own distinct goals.

Yes No Unsure

32. Does the team meet frequently and consistently?

Yes No Unsure

33. Can the collaboration continue even as individual members change?

Yes No Unsure

34. Does the collaboration involve the pooling of resources and knowledge (e.g., through a shared budget)?

Yes No Unsure

35. Are participants in the collaboration able to bring up tough issues or ask for help without negative repercussions?

Yes No Unsure

Analyze your Responses

List the questions where the team identified gaps.
*These are questions where you answer **NO** but, upon reflection, want to be able to answer **YES:***

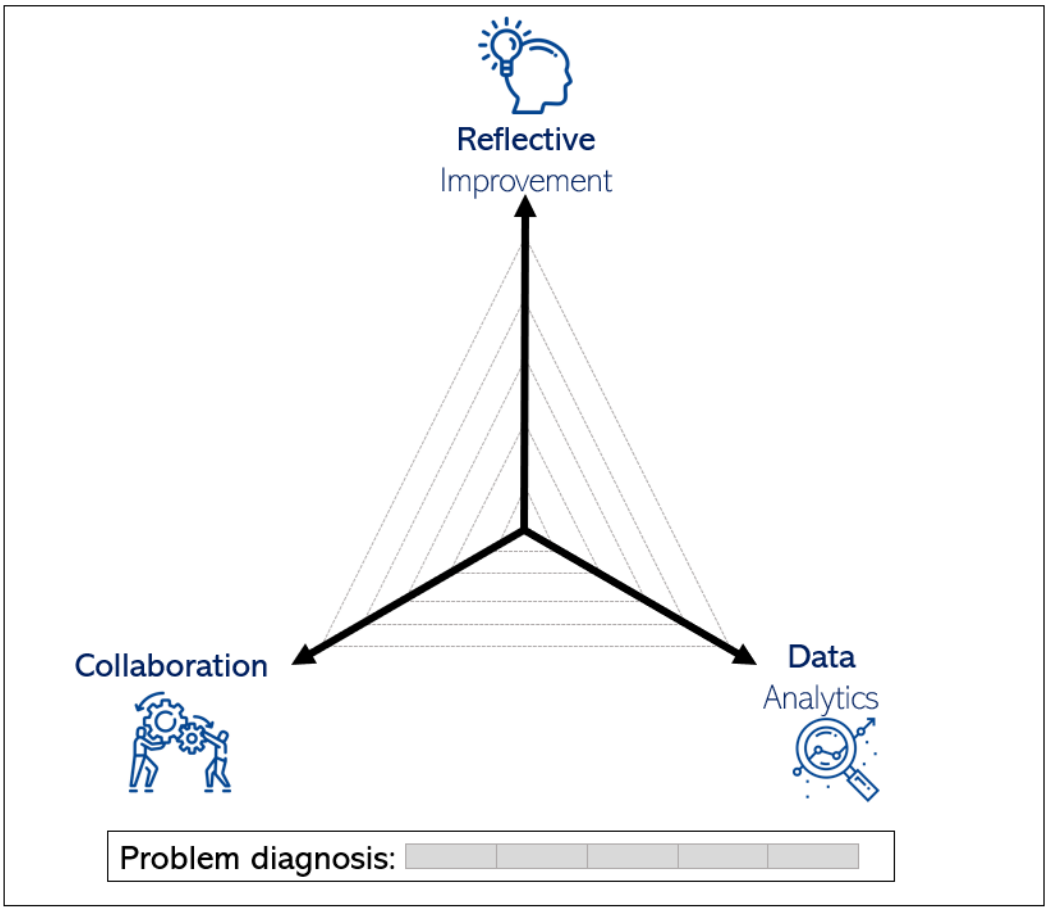
_____

_____

_____

Reflections

What does the problem-oriented triangle look like for this project at this moment?
First, rate the team's ability to diagnose the problem on the bottom scale. Then, map the capabilities along the three axis, weaker ones should be closer to the center and stronger ones should be further out.



In which capability/ies are you strongest? _____

In which capability/ies is there the most room for improvement? _____

Create Next Steps

Given the gaps in each capacity, brainstorm steps to overcome these gaps. List action steps below.

Note: you do not need to address every sub-category, just where the gaps hinder performance and progress.

Problem Diagnosis Capability:

1. _____
2. _____

Reflective Improvement Capability:

1. _____
2. _____

Data Analytics Capability:

1. _____
2. _____

Collaborative Capability:

1. _____
2. _____

Appendix E - Case studies demonstrating problem-oriented capabilities

Below are three case studies demonstrating a city project team's strength in one of the three capabilities from the problem-oriented governance framework.

Effective Reflective Improvement: Poverty Alleviation in Rochester, NY

More than one-third of Rochester residents live below the poverty line, making the city the third poorest in the nation. Newly-elected Mayor Lovely Warren established a new taskforce to focus directly on poverty alleviation.

The team began first by deeply understanding the drivers of poverty in Rochester. Understanding that these drivers are complex and often intersect with other problems, the team partnered with local NGOs and research organizations to identify specific areas where they could intervene. Their research revealed that due to socioeconomic geographical segregation, many residents lived far from commercial centers. Without access to public transportation or personal vehicles, many were unable to access work opportunities. With this information, the team developed a **theory of change**: if poor residents had access to transportation from their homes to commercial zones, then they could find stable work and lift out of poverty.

The team then implemented a vanpool service to test their theory of change. This **small-scale prototype** could be quickly administered at a low cost, to help the team understand whether their theory of change worked. After deploying the vanpool, the team gathered **feedback** from its users through interviews, providing an opportunity to **revisit their theory of change** with this new information. The vanpool was a success, and as a result the team now looks to scale the program through a federal program providing buses.

The team exhibited strong **reflective improvement** by gathering evidence for their theory of change, working nimbly, and remaining adaptable as they reviewed their progress.[34]

[34] Based on an interview with the City of Rochester's Office of Innovation. Website: https://www.cityofrochester.gov/innovation/

Effective Data Analytics: Combating Urban Blight in New Orleans, LA

Following Hurricane Katrina, New Orleans had an abundance of abandoned and derelict properties that the traditional bureaucracy was not properly equipped to handle. An estimated 44 thousand properties and abandoned lots were deemed blighted. Once Mayor Mitch Landrieu took office, he made this one of his priorities. As a result, the Office of Performance and Accountability and the Department of Code Enforcement jointly launched BlightStat.

The initiative involved the rigorous and systematic approach to code-enforcement, with monthly performance meetings (which were open to the public) that were **informed by analytics**. The team used an iterative approach to analyzing data, starting with only a couple of datasets already available from code enforcement and eventually adding relevant datasets from other departments (such as utility disconnections). The level of analysis expanded alongside the city's response: it started simply by tracking outputs but it eventually transformed to more sophisticated uses. They created a **predictive algorithm** to detect unaccounted, blighted properties and help inspectors understand which decision (demolish or provide assistance) would lead to a positive outcome.

Having open meetings meant that tabular data was not the only thing that mattered; inspectors and other departments were able to give their input to interpret the data, which helped the team incorporate **tacit knowledge.** Eventually, new ideas were put forth, such as using behavioral insights in letters sent to homeowners to increase voluntary code compliance. BlightStat assessed that impact with data, thus informing future efforts.

After a few years of BlightStat, New Orleans was able to eliminate around 15,000 blighted properties. The team exhibited strong **data analytics** as it leveraged different sources of information and transformed it into analysis that the team could progress on.[35] [36]

[35] Eggers, W. "New Orleans' Fight with Blight Started with Data." *Govtech.* October 25, 2017. https://www.govtech.com/fs/data/New-Orleans-Fight-with-Blight-Started-with-Data.html

[36] Hillebrand, K. "New Orleans Brings Data-Driven Tools to Blight Remediation." Data-Smart City Solutions. October 12, 2016. https://datasmart.ash.harvard.edu/news/article/new-orleans-brings-data-driven-tools-to-blight-remediation-915

Effective Collaboration: Breaking the Cycle of Incarceration in the Long Beach, CA

85% of repeat offenses in Long Beach are not for serious crimes. Repeat, low-level offenders tend to cycle in and out of the criminal justice system and do not receive the treatment and care they need. Motivated to better serve members of their community, the City of Long Beach launched the Justice Lab to break the cycle of arrest and incarceration.

A key component of co-creating the Justice Lab was the development of a **multidisciplinary partnership** between the Office of Civic Innovation and public safety experts - including the police, fire, health and development departments, and the prosecutor's office - in addition to community organizations and residents. This team works together to improve coordination among organizations providing mental health, substance abuse, and homeless services to reduce the burden individuals face in accessing care. Their approach demonstrates their strength in creating a sustained, cross-boundary **collaboration**.

The Office of Civic Innovation strives to establish collaborative teams that have access to different angles of a problem. Knowing all-too-well that solving wicked problems cannot be accomplished in a year, the Office takes time to build relationships and trust around the table. This lays the foundation to reach consensus on the root causes of the problem. From there, they can think carefully about additional perspectives to engage with to ultimately learn about how to more effectively deploy resources that keep all residents safe.[37]

[37] From an interview with the City of Long Beach's Office of Civic Innovation. Website: http://longbeach.gov/iteam/priorities/justice-lab/

Appendix F - Assessment of Neighborhood Revitalization Project

Problem Diagnosis

Question Stem	Response	Evidence
Has the problem been defined?	Yes	Some Sioux Falls neighborhoods have witnessed decline in key socioeconomic indicators, which has reduced residents' pride in the area and lowered quality of life.
Is there evidence that points to the problem?	Yes	Evidence of neighborhood characteristics (property values, crime) that show worsening quality of life.
Has a target population been defined?	Yes	Selected one neighborhood to focus on, which clearly defines the target population.
Was sufficient time spent investigating the problem prior to suggesting any solutions?	No	As the team diagnosed the problem and identified a neighborhood to focus on, it had simultaneously developed plans to address crime through new streetlights.
Does the problem definition avoid the inclusion of a proposed solution?	Yes	The problem definition does not include solutions to neighborhood decline.
Are team members avoiding pigeonholing the problem into pre-existing processes?	No	The team is leveraging existing expertise of the Lights superintendent to approach the problem through the addition of streetlights, which could lead to a misdiagnosis of the root of the problem.

Assessment: The team has a strong conception of the problems experienced by a neighborhood in decline, but has not explored the potentially complex causes of these problems. This has resulted in at least one quick-fix approach that may oversimplify the true needs of the neighborhood.

Score (Low / Medium / High): Low

Action Steps: Instead of devising solutions up front, leverage the team's efforts to explore the various issues that are driving negative outcomes in the neighborhood. Gather evidence from the residents to understand what is driving the decline in property values and increase in crime.

Reflective Improvement

Question Stem	Response	Evidence
Defining Purpose		
Are there defined goals?	Yes	Reverse the downward trajectory of a certain neighborhood..
Do the goals address the problem (defined in Problem Diagnosis)?	Yes	The goal directly addresses the problem of neighborhood decline.
Are the goals SMART (Specific, Measurable, Achievable, Relevant, Time-bound)?	S- No M-Unsure A-Unsure R- Yes T-No	No *specific* aspects of the neighborhood need to be targeted as a result of the goal. Unclear which *metrics* are being attached to the definition of "downward trajectory". Unsure the problem and its causes may be too big for this taskforce to address. Goals are directly *relevant* to the problem. Goals do not have deadlines.
Is there a testable plan to accomplish these goals? A testable plan can be written as "If we do _____, then we will see _____".	Yes	Two testable plans: 1) If we conduct surveys of residents and businesses, then we will identify the issues that are creating a downward trajectory in the neighborhood. 2) If we add new streetlights to the neighborhood, then we will reduce crime.
Remaining Adaptable		
Does the team continuously revisit and improve goals, plan, and assumptions?	Unsure	It is unclear that the team revisits their goals, and updates their plan and assumptions in light of new information gathered.
Is performance (activities, goals, and progress) being tracked?	No	There is currently no mechanism in place to manage and track performance, and no way to report results to the team.
Are team members held accountable for progress towards goals?	Yes	The team shares a spreadsheet to track individual team member's tasks.
Is the team able to redirect resources/budget to adapt to new evidence?	Yes	The Lights superintendent was able to redirect funds for the citywide lighting project to this specific neighborhood.

Assessment: The current goal is important, as it directly confronts the identified problem. However, the goal lacks specificity which in turn does not offer clear guidance to the team on which activities to pursue in order to achieve their goals. The group also has limited room to remain adaptable: there are no mechanisms in place to revisit and update their plan in light of new information gathered on the field.

Score (Low / Medium / High): Low-Medium

Action Steps: Create subgoals, related to specific problems facing the identified neighborhood, that are SMART. Strong goals provide direction for the group's efforts. Use the bi-monthly meetings to discuss the overall gameplan, and to stress test the approach.

Data Analytics

Question Stem	Response	Evidence
Quantitative Data		
Does the project consider the use of relevant datasets?	Yes	The team requested the GIS department to create a dashboard of neighborhood performance indicators (e.g., property value, crime, street quality).
Is this high quality data? Accurate, Granular, Comprehensive, Timely, Clean	A-Yes G-Yes C-Unsure T-No Clean-Yes	The data is collected from public and administrative sources, so it is *accurate.* It is *granular*, mapping house-by-house level data. **Unsure if *comprehensive*, because don't yet know whether there are other indicators of neighborhood problems. Most of the data updates only once a year, so it will be difficult to track changes in neighborhood outcomes.** Data are *clean*, easily used by the GIS team.
Qualitative Data		
Does the team consult tacit knowledge?	Yes	The team is planning a resident outreach program to receive feedback on the project.
Does the team consult codified knowledge?	No	It is unclear that codified knowledge will be important for this project.
Benchmarking		
Has the team researched what comparable organizations have done to address this problem?	No	Though other cities have tackled neighborhood decline, the group has not incorporated their lessons into their own work.
Level of Analysis		
What level of analysis is being used? Is it most appropriate for the current understanding of the problem?	Yes - Descriptive	Neighborhood indicators (crime, property values) are used to understand the conditions present in the neighborhood. This level of analysis is appropriate because it will reveal the challenges experienced at the neighborhood-level.
Resources for Analysis		
Does the team have access to the resources required to turn data into meaningful and actionable insights?	Yes	The GIS department's analysts have plotted data from available sources at the request of the team. The team is able to use this information to inform potential courses of action.
Do data storage systems allow data and analysis to be easily accessible, updated and combined?	Yes	The GIS departments data infrastructure will enable the team to continue using this data in the future.

Applying the Analysis		
Is analysis used to understand the problem?	No	The information being collected is not being used to understand whether the team has an accurate conception of the problems in the neighborhood. The resident survey may help the team understand the problem, but the team has been slow to deploy the survey.
Is analysis used to inform planned courses of action?	Yes	The team has decided to add new lights to the area. As a result, they analyzed the crime data in the neighborhood to understand that certain crimes are higher in the neighborhood compared to the rest of the city: the team hypothesizes that new lights will deter crime.
Is analysis used to assess the impact of activities?	No	The quantitative data refreshes slowly, so the team will be unable to use it to track whether their activities are having the desired effect. There is no plan in place to collect qualitative data to assess the team's impact.

Assessment: The team understands that a data dashboard can be valuable, and they have used this information to affirm their decision to add streetlights. They've also identified that gathering information from residents will help them understand the problem, though it has been a slow process.

Score (Low / Medium / High): Medium

Action Steps: Immediately administer the resident survey and begin collecting critical qualitative information to deepen your understanding of the problem. Benchmark what other cities have done to address neighborhood decline: this can further solidify the team's approach. Finally, establish ways to collect information that can provide feedback on your impact, as this will inform the team when to change its approach.

Collaboration

Question Stem	Response	Evidence
Leveraging Different Perspectives		
Has the team considered different stakeholders who could be relevant to the problem and potential solutions?	Yes	The team has considered a variety of stakeholders both within and outside of the city government. While the current team only includes city employees, their plan is to engage with residents and business owners in the neighborhood.
Does the team contain all necessary perspectives (from within and outside government) that are needed to enhance the team's understanding?	Yes	The team has sought to understand the relevant stakeholders in the neighborhood, as well as the other City departments that are working in the neighborhood. This has captured the important perspectives with relevant information about the neighborhood in question.
Does the team possess the necessary skill sets to accomplish their work?	Yes	The cross-departmental team can draw on their own skills and resources to provide the technical capacity to accomplish their goals.
Are there stakeholders with sufficient political power to implement solutions?	Yes	The project is a BHAG (a departmental and mayoral priority) so the team has the appropriate power to implement new solutions.
Managing Different Stakeholders		
Are members aligned on the goals and activities of the project?	No	Though the team agrees there is a problem with the neighborhood, there are conflicting views on what the desired outcome of the project is, and how exactly the group will accomplish their tasks.
Does the team meet frequently and consistently?	Yes	Bi-weekly in-person meetings to discuss next steps
Can the collaboration continue even as individual members change?	Yes	When one member of the team was no longer able to commit to the project, that member was replaced with another without much disruption to the team's productivity. The minutes collected at each meeting make it easy for a new member to join.

Does the collaboration involve the pooling of resources and knowledge (e.g., through a shared budget)?	Yes	Each team member offers a different perspective to the challenge facing the neighborhood. Members contribute resources at differing levels, with some having limited time, and others reallocating their department's budgets.
Are participants in the collaboration able to bring up tough issues or ask for help without negative repercussions?	Yes	Team members often speak about how they don't know certain topics, or hadn't thought of certain ideas. The team approaches the project with humility, and an overwhelming desire to forgo ego for the sake of doing something positive for the neighbrohood in question.

Assessment: The team's greatest strength is in their cross-departmental collaboration: team members represent different departments and contribute a range of perspectives, expertise and resources to the project. The team is also seeking out the necessary buy-in, from departmental leaders and neighborhood residents and business owners, in order to gain on-the-ground perspectives and create partnerships. The team's room for improvement relates to creating alignment between members' expectations of the problems and desired outcomes. Some view the goal to be to improve the neighborhood's welfare, while others view the goal as improving the entire City's welfare: these views can lead to differing ramifications for the current residents.

Score (Low / Medium / High): Medium-High

Action Steps: The team should focus on aligning their goals and proposed activities of the project. To this end, the resident survey - which will inform the team of their constituents' thoughts on the project - will help the group understand what's at stake, and what the goal should be. High-level discussions about the team's purpose and approach to the challenge can also reveal the misalignment- the team should work to create a singular vision.

Appendix G - Assessment of Fire Inspection Project

Problem Diagnosis

Question Stem	Response	Evidence
Has the problem been defined?	Yes	SFFR has limited capacity to conduct fire safety inspections in apartment and commercial buildings.
Is there evidence that points to the problem?	Unsure	SFFR points to there not being enough SFFR members to conduct inspections, especially given the increasing number of commercial buildings in the city. However, they would benefit from concrete numbers to point to the problem, where possible.
Has a target population been defined?	Yes	Apartment and commercial buildings in Sioux Falls.
Was sufficient time spent investigating the problem prior to suggesting any solutions?	Yes	SFFR has closely studied the challenges of personnel capacity in regards to conducting building inspections.
Does the problem definition avoid the inclusion of a proposed solution?	Yes	SFFR describes limited capacity irrespective of their current solution to better target buildings at-risk of fire starts.
Are team members avoiding pigeonholing the problem into pre-existing processes?	Yes	SFFR has engaged in methods completely new to the department by learning from other cities and leveraging city partnerships (i.e. Harvard Bloomberg initiative).

Assessment: SFFR has a clear conception of the problem they seek to tackle, which is related to their limited capacity to meet the demand for building inspections. SFFR has expressed concern that this problem will worsen with increased development. In the problem diagnosis phase, SFFR has avoided inserting solutions that build off of their existing expertise.

Score (Low / Medium / High): High

Action Steps: As the team continues to diagnose the problem, SFFR should refine the problem by supplementing their definition with concrete numbers. For example, SFFR should describe the number of buildings that need to be inspected every year compared to the number that actually get inspected. SFFR should also collect descriptive information on the number of residents these inspections affect and the current rate of ignition starts. This will add specificity to the context and create a strong foundation for planning activities and prototyping solutions.

Reflective Improvement

Question Stem	Response	Evidence
Defining Purpose		
Are there defined goals?	Yes	Improve the efficacy of the inspectional services to reduce the risk of ignitions in Sioux Falls.
Do the goals address the problem (defined in Problem Diagnosis)?	Yes	The goals are related to optimizing SFFR's fire prevention capacity which will improve their prevention efforts.
Are the goals SMART (Specific, Measurable, Achievable, Relevant, Time-bound)?	S-No M-No A-Yes R-Yes T-No	No *specifics* provided on activities - very broad. No *metrics* attached to goals. Goals seem *achievable* (depending on targets) and directly *relevant* to the problem. Inspections are on a *timeline,* but engagement is not.
Is there a testable plan to accomplish these goals? A testable plan can be written as "If we do _____, then we will see _____".	Yes	If the team targets at-risk buildings, SFFR will improve their capacity to make a greater impact in reducing the risk of fire.
Remaining Adaptable		
Does the team continuously revisit and improve goals, plan, and assumptions?	Unsure	It is unclear that SFFR continues to seek new information, especially after creating a model to detect at-risk buildings. Therefore, it is unlikely that they continuously revisit their goals and activities.
Is performance (activities, goals, and progress) being tracked?	No	While SFFR can record the number of inspections done at high-risk buildings (tracking the number of activities), the team struggles to determine how to track progress towards its goal. Even if they inspect more at-risk buildings, the goal is to prevent as many ignitions as possible. Ideally, the number of ignitions will decrease in the following year. But because so many non-inspection related issues can lead to fires, a count of ignitions will be noisy and may not immediately show whether the team's plan was effective.
Are team members held accountable for progress towards goals?	Yes	SFFR has a clear, hierarchical management system where employees report to leadership on activities.
Is the team able to redirect resources/budget to adapt to new evidence?	Yes	SFFR was able to add a new position to the force after identifying the need to improve community engagement efforts.

Assessment: The overarching goal - to increase the efficacy of inspections to decrease ignitions - is directly tied to the problem. However, it lacks the specificity required to define success for the team: there is no metric nor deadline for the goal. Compounding this challenge is the difficulty of tracking the team's performance towards its goals, because the random nature of ignitions makes simply counting the reduction in ignitions too noisy a measure. Their inability to measure progress makes it difficult to adapt.

Score (Low / Medium / High): Medium

Action Steps: Set time-bound targets for the current goal of increasing the efficacy of inspections. For example, the goal of the new schedule could be to reduce the number of city-wide ignitions by 10% in the next year. By measuring progress towards this goal, the team can assess whether its plans were effective.

The team can incorporate qualitative assessments to gauge whether the inspections are more effective than before. One example could be to compare the number and type of fire code violations found in buildings under the new schedule: if inspections are more effective, then there will be more severe violations - by addressing these violations, the inspectors decrease the chances of an ignition.

Data Analytics

Question Stem	Response	Evidence
Quantitative Data		
Does the project consider the use of relevant datasets?	Yes	The predictive model that identifies at-risk apartments uses a series of datasets specific to Sioux Falls related to property, parcel, tax and demographic information.
Is this high quality data? Accurate, Granular, Comprehensive, Timely, Clean	A-Yes G-Yes Co-Yes T-No Cl-Yes	The datasets used to identify at-risk apartments are pulled from the latest parcel-level records kept by the city. However, the current model does not update with new information over time.
Qualitative Data		
Does the team consult tacit knowledge?	Yes	SFFR incorporates knowledge from team members who are experienced in inspections.
Does the team consult codified knowledge?	Yes	SFFR regularly considers the legal implications and motivations of the nature of inspections. In understanding the problems of limited inspection capacity, SFFR recognized the legal mandate for inspections.
Benchmarking		
Has the team researched what comparable organizations have done to address this problem?	Yes	SFFR leadership have conducted research on what other cities have done to leverage data to expand their fire prevention efforts. They adopted Pittsburgh's approach of using machine-learning to identify highest-risk buildings.
Level of Analysis		
What level of analysis is being used? Are these analyses the most appropriate for the current understanding of the problem?	Unsure	Predictive analysis is used for targeting building inspections, which is useful to identify apartments that have the highest marginal impact from inspections. However, this project would benefit from descriptive analysis as well as performance tracking to enhance the understanding of the problem and value of different activities carried out by the team.

Resources for Analysis		
Does the team have access to the resources required to turn data into meaningful and actionable insights?	No	SFFR does not have the analytical capacity to update the predictive model, as it was created by an intern no longer with the City. Though the team has identified ways to improve the model, they cannot implement these changes. For example, the model lacks detailed information on the properties including: number of residents, date of construction, history of previous violations. The team is also aware that the model measures the risk of fire ignition, which is not the same as measuring where the inspectors would have the most impact (some high-risk buildings may not benefit from inspection). But they cannot adjust the model for this.
Do data storage systems allow data and analysis to be easily accessible, updated and combined?	Yes	The GIS team provides the ability to combine parcel data on an ongoing basis.
Applying the Analysis		
Is analysis used to understand the problem?	No	The model helps alleviate the challenges of limited capacity of fire inspections by redistributing resources. However, it does not help with getting a better understanding of the causes of ignition.
Is analysis used to inform planned courses of action?	Yes	The model helps redirect inspectional resources and thus alleviate capacity constraints.
Is analysis used to assess the impact of activities?	No	SFFR is not leveraging quantitative and qualitative data to understand what metrics to use in order to assess whether their efforts have been impactful.

Assessment: One key strength of the SFFR project is that they are using a machine learning model that identifies buildings at-risk of ignition starts by combining a series of datasets. This model was developed by a city summer fellow and is now being used to pilot an updated schedule for building inspections. This can help SFFR efficiently target its resources. While this is an important start, the team has limited resources to use the model to assess the impact.

Score (Low / Medium / High): Medium-High

Action Steps: In order to enhance SFFR's ability to track the impact of their activities in relation to their goals, SFFR should identify a partner (via GIS or a new data analyst position) who is well-versed in machine learning and can spend time understanding the model, and updating it to reflect the marginal impact of the reallocation of fire inspections.

While updating the model is useful, SFFR would also benefit from combining quantitative and qualitative insights from updating the inspection schedule. SFFR should collect their own data on the buildings that are at-risk to 1) verify that the model is appropriately identifying at-risk buildings and 2) to better understand why certain buildings are more likely to be considered at-risk.

Collaboration

Question Stem	Response	Evidence
Leveraging Different Perspectives		
Has the team considered different stakeholders who could be relevant to the problem and potential solutions?	Unsure	While the SFFR is aware of the extent of their knowledge and skill sets, it is unclear that the team has thoroughly considered all stakeholders who can be part of a sustained effort to improve fire inspections. These stakeholders include both those who conduct the inspections and those who are familiar with the realities of residents who live in at-risk buildings.
Does the team contain all necessary perspectives (from within and outside government) that are needed to enhance the team's understanding?	No	The team does not have consistent members who offer perspectives outside of SFFR's immediate realm. This includes community leaders, non-profits, social workers, residents and other organizations who are familiar with how to reach marginalized/at-risk populations.
Does the team possess the necessary skill sets to accomplish their work?	No	The team does not have a member who regularly attends meetings and has analytics skills to run and update the predictive model. The team does have a community engagement specialist which is important to enhance outreach.
Are there stakeholders with sufficient political power to implement solutions?	Yes	The team includes SFFR leadership who have the authority to try out the new inspection schedule.
Managing Different Stakeholders		
Are members aligned on the goals and activities of the project?	Yes	The overall goal of the project is aligned with SFFR's mission to prevent fires, and all team members are excited about trying a new inspection schedule and using their resources where they think they will have the highest impact.
Does the team meet frequently and consistently?	Unsure	It is unclear that the team meets consistently about implementing their pilot and reflecting on learnings.
Can the collaboration continue even as individual members change?	Unsure	Because the team is small, it is unclear if the collaboration would continue, especially without its main leader.
Does the collaboration involve the pooling of resources and knowledge (e.g., through a shared budget)?	No	The team does not actively involve stakeholders outside of SFFR so SFFR is the single resource for implementing this project. However, the team does pool knowledge by interacting with community organizations.

Are participants in the collaboration able to bring up tough issues or ask for help without negative repercussions?	Yes	SFFR has created an environment where every member can raise concerns and discuss issues, without the pressure of keeping to themselves. Innovative ideas come from all members of the team.

Assessment: The SFFR team includes a Fire Marshall, community engagement specialist, internal analyst. This collaboration is strong because it is not single-handedly dictated by one person and creates a safe environment for all members to pose concerns and participate in solution creation. Furthermore, the inclusion of the community engagement specialist shows a recognition of the limited reach of SFFR in communities and the importance of engaging with other stakeholders who understand residents' perspectives and needs.

Still, the collaboration lacks sustained access to perspectives that stem outside of SFFR, which would enhance their ability to tackle the problem. Some perspectives include those of the community and residents who offer valuable context to enhance inspections in at-risk buildings. The team would also benefit from someone who is trained in predictive modeling and can enhance the current model so that it better serves SFFR's needs.

Score (Low / Medium / High): Low-Medium

Action Steps: The SFFR team should consider enhancing the current team so that it includes more permanent members who are motivated to help the city better target their resources to improve fire prevention efforts. SFFR can do this by mapping out different perspectives and skill sets needed both to improve the predictive model but also to enhance inspections, learn from the updated schedule, and better understand the targeted population they are working with. From this mapping, they might find that they not only need a data analyst but also someone who conducts the inspections and can provide on-the-ground insight on the accuracy of the model.

Furthermore, they might find that they would benefit from a sustained collaboration with organizations and individuals (e.g., social workers, health officials, etc.) who are familiar with the context of residents living in buildings that are considered at-risk. This can further improve SFFR's model and optimize on their capacity to better serve their residents.

Appendix H - Assessment of Police Recruitment Project

Problem Diagnosis

Question Stem	Response	Evidence
Has the problem been defined?	Yes	Sioux Falls is unable to recruit enough street-ready police officers to address crime, particularly for drug crimes. The HR department has suggested the failure in recruiting is due to poor marketing.
Is there evidence that points to the problem?	Yes	The police department has stated they do not have enough officers, and crime around opioids and narcotics is perceived by the public and mayor as a serious threat.
Has a target population been defined?	Yes	The crime issue will be addressed by Sioux Falls police officers (past, present, and future).
Was sufficient time spent investigating the problem prior to suggesting any solutions?	No	The team is committed to a marketing-oriented approach, with a potential solution involving new partnerships with training institutes. Sufficient time was not spent to understand the problem, or even explore the array of options in a marketing approach.
Does the problem definition avoid the inclusion of a proposed solution?	No	Descriptions of the problem are closely tied to solutions, curtailing any efforts to consider reasons for the problem irrespective of marketing.
Are team members avoiding pigeonholing the problem into pre-existing processes?	No	The initial solution related to marketing reflects the desire of the HR department to maintain its processes - even if they contribute to the problems with recruitment. Therefore, the problem is being addressed by the more traditional approach.

Assessment: The motivation for the police recruitment project is clear: Sioux Falls is unable to continuously retain sufficient police officers in the city. However, efforts to gain a deeper understanding of the problem, and therefore to explore all potential solutions, have been curtailed by narrowing the conception of the problem to marketing. The team is prepared to improve marketing of open police positions, without evidence that weak marketing is leading to gaps in the police force.

Score (Low / Medium / High): Low-Medium

Next Steps: Expand the problem definition beyond marketing. Gather the relevant stakeholders and have an open discussion about the problem: what issues could contribute to the shortage in police recruitment? The team could guide this conversation by showing the statistics on attrition between steps of the application, as well as showcasing how other police departments have approached the problem.

Reflective Improvement

Question Stem	Response	Evidence
Are there defined goals?	Yes	Increase police recruitment from 17 in the previous year to 23 this year.
Do the goals address the problem (defined in Problem Diagnosis)?	Yes	The goal is directly tied to the problem: if they reach their goal, then there will be more street-ready police.
Are the goals SMART (Specific, Measurable, Achievable, Relevant, Time-bound)?	S- Yes M- Yes A- Yes R- Yes T- Yes	Sets a *specific* target (23); easy to *measure* progress by counting recruits; the 35% increase in recruits seems *achievable*; the goal is *relevant* to the problem; and the *time* the target needs to be reached by is next year.
Is there a testable plan to accomplish these goals? A testable plan can be written as "If we do _____, then we will see _____".	Yes	Three plans: 1. If we develop a marketing campaign targeting qualified out of state officers, then we will get more officers. 2. If we have a stronger partnership with Southeast Technical Institute, then there will be more candidates.
Does the team continuously revisit and improve goals, plan, and assumptions?	No	Though the project is new, the team has already committed to certain assumptions, primarily that the recruitment problem is due to marketing. Though the police captain would like to revisit the theory of change, other stakeholders have resisted viewing this problem from alternative perspectives because that would place them at fault.
Is performance (activities, goals, and progress) being tracked?	Unsure	N/A. Too early in the project.
Are team members held accountable for progress towards goals?	Unsure	N/A. Too early in the project.
Is the team able to redirect resources/budget to adapt to new evidence?	Unsure	N/A. Too early in the project.

Assessment: Because the goal is strong, it will provide a clear target to move towards over the course of the year, and it will be easy to gauge the team's success. One space the team can improve is in its willingness to be adaptable: the team should avoid holding on to the assumption that this is a marketing problem if the evidence suggests otherwise.

Score (Low / Medium / High): Medium

Next Steps: In order to improve adaptability, the team should closely monitor progress towards its goals, setting weekly/monthly recruitment targets and measuring incremental progress. This will allow the group to identify quickly whether their marketing interventions are sufficient, evidence that will be necessary to break the assumptions certain stakeholders are bringing to the team.

Data Analytics

Question Stem	Response	Evidence
Quantitative Data		
Does the project consider the use of relevant datasets?	Yes	The team's main source of data is a spreadsheet containing the previous year's police recruitment numbers, broken down the steps in the application process and the number of applicants who dropped off between each step.
Is this high quality data? Accurate, Granular, Comprehensive, Timely, Clean	A-Yes G-No Co-No T-Yes Cl-Yes	The data are *accurate*, *timely* and *clean*. More *granularity*, looking at each applicant separately, could reveal flaws in the application process. More *comprehensiveness*, looking at more years of data, could establish helpful trends.
Qualitative Data		
Does the team consult tacit knowledge?	No	The team considered gathering important information from current and past police officers, their families, and friends to understand more deeply the challenges of police recruitment. But this was forgone because of the focus on marketing.
Does the team consult codified knowledge?	No	There may be prior application documents and interviews with incoming recruits that could explain why there is drop-off in the recruitment process. These have not been considered.
Benchmarking		
Has the team researched what comparable organizations have done to address this problem?	Yes	The team has stated that they looked at what other organizations have done to increase recruitment.
Level of Analysis		
What level of analysis is being used? Is it most appropriate for the current understanding of the problem?	Descriptive/ Predictive - Yes	The analysis so far is used to describe the situation, and identify areas where the team could intervene to increase the number of recruits. The team has also extrapolated based on the data to predict what changes in the recruitment process are needed to reach their goal.
Resources for Analysis		
Does the team have access to the resources required to turn data into meaningful and actionable insights?	Unsure	The team has had the resources to conduct a basic analysis, but they may need more resources for more complex predictive analysis in the future.

Do data storage systems allow data and analysis to be easily accessible, updated and combined?	Unsure	The data used right now are easily accessible from HR, but this will need to be revisited at a future time when different data are needed.
Applying the Analysis		
Is analysis used to understand the problem?	Yes	The analysis tries to identify the areas causing applicant attrition, an important component of the problem. There is limited analysis trying to address whether Sioux Falls is struggling with marketing, compared to other cities, which is also necessary to understand the problem.
Is analysis used to inform planned courses of action?	No	The planned actions are to improve marketing, an approach that seeks to increase the total number of applicants *without* addressing the challenge of attrition.
Is analysis used to assess the impact of activities?	Unsure	N/A. Too early in the project.

Assessment: The team's preliminary analysis has identified that there are a series of factors that contribute to the problem: maybe Sioux Falls cannot attract enough applicants, or maybe there is too high a rate of attrition for officers that do apply. While understanding the team is in the beginning stages of the project, they have limited their analysis so far to quantitative data, though there may be strong qualitative data that could guide the team's plan. The focus on quantitative data has contributed to the focus on marketing: by simply increasing the number of applicants, the team can try to solve the problem without developing a nuanced understanding of the recruitment process.

Score (Low / Medium / High): Low-Medium

Action Steps: Knowing that there are two main issues (i.e., number of applicants and applicant attrition) that contribute to the problem, the team should analyze what could be improved to increase overall recruitment. This will require expanding the sources of information: qualitative data can be used to understand what is occuring in the application process that causes attrition, and benchmarking can be used to understand how other cities attract street-ready applicants. Ultimately, these analyses will help the team plan alternative actions to solve this problem.

Collaboration

Question Stem	Response	Evidence
Leveraging Different Perspectives		
Has the team considered different stakeholders who could be relevant to the problem and potential solutions?	Yes	The team has considered many external stakeholders, particularly past and current police, who could help the team understand the problem better.
Does the team contain all necessary perspectives (from within and outside government) needed to enhance the team's understanding?	No	Though external stakeholders are being considered, they have not been approached. This is partially because the team is focused on a marketing solution, where these perspectives will be less valuable.
Does the team possess the necessary skill sets to accomplish their work?	Unsure	Unsure because no work has been planned yet. If the plan focuses on a marketing solution, then the team has the necessary technical skills.
Are there stakeholders with sufficient political power to implement solutions?	Yes	The team was created at the direction of the Mayor, so they will have political support for their solution as long as the Mayor's team believes it will be effective.
Managing Different Stakeholders		
Are members aligned on the goals and activities of the project?	No	The HR department is pushing the team towards a marketing solution, while other members are trying to keep all potential solutions (e.g., those focused on applicant attrition) on the table. The team is aligned on goals, but not aligned on their approach of creating a solution.
Does the team meet frequently and consistently?	Unsure	N/A. Too early in the project.
Can the collaboration continue even as individual members change?	Unsure	N/A. Too early in the project.
Does the collaboration involve the pooling of resources and knowledge (e.g., through a shared budget)?	Unsure	Unsure a shared budget will be required. Knowledge from different stakeholders is being pooled.

Are participants in the collaboration able to bring up tough issues or ask for help without negative repercussions?	No	The HR department has resisted exploring which aspects of the application process are leading to attrition, though this is under their purview. This may indicate a fear to be "blamed" for the shortage in recruits. Other members have expressed a fear that continuing to push for a broader approach will lead to them being pushed off the team.

Assessment: Though the team's collaborative capacity could be bolstered by future plans to engage external stakeholders, this may not happen because of the focus on marketing. The narrow vision of the problem has fostered a team dynamic with strong room for improvement, as 1) team members are not aligned on the marketing-focus; and 2) members do not feel comfortable pushing back on others, because they fear negative repercussions.

Score (Low / Medium / High): Low

Action Steps: One important factor for effective cross-boundary collaboration is psychological safety, which means that no person or group feels blamed or excluded by spousing a different perspective. It may be worth exploring if in this project, there has been an unwillingness to consider new ideas because of perceived potential recriminations. To foster psychological safety, the Mayor's team could, 1) offer assurance to all departments by stating that all possible ways to fix this problem are on the table; and 2) offer immutable guidance by dictating which personnel are on the project team. Without psychological safety, the collaboration is standing in the way of the team deeply understanding the problem.

Appendix I - Innovation offices interviewed

City	Office Name	Geography	Population Size[38]	Year Started	Number of FTEs	Typology
Atlanta, GA	Innovation Delivery & Performance	Mayor's Office	465,230	2012	12	Service Redesign Performance Management
Denver, CO	Peak Performance	Department of Finance, Budget & Management	678,467	2011	7	Service Redesign
Long Beach, CA*	Office of Civic Innovation	City Manager's Office	470,489	2015	~10	Problem-oriented experimentation
Los Angeles, CA*	Innovation Team	Mayor's Office	3,949,776	N/A	4-8	Problem-oriented experimentation Service redesign
Peoria, IL*	Innovation Team	City Manager's Office	115,424	2015	3	Problem-oriented experimentation
Rochester, NY*	Office of Innovation	Mayor's Office	209,463	2015	6	Problem-oriented experimentation Service redesign
South Bend, IN	Innovation & Technology	Department of Innovation & Technology	101,928	2017	6	Problem-oriented experimentation Service redesign
Tulsa, OK	Performance Strategy & Innovation	Mayor's Office	401,352	2016	3	Problem-oriented experimentation Service redesign Performance management

*Indicates office previously funded through Bloomberg Philanthropies.

[38] US Census 2017 American Community Survey 5-Year Population Estimates.

Appendix J - Key findings from interviews with innovation offices

Org. decision	Description	Key finding from interviews
Innovation type 	The role(s) the innovation office fulfills within the city. See Appendix C for a detailed explanation. *Example: service redesign; problem-oriented experimentation*	All offices may fall into one or more of the types of innovation and this, in turn, informs many of their other organizational choices.
Methodologies that guide activities 	Innovation methods used to structure and tackle projects. *Example: process reengineering, randomized control trials, human-centered design*	Some offices benefit from operating with a specific set of methodologies because it can help narrow their work and allow for skill set specialization. Others are methodology agnostic, which allows them flexibility and customized approaches to different projects.
Organizational placement 	Where the team sits within the bureaucratic structure. *Example: Mayor's Office, Department of Finance*	The placement will depend on and/or define the innovation office's role. For example, being placed into the finance department introduces pressure to measure success in terms of money saved.
Criteria for prioritizing projects 	How the office selects and scopes new projects. *Example: prioritized by senior leadership; formalized application process*	Most offices select projects based on mayoral priorities. To keep their workload reasonable, some have a formalized selection process to ensure projects will provide real benefits to the city and its constituents.
Metrics used to measure impact 	How the office assesses the outcomes of their work to demonstrate its public value. *Example: measure input and outputs; set project-specific outcomes; office-wide KPIs*	Some use project-specific metrics directly relate to the project's theory of change. Without establishing these metrics, it is hard to effectively test a project's impact. Office-wide metrics depend on their innovation type.
Funding sources 	How the office appropriates resources. *Examples: city's general fund; funded by departments; revenue-generating; philanthropy*	Most offices are funded through the city's operating fund. Some split their costs in the general fund with other departments they collaborate with. Others leverage philanthropic funding for specific projects.
Spreading innovation 	How the office enhances the capabilities of other departments to carry out innovation methods. *Examples: trainings; embedding staff in departments*	Offices are often intent on equipping different departments with new skills and insights to approach their work. A few have adopted an academy model, where they empower innovation "champions" throughout the city.

Appendix K - City innovation case studies

The following case studies were assembled after conducting interviews with leaders from the innovation offices. Insights were supplemented with information found on city websites.

Atlanta, GA: Mayor's Office of Innovation Delivery and Performance

The Mayor's Office of Innovation Delivery and Performance (MOIDP) is composed of two teams: Budget and Performance Team, and Special Projects and Innovation Team. The Budget and Performance Team conducts performance tracking across 200 measurable areas in the city to help departments identify opportunities for improvement and to prioritize investments and new initiatives in tandem with the budget. The Special Projects and Innovation Team manages cross-departmental projects and delivers on mayoral priorities; it supports project development, implementation planning, and delivery. The office's key focus is on increasing fiscal stability, developing cost-saving initiatives, improving business services, and streamlining development.

Typology: What is the role of the innovation office?

- *Service redesign*: They work with departments to streamline and improve processes
- *Performance management:* They track performance across key government activities

Methodology: How does the innovation office approach projects?

- *Methodology agnostic*: They do not implement set methodologies to approach their work. Their main focus is to make existing processes more effective, efficient, and resilient. They typically examine pain points in a problem which get resolved through technology enhancements, communications streamlining and budgeting accountability.

Organizational Placement: Where is the innovation office located in the city bureaucracy?

- *Mayor's Office*: They attribute their success to their location. By definition they help less nimble departments do something different, which requires encouragement/support directly from the Mayor.

Project Prioritization: What criteria are used for prioritizing projects to work on?

- *Open door*: They try to take on all projects, absent an application process.
- *Mayorally-guided:* They both take on projects based on Mayoral priorities and also proactively find opportunities for projects.

Impact Metrics: How does the innovation office determine the effectiveness of its work?

- *Inputs & outputs:* Instead of establishing outcomes to measure per project, the office focuses on measuring inputs and outputs; these are easier to measure and understand the degree of effort and accomplishments resulting from the project
- *Collect feedback:* The office collects feedback to learn about whether they helped departments through the partnership.

Funding Sources: How is the innovation office funded?

- *General Fund:* The office was previously funded by Bloomberg Philanthropies as an Innovation Team. When the grant ended, the office transitioned into the city's budget, supported through the General Fund.
- *Employees:* The office supports 12 full-time employees (FTEs).

Spreading Innovation: How can the city create a culture of innovation?

- For all projects they take on they make sure that they are not the owner of the project but they help facilitate , especially in the beginning of a project
- They focus on building relationships through small projects in order to find innovation champions.

Sample Projects:

- *Government District:* A key mayoral priority was cleaning up the Government District in Downtown Atlanta. MOIDP partnered with city planning and community development to identify and tackle five different problems in the area. As a result, multiple projects are underway to improve the quality of life - from planting trees to creating a faith-based partnership to combat homelessness.
- *Atlanta Community Engagement Playbook:* Through a grant from Living Cities, MOIDP focused on improving public engagement in low-income neighborhoods. MOIDP led a working group of diverse representatives to learn about how to increase the quality of engagement. Through this work they developed a playbook for service providers and community associations.

Denver, CO: Peak Performance

Before the opening of its Peak Performance team in 2011, the Denver city government often hired outside consultants for recommendations of process improvement. In an effort to both empower city workers and make sure proposed changes are implemented, the in-house team was formed with the mission to improve citywide efficiency. Inspired by Baltimore CitiStat performance management system, it quickly morphed to incorporate lean principles of continuous improvement. A core pillar of the team is its regimented training program, Peak Academy.

Typology: What is the role of the innovation office?

- *Service redesign*: The team partners with departments at the city and county level to take existing work processes and improve upon them.

Methodology: How does the innovation office approach projects?

- *Methodologies:* Process improvement and change management; Behavioral insights
- The team works either by offering training (see Spreading Innovation) and by more intensive collaborations with specific agencies, where one analyst is assigned for the entire duration of the project (which may take several months).

Organizational Placement: Where is the innovation office located in the city bureaucracy?

- *Department of Finance*: The team reports to the budget director.
    - Not being located at the Mayor's Office has allowed the team to be less vulnerable to political pressure. Since the philosophy of the team consists of having honest conversations with public employees, the distance from the executive authority gives more room for talking freely.
    - At the same time, the budget office also has a considerable amount of leverage and can take a closer look at how resources are allocated. For example, departments may request FTEs to the Director of Finance, but the Peak team can come in and assess if a process improvement could help balance their workload.
    - On the flip-side, there can be a culture clash with the rest of the finance department, who are more used to predictable work processes.
    - As the team has gained more notoriety, there has also been some pressure to move it to the HR Department.

Project Prioritization: What criteria are used for prioritizing between projects?

- *Request-based:* The team takes on most collaborations that are requested. However, a considerable amount of time is spent on interviewing people, checking their data and assessing the political feasibility, before the type of partnership is decided. Many times it may simply involve one employee participating in Peak training.

Impact Metrics: How does the innovation office determine the effectiveness of its work?

- *Feedback form:* Project outcomes are tracked through an Innovation Form (see Appendix K). This form contains metrics such as money and time saved. It also includes space for qualitative reporting to capture non-numeric measures of success.
- *Efficiency:* Overall outcomes are measured through the total amount of dollars saved throughout the years (claimed to be at around $25 million) and time/labor savings of initiatives (such as reduced wait times at the Department of Motorized Vehicles).

Funding Mechanisms: How is the innovation office funded?

- *General Fund:* The budget for the team has remained constant over the last few years at around $1 million from the general fund.
- *Revenue-generating:* Denver Peak Academy actually generates revenue by offering its services to other governments and NGOs to partake in their training.
- *Employees:* The team supports 7 FTEs who have expertise in process improvement and project management.

Spreading Innovation: How can the city create a culture of innovation?

- *Peak Academy.* Throughout the years the team has trained over 9,000 people (including individuals outside the City and County).
    - This includes workshops and intensive programs. These are run every month.
    - They offer certificates to people that want to become “green belts” or “black belts” in the peak methodology, and follow up with city employees to celebrate their success using these new tools.

Sample Projects:

- Animal shelter: One of the earliest hands-on collaborations was with Denver Animal Protection. By training employees, mapping the processes and applying change management tools, the animal shelter was able to improve its key metrics (such as decreasing the average length of stay) over several months.

Long Beach, CA: Office of Civic Innovation

The Office of Civic Innovation is a problem-oriented team whose mission is to "co-create effective approaches that address pressing issues". The office concentrates its energy on building partnerships within and outside of City Hall to tackle complex, multi-layered policy issues. The office stands out for its structured approach to prioritizing and scoping projects through an application cycle and six-pronged approach to tackle projects.

Typology: What is the role of the innovation office?

- *Problem-oriented experimentation:* Tackling complex policy issues, such as public safety or homelessness, where the team facilitates an iterative and multi-disciplinary process.

Methodology: How does the innovation office approach projects?

- *Three main methods:* Design Thinking; Data Analytics; Agile Development
- *Employs* data scientists, project managers, along with contract staff and students
- For each of their projects, they follow six principles:
    - Rigorous research to understand the problem and find best practices both nationally and internationally.
    - Analyze quantitative and qualitative data to understand trends and enhance productivity.
    - Conduct in-depth interviews with customers and employees to have a deeper understanding of the problem.
    - Co-create goals, objectives and timelines with city departments that outline measurable and attainable metrics for success.
    - Prototype solutions with a quick turnaround based on the research, data and customer and employee interviews, building upon successful prototypes and eliminating unsuccessful ones to help mitigate financial risk.
    - Develop and execute long-term implementation strategies of the successful prototypes jointly with departments.

Organizational Placement: Where is the innovation office located in the city bureaucracy?

- *Office of City Manager.* Long Beach has a council-manager style of government and, therefore, directions and recommendations from the City Manager carry a lot of weight with the technical departments.

Prioritization: What criteria are used for prioritizing between projects?

- Long Beach has implemented a formalized, regular process for taking on new projects:
    - In February, they put out requests for ideas from other departments. These are small "pitches" presented to the innovation team.
    - Projects are then chosen by April, with input from the City Manager.

    - After being selected, the department and the innovation team spend considerable time re-scoping to determine the amount of support that the innovation team will provide in terms of work and hours.
    - The projects and budgets are approved by City Council by September and the work starts in October as previous year's projects come to an end.
    - Projects that aren't chosen are offered support to refine their ideas for next year, bringing them closer to the ideal.
- To select projects, there is no single metric. Instead, they consider a variety of factors such as alignment with the City Manager's priorities and whether it's the right scope and fit for fulfilling the department's mission.

Impact Metrics: How does the innovation office determine the effectiveness of its work?

- *In discussion:* The team's overall measures of success are still an on-going discussion. Because the projects they take on are long-term complex challenges, it can be difficult to establish an overall outcome metric.

Funding Mechanisms: How is the innovation office funded?

- *Departments:* Funded from departments that collaborate with the office. At the beginning of each project, departments agree to fund estimated work hours. Contributions from other departments typically range from $50,000 to $200,000.
- *Philanthropy:* for specific projects. The Laura and John Arnold Foundation has a focus area on criminal justice, and agreed to fund the Justice Lab.

Spreading Innovation: How can the city create a culture of innovation?

- *Public-facing:* Aside from sustained partnerships with departments, the office spreads innovation through public events like Innovation Month and Digital Inclusion Week.

Sample Projects:

- *Justice Lab:* The office facilitates a multidisciplinary group to break the cycle of incarceration by diverting residents to appropriate treatments. Through rigorous data analysis and human-centered design, they've devised a number of initiatives including the implementation of a data warehouse to coordinate different services, and the introduction of a mental health clinician in jail. See write-up in Appendix D.
- *African American Cultural Center:* The city held regular meetings, conducted stakeholder interviews, and led workshops and site tours, with several different stakeholders and residents in order to complete a community visioning process for teh center.

Los Angeles, CA: Innovation Team

Curiously enough, the City of Los Angeles had two innovation teams operating at the same time with different focuses. One team transformed into a procurement office while the other assumed the innovation model operating today: An internal agency focused on new ideas and methods, but with a sharp focus on delivery and implementation. The team usually works in close collaboration with other departments around complex problems, seeking to test new interventions, develop partnerships, and deliver results.

Typology: What is the role of the innovation office?

- *Problem-oriented experimentation*: The team generally spends a year exploring large policy challenges, while narrowing the scope along the way, eventually prototyping solutions and creating a transition plan for handing the results to departments.

Methodology: How does the innovation office approach projects?

- *Data analytics:* collect and analyze data to learn new insights about city problems
- *User-centered design:* better understand quality of existing products and systems
- *Project management:* project implementation focused on clear and measurable goals
- *Change management:* help partners adjust to new processes and challenges
- *Behavioral science:* ensure initiatives are developed with the individual at the center

Organizational Placement: Where is the innovation office located in the city bureaucracy?

- *Mayor's Office*

Prioritization: What criteria are used for prioritizing between projects?

- *Demand-based:* In a given year, the team spends the majority of its resources on a single issue area. They spend considerable time understanding what policy areas may be particularly complex or relevant to the city in any given year. Then, they spend one year in a multi-step process of understanding the root causes, ideating new solutions, prioritizing projects to prototype, and then transitioning it to another department.
- There is no formalized process for identifying the relevant issue. It may begin as conversations with departments, or a mandate from the Mayor's priorities, or demands from residents, etc. Ultimately, their choice will be vetted by senior leadership in the city.

Impact Metrics: How does the innovation office determine the effectiveness of its work?

- *Data-drive model:* They separate output metrics (what they are doing) from outcome measurements (the true impact they are trying to have). For example, in their *Future of Work* project, they track both engagement with residents and improved job search outcomes among residents.
- Before thinking of measuring project outcomes, the innovation office spends a considerable amount of time trying to assess the root cause.
- Their process for getting at this root cause involves:

    - Investigating the problem (looking at literature, searching for relevant data)
    - Interviews of users and subject matter experts
    - Design thinking methodologies for finding more about the user's sentiments and bridge that to quantitative data
- Based on that deeper understanding of the problem, a sub-problem may emerge out of the process, by which a solution may be prototyped and the most appropriate outcome will be based on the knowledge from the previous steps.
- This process is not necessarily linear. Depending on how much it diverges, the team may need to go back to subject matter experts, for example.

Funding Mechanisms: How is the innovation office funded?

- *General Fund:* The budget for the team is over $1 million from the general fund. The team tries to adjust its project cycle to the budget process in order to justify requesting new resources around the expected outcomes of that particular project.
- *Philanthropic funding:* leverages funding from NGOs where applicable (J-PAL finances their *Future of Work* initiative)
- *Employees:* The team consists of 4-8 people at any given time, but not all are full-time.

Spreading Innovation: How can the city create a culture of innovation?

- The team occasionally conducts training in collaboration with partners (for example, J-PAL delivered a workshop on running RCTs for city employees). A more comprehensive training program, to explain the value of the team's methodology, is in design phases.
- They make a point to regularly attend other department events to foster partnerships.

Sample Projects:

- *Future of Work:* One of the largest projects undertaken by the team has focused on fostering sustainable living wages among the unemployed and underemployed. A large portion of the project consisted of mapping different resources that are offered by different levels of government. As part of its iterative methodology, the project was narrowed to ensure that residents are engaged with existing support programs. By working with work centers, they were able to test how different messaging strategies (using behavioral insights) changed attendance to specific events.

Peoria, IL: Innovation Team

The Peoria Innovation Team grew out of a Bloomberg Philanthropies grant. The initial priorities centered around building the city's capacity to effectively implement capital expenditure projects while taking in considerations related to equitable economic development. From there, the team has worked to respond to priority projects by using human-centered design and iterative methods that explore the root of the problem and generate solution creation.

Typology: What is the role of the innovation office?

- *Problem-oriented experimentation:* the team seeks to tackle legacy and generational challenges that cannot be solved easily and require long-term visionary solutions.
- *Service redesign:* the team works to improve existing government processes.

Methodology: How does the innovation office approach projects?

- *I-team model for project management*: Human-centered and iterative
    - Deep dive into data and interview stakeholders to understand the problem
    - Benchmarking to understand how other cities have approached a similar problem
    - Devise potential solutions to problem
    - Collaborate with city departments to implement solution
    - Help manage performance while city department leads project

Organizational Placement: Where is the innovation office located in the city bureaucracy?

- *City Manager's Office:* as a council-manager government, their work is dictated in large part by city council priorities.
- The team places a lot of value on incremental steps and leveraging their power to convene and bring the right stakeholders to the table. They focus on empowering people inside and outside of City Hall to move the needle.

Prioritization: What criteria are used for prioritizing between projects?

- *Input-generated:* After the Bloomberg grant ended, the team gathered input from city leaders and from the public to generate a list of priorities. Then, they worked to narrow down the list because of their limited capacity.
- Through this work, the team has come to recognize the importance of doing substantial research in order to nudge city leaders to focus on important issues, like investing in disinvested neighborhoods (which can have high returns on investment because of the indirect costs of poverty).

Impact Metrics: How does the innovation office determine the effectiveness of its work?

- *Project outcomes.* The team sets project outcomes to measure success (i.e. reduction in crime). They are constantly revisiting metrics knowing they may not always be the right choice.

- *Inputs/outputs.* The team places emphasis on inputs and outputs to measure success i.e. how many people the team engaged with, how many Facebook followers they have, how many stakeholders have publicly committed to projects (through MOUs), etc.
- The team also relies on partners inside and outside of City Hall to vouch for the effectiveness of the team through a testimonial approach, like storytelling through videos.

Funding Mechanisms: How is the innovation office funded?

- *General Fund:* The team has transitioned from Bloomberg funding to being part of the General Fund.
- *Employees:* The team is made up of the Chief Innovation Officer and two additional roles (one, a Performance Management Specialist, and the other, a Technologist)

Spreading Innovation: How can the city create a culture of innovation?

- The team trains city staff through 20-person sessions in order to empower them to solve what they have control over and ask, "what can we do differently?"
- The team also places a lot of value on providing opportunities to go learn from other cities in order to justify work they are doing in Peoria. Whether as an in-person visit or through a Skype call, these first-hand interactions can be transformational.
- Because the team is so small, the CIO emphasized the value of having partners within different departments: "building that network is critical to building capacity"

Sample Projects:

- *Green infrastructure project.* The team launched a pilot project to address long-standing sewer overflow challenges while also emphasizing economic opportunities of the project. One outcome from the green infrastructure project was the realization that the city needs to engage youth, reduce high crime rates, and tackle sprawled development. As a result, they devised a place-based economic development plan which involved building partnerships with regional entities.

Rochester, NY: Mayor's Office of Innovation and Strategic Initiatives

The City of Rochester created the Office of Innovation and Strategic Initiatives to tackle its high rate of poverty. The office partnered within government and with nonprofits to determine the causes of poverty and pilot programs to alleviate poverty. However, the office recently shifted focus after facing slow progress due to the scale of the problem and difficulty coordinating community partners. Their current focus is on improving city processes to increase efficiency and improve resident services. Compared to the anti-poverty work, these service redesign projects generate quick wins for the City.

Typology: What is the role of the innovation office?

- *Problem-oriented experimentation*: Developed a deep understanding of experiences with poverty in the city and piloted potential remedies.
- *Service redesign*: Created data and process improvement strategy to improve city services following an external consultant's report of organizational challenges.

Methodology: How does the innovation office approach projects?

- *Problem diagnosis*: Start with evidence and data, have a clear understanding of the problem, learn about other efforts by cities to tackle the problem.
- *Prototyping*: Create evidence-based pilot programs that could eventually be scaled. Test, revise, and scale.
- *Data analytics*: Support partners (i.e., other departments and external non-profits) with data and evaluation capacity.
- *Process re-engineering*: Identify solutions to bottlenecks in city services.

Organizational Placement: Where is the innovation office located in the city bureaucracy?

- *Mayor's Office*: The office benefits from a close and trusting relationship with the Mayor, reducing pressure to justify their work and providing them access to top priority projects. The office leverages mayoral power to increase accountability from other departments.

Prioritization: What criteria are used for prioritizing between projects?

- *Self-guided*: In tackling anti-poverty work, their focus on a single issue allowed them to dictate their partnerships, analysis and interventions, with oversight from the Mayor.
- *Externally guided*: Service redesign projects were prioritized based on criteria determined by an external consultant's report, with oversight from the Mayor.

Impact Metrics: How does the innovation office determine the effectiveness of its work?

- *Outputs*: Measured success by uptake of newly-offered services.
- *Outcomes*: Measured citizen/client satisfaction with new services through surveys.

- *Counting accomplishments*: number projects & pilots completed; grant money collected; research requests; data consultant work; processes improved; sessions facilitated; hours devoted on projects; extra capacity per department

Funding Mechanisms: How is the innovation office funded?

- *General Fund*: The team is supported through a request from the Mayor's Office in the annual budget.
- *Employees:* The team supports 6 FTEs and is not looking to expand.

Spreading Innovation: How can the city create a culture of innovation?

- *Direct training*: Departmental teams are trained in how to improve processes, efficiency and customer service.

Sample Projects:

- *Poverty and mobility*: One key issue identified through the poverty alleviate project was the lack of transportation available between low-income neighborhoods to business districts. The city created a partnership to pilot a commuter vanpool program, which subsidized the cost of service. Due to the pilot' success, the program was expanded and integrated into Rochester's transportation services.
- *Improving reservations for city facilities:* A more recent service redesign project for the innovation office involved digitizing the process to reserve city facilities for public use. While it sounds like a simple task, creating this system required input from multiple departments throughout the city. A typical step in service redesign involves mapping out the process and exploring pain points. By doing so, the team was able to create an easy-to-use platform with the users - both residents and employees - at the center.

South Bend, IN: Department of Innovation and Technology

South Bend's Department of Innovation and Technology has implemented a strategic approach to technology. The department augments its traditional IT function with an innovative set of capacities that help the City improve processes through new technologies and redesign services to increase performance. They engage in various projects around the city - with and without a technological focus - to be a catalyst of change for the Mayor's initiatives. As the controller of citywide IT procurement, and their focus on process efficiency, they have integrated the Technology and Innovation functions.

Typology: What is the role of the innovation office?

- *Service redesign*: Implement technology solutions or create technology alternatives to improve performance of city services.
- *Problem-oriented experimentation*: Act as incubators for new initiatives - contributing human-centered design principles and data analytic capacity - prior to spinning the projects off to other departments.

Methodology: How does the innovation office approach projects?

- *Process re-engineering*: Business analysts shadow employees conducting city processes to identify where performance could be improved.
- *Human-centered design*: Identify problems and develop solutions alongside end-users (e.g., residents).

Organizational Placement: Where is the innovation office located in the city bureaucracy?

- *Department of Innovation and Technology*: The innovation office is located in a standalone department, which carries traditional bureaucratic functions like IT and 311, as well as performance-oriented divisions like Business Analytics. They benefit from easy access to other departments, because everyone in the City relies on IT. The traditional and non-traditional roles are not dissonant; rather, Technology and Innovation are intertwined.

Prioritization: What criteria are used for prioritizing between projects?

- *Self-guided*: Service redesign projects arise from requests from other departments for new technology. Prior to approval, the department must show their process is fully streamlined, as assessed by a software analyst. If not, the department helps redesign the service.
- *Mayorally-guided*: The department incubates larger problem-oriented projects to generate progress on mayoral initiatives. The department is trusted to jumpstart new major projects.

Impact Metrics: How does the innovation office determine the effectiveness of its work?

- *Outputs*: For service redesign projects, they measure efficiency gains and dollars saved. However, they admit that it can be difficult to measure the value of certain projects.
- *Budgetary Impact:* Directly measured through the amount of funding they receive, which is allocated as a portion of every other department's budget, related to services provided.

Funding Mechanisms: How is the innovation office funded?

- *Departmental Allocation*: Under the City's refined activity-based budgeting process, the department receives an appropriation from each department equal to the level of services provided. Each department pays for their software licenses, tools, and the innovation activities that they participate in. This benefits the City by forcing departments to be strategic about data, innovation and tools, but it can be a drawback because rejecting someone's budget can become a political process.

Spreading Innovation: How can the city create a culture of innovation?

- *Academy*: Modelled after Denver Peak Academy, departments receive training on process skills to improve their innovative capacity (e.g., how to prototype a solution; or how to analyze data in Excel).

Sample Projects:

- *Community Development Financial Institution*: Incubated a CDFI, a mayoral priority, by convening necessary expertise and resources. Spurred a public-private partnership.
- *Utility Billing*: Developed a new utility billing system in the City while working with the public works department to create a strategy for data integration.

Tulsa, OK: Office of Performance, Strategy and Innovation

The Office of Performance, Strategy and Innovation is a three-person team that works on three cross-cutting functions for the City: 1) empowering people to use data and lower barriers to innovation, 2) strategic planning, and 3) carrying out innovation projects. Through their close relationship with the Mayor, they are often tasked with helping departments meet his policy objectives. The team has led lean-six-sigma classes to develop the skill set for others to improve their processes. Recently the role of innovation has switched to facilitate departments to ask "are we doing things right?" to "are we doing the right things?". Compared to other innovation offices, there is very limited engagement in projects. Rather, the office takes a big-picture advisory role to improve how the City functions overall.

Typology: What is the role of the innovation office?

- *Service redesign*: Offer courses on lean-six-sigma to help departments improve their operational performance.
- *Problem-oriented experimentation*: Work with departments to identify if there are changes they can make to improve government performance and resident experience.
- *Performance management:* Facilitate TulStat sessions to regularly discuss city-wide performance metrics. The office has transitioned out of this as their main typology.

Methodology: How does the innovation office approach projects?

- *Lean-six-sigma:* The team works with departments and offers courses in the lean-six-sigma methodology, in order to get departments to reexamine their services and improve operational performance.
- *Human-centered design*: Offer guidance for departments on how to work alongside residents in identifying problems and developing solutions.
- The office does not play a large role in projects (e.g., they are not currently part of any active project). Rather, they work as advisors to help others develop strong projects that can make the City innovative.

Organizational Placement: Where is the innovation office located in the city bureaucracy?

- *Finance Department*: The office was originally placed in the finance department, a result of its role in redesigning City services to be more efficient and save funds. Since the office has shifted its role to problem-oriented experimentation (i.e., creating new approaches to problems), they were moved to the Mayor's office - this closeness increased their ability to help implement mayoral priorities. The current leader of the office is the City's CFO, resulting in the office moving back to the Finance department. The benefit of this location is that innovation can be incorporated into the budget strategy, letting projects scale rather than remain as pilots. A drawback is that departments often view innovation solely through a financial lens.

Prioritization: What criteria are used for prioritizing between projects?

- *Self-guided*: Utilize relationships and knowledge of city priorities to seek out departments and programs that need improvement.

Impact Metrics: How does the innovation office determine the effectiveness of its work?

- *Citywide outcomes:* The team meets with city leadership to set outcome-oriented goals for the community at large.
- A central part of the Mayor's platform was to implement strategies for data, performance and innovation, which is the role of this office. Due to executive support, the team does not feel it has to push to show its value. Furthermore, because most of their work involves facilitating innovation, it is hard to measure success through traditional metrics.

Funding Mechanisms: How is the innovation office funded?

- *General Fund*: The team is funded through the city's General Fund.
- *Employees:* The team currently supports three team members.

Spreading Innovation: How can the city create a culture of innovation?

- *Training*: Ask departments to bring inefficient services - preferably resident-focused - to trainings focused lean-six-sigma methodology. Participants are asked to practice the methodology by improving the service.
- *Facilitation*: Engage in conversations with department leaders to identify ways to improve services or even create new processes to improve the City's ability to meet policy goals.

Sample Projects:

- *Unpaid Court Dues*: The office identified a need to improve court fees payments. It connected the municipal court system with the Behavioral Insights Team to add third party expertise in user design. The office helped design a pilot, where different notification systems were tested through an experiment.

Appendix L - Ancillary documents

Departmental Goals in Sioux Falls (BHAGs)

ONE SIOUX FALLS DEPARTMENT BHAG SUMMARY

Mayor's Office

1) **Downtown Development:** Develop a 2022 Downtown Development Strategy by June 2019 to outline public investment into downtown for the next four years. This strategy will leverage public investment to target a private investment of $250 million and a non-profit investment of $50 million.
2) **Housing Growth:** Development of a 2022 Accessible Housing Strategy by April 2019 that outlines the plan to construct the following 1,000 dwellings in four years through combined citywide efforts: single-family owner-occupied homes at or between $125,000-185,000, rental homes at or between $400 and $750 per month, and a Safe Home 2 for families.
3) **PREMIER Center Campus:** Create a long-term master plan for the PREMIER Center Campus by Fall 2019.
4) **Cultural Diversity:** Working with the higher education institutions in Sioux Falls, establish a Workforce Guidance office in City Hall with an enhanced focus on diverse populations and service 2,500 people by May 2022.

City Attorney's Office

1) **Fair Housing:** Establish a Housing Clinic with a goal of 200/month contacts in 2020 and 250/month contacts in 2021 and beyond
2) **Support City Departments:** Ensure 100 percent accomplishment of all departmental BHAGs with legal support and necessary resources from CAO.

Public Works

1) **Centralized Phone Number:** Launch centralized phone number with analytics on call volumes.
2) **Neighborhood Speed Reduction:** Implement 3-4 speed reduction zone efforts to create a 50 percent reduction in calls and citations in affected zones.
3) **Transitional Neighborhoods:** Establish a documented transitional neighborhood with intentional focus on reduction in code enforcements, maintenance of property values, decrease police service calls.

Fire Rescue

1) **Enhance Community Risk Reduction:** Rebrand Fire Prevention to infuse the Community Risk Reduction model into all divisions of SFFR and implement data analytics applications to drive department decisions by the end of 2019.
2) **Enhance Community and Workforce Efforts:** Increase public engagement efforts and expand and better understand the recruitment, diversity and inclusion efforts.
3) **Public Safety Training Center:** Open a new public safety training center in 2021.

Police

1) **Community Resource Officers:** Add two CRO officers with enhanced training to reduce the number arrest, use of force and SWAT callout situations for mental health/suicidal subjects.
2) **Street Crimes Unit:** Increase focused human trafficking/prostitution stings by 200 percent.

Health

1) **TRIAGE Center:** Reduce emergency department utilization due to addiction and mental illness crisis by 25 percent, through ambulance diversion to the triage center.
2) **AARP Age-Friendly Community:** Sioux Falls will join AARP Network of Age-Friendly State/Communities by December 2019.

Parks and Recreation

1) **Private Investments:** Facilitate private contributions $10 million in investments via cash, land, sponsorships, current and future gifts into the parks and recreation system by 2022.
2) **Downtown River Greenway:** Complete Phase 3 of the Downtown River Greenway by 2022.

Library

1) **Early Literacy Skills:** Increase the Early Literacy skills of children entering school as measured by the MAP Assessment (Measure of Academic Performance) for Kindergarten Readiness from 68 to 72 percent by 2022.
2) **Library Website Redesign:** Redesign website to increase online engagement by 50 percent by 2022 as measured by unique visitors.

Planning and Development Services

1) **Housing:** Build and provide down payment assistance for 250 new affordable houses, rehabilitate 200 existing houses and 60 rental properties, and provide rental assistance to 400 families by Spring 2022.
2) **Customer-centered government strategy:** Maintain 90 percent satisfaction rate of Planning and Development Services customers.
3) **Rental Registration:** Increase number of voluntary rental registrations by 25 percent in next four years.

Human Resources

1) **Employee Engagement:** Achieve a city employee engagement score of 85 percent or better by 2021.
2) **Strategic Partner:** Re-establish relationships to be a valuable strategic partner with all divisions through collaboration and innovation.
3) **Community Engagement:** Measure community engagement hours to quantify city employee time helping important causes.

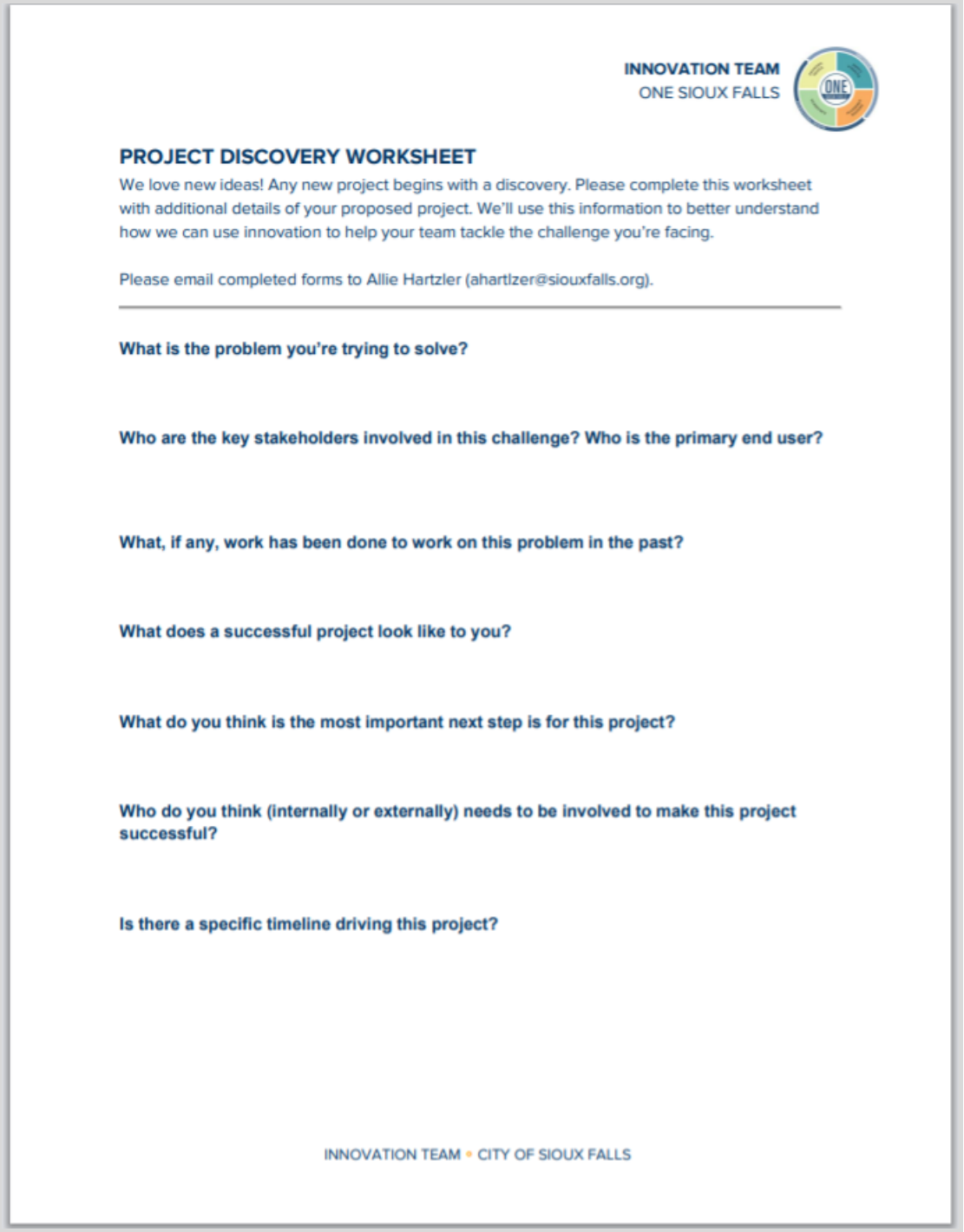
Finance

1) **Bond Rating:** Achieve a Moody's Aa1 rating (current Aa2) for sales tax revenue bonds by 2021 and a Moody's AAA underlying credit rating (current Aa1) by 2023 for the City of Sioux Falls.
2) **Entertainment Venues:** Achieve break-even combined net operating results for the City's six entertainment venues by 2022.

Innovation and Technology

1) **Citywide Dashboard:** Research, design, and launch a community wide dashboard of city hall key performance indicators by April 2019.
2) **5G:** Deploy an initial, active 5G network within Sioux Falls city limits by February 2020.

Project Discovery Worksheet



INNOVATION TEAM
ONE SIOUX FALLS

PROJECT DISCOVERY WORKSHEET

We love new ideas! Any new project begins with a discovery. Please complete this worksheet with additional details of your proposed project. We'll use this information to better understand how we can use innovation to help your team tackle the challenge you're facing.

Please email completed forms to Allie Hartzler (ahartlzer@siouxfalls.org).

What is the problem you're trying to solve?

Who are the key stakeholders involved in this challenge? Who is the primary end user?

What, if any, work has been done to work on this problem in the past?

What does a successful project look like to you?

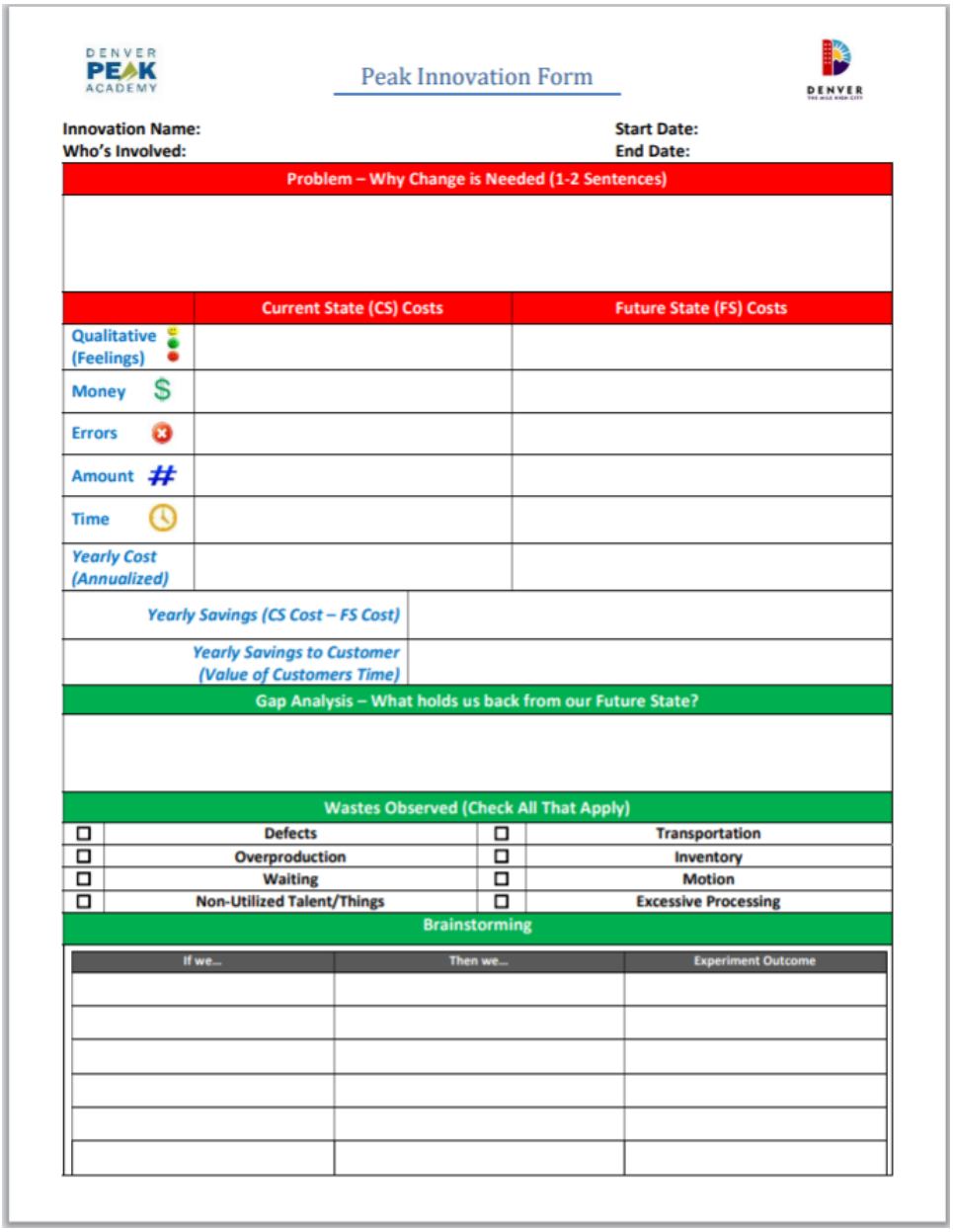
What do you think is the most important next step is for this project?

Who do you think (internally or externally) needs to be involved to make this project successful?

Is there a specific timeline driving this project?

INNOVATION TEAM • CITY OF SIOUX FALLS

Denver Peak Academy Innovation Form



DENVER PEAK ACADEMY

Peak Innovation Form

DENVER

Innovation Name: **Start Date:**
Who's Involved: **End Date:**

Problem – Why Change is Needed (1-2 Sentences)

	Current State (CS) Costs	Future State (FS) Costs
Qualitative (Feelings)		
Money		
Errors		
Amount		
Time		
Yearly Cost (Annualized)		
Yearly Savings (CS Cost – FS Cost)		
Yearly Savings to Customer (Value of Customers Time)		

Gap Analysis – What holds us back from our Future State?

Wastes Observed (Check All That Apply)			
☐	Defects	☐	Transportation
☐	Overproduction	☐	Inventory
☐	Waiting	☐	Motion
☐	Non-Utilized Talent/Things	☐	Excessive Processing

Brainstorming

If we...	Then we...	Experiment Outcome

DENVER PEAK ACADEMY

Peak Innovation Form

DENVER

Action Plan (What Did You Do?) 1-2 Sentences

Action Item	Assigned To	Date Completed

Please Add Photos or Screenshots of What You Did

Results (How is Everyone Better Off?) 1-2 Sentences / Updated Metrics

	Current State	Future State	30 day	60 day	90 day
Qualitative					
Money					
Errors					
Amounts					
Time					
Yearly Cost					

Lessons Learned

What Went Well (+)	What Didn't Go Well/Needs to Be Changed (△)

Additional Innovation Notes Here

Full List of Organizational Challenges

Budgetary criteria

- Operating budget allocated to innovation team: amount of dollars.
- Funding streams: state/federal grants, philanthropic partners,city council approved funds, participatory budgeting, special funding process (i.e., bond)
    - Are the funding streams purely financial or include non-pecuniary items (i.e., staff on loan)
- Process for appropriating innovation funds or appropriating savings due to innovation: Standardized, informal, absent.

Internal organization criteria

- Staff: # of staffers
- Staff profile: Main professional path for staffers (i.e., project managers, analysts, etc.)
- Geography: Department in which the team sits
- Detailed innovation strategy: Formal, informal, absent
- Detailed innovation goals: Formal, informal, absent
- External partnerships: community organizations, academia, etc.
- Age of team: # of years since founding

Activities and projects criteria

- Main methodology: human centered design, lean six sigma, performance management, etc.
- Mandate to incorporate data analytics: Formal, informal, absent
    - Complexity of data analytics: High, medium, low
- Criteria for selecting other projects/prioritization: Formal, informal, absent
- Scope of innovation work: Holistic or specific
- Process for measuring internal success: Formal, informal, absent
- Process for measuring outcome of projects: Formal, informal, absent

Innovation culture spreading criteria

- Innovation as a criteria for internal career progression: present or absent
- Incentive system for innovation within city hall (i.e., internal innovation competition): present or absent
- Process for spreading innovation to other departments: Formal, informal, absent

Glossary

Collaborative capability The ability to leverage an array of resources and expertise through sustained dialogue among diverse perspectives; building in-depth relationships among a variety of actors who are relevant to the problem.

Data analytical capability The ability to foster collective intelligence by collecting a variety of information and leveraging infrastructure and human capital to analyze and interpret the data.

Government innovation team A stable group within an organization that is tasked with promoting innovation.

Innovation The introduction of products and services that are novel, implementable and impactful in an organization.

Performance management The process of measuring a set of activities against the goals and desired outcomes of an organization.

Problem diagnosis The ability of an organization to have a deep and nuanced understanding of the problem which can be used as a point of departure when developing solutions.

Problem-orientation The ability of a public sector agency to redefine its resources to fit a problem, as opposed to fitting a problem to fit its existing solutions.

Reflective improvement capability The ability for an organization to thoroughly diagnose the problem, link project activities to desired outcomes, reflect on the projects' performance, and continuously adapt.

Theory of change A theory of change illustrates how and why an expected outcome will occur. It involves establishing long-term goals and exploring the necessary conditions to achieve desired outcomes. This process ensures that activities remain relevant and can be linked to a problem.

Wicked problem A deeply-rooted, multilayered social challenge whose solutions are typically unknown.

Works Cited

Literature

Glor, E. “Key factors influencing innovation in government”, *The Innovation Journal: The Public Sector Innovation Journal*, Volume 6/2, 2001. http://innovation.cc/volumes-issues/key-factor-gor.pdf.

Hartley, J. “Innovation in Governance and Public Services: Past and Present.” *Public Money & Management,* Volume 25, Issue 1, 2005: 27-34. https://www.tandfonline.com/doi/abs/10.1111/j.1467-9302.2005.00447.x.

"Innovation in the Public Sector: Enabling Better Performance, Driving New Directions Better Practice Guide.” *Australian National Audit Office, Canberra*, http://www.anao.gov.au.

Lues, B. “The role of local government in using social innovation for improved service delivery: A 21st century strategy with reference to South Africa”, *African Journal of Public Affairs*, Volume 9/3, 2016: 70-80, https://repository.up.ac.za/bitstream/handle/2263/58221/Lues_Role_2016.pdf?sequence=1&isAllowed=y.

OECD. “Enhancing Innovation Capacity in City Government,” October 26, 2019. https://doi.org/10.1787/f10c96e5-en.

Quinton Mayne, Jorrit de Jong, Fernando Fernandez-Monge. “State Capabilities for Problem-Oriented Governance.” *Perspectives on Public Management and Governance* Volume 3, Issue 1, (August 2019): 33–44, https://doi.org/10.1093/ppmgov/gvz023.

Rittel, Horst W.J., and Melvin M. Webber. “Dilemmas in a General Theory of Planning.” *Policy Sciences* 4, no. 2 (June 1973): 155–69. https://www.jstor.org/stable/4531523?origin=JSTOR-pdf.

Rivera León, L., P. Simmonds and L. Roman. “Trends and Challenges in Public Sector Innovation in Europe”, *European Commission*, http://ec.europa.eu/DocsRoom/documents/13181/attachments/1/translations.

Walker, R.M. “Innovation type and diffusion: an empirical analysis of local government”, 2006. https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1467-9299.2006.00004.

Voorberg, W., V. Bekkers and L. Tummers. “A systematic review of co-creation and co-production: Embarking on the social innovation journey”, *Public Management Review*, Volume 17/9, 2015: 1333-1357, http://dx.doi.org/10.1080/14719037.2014.930505.

Online articles

Bloomberg Cities. “Innovation in the Heartland: How Sioux Falls Is Turning Public Problem-Solving on Its Head.” Medium, March 27, 2019. https://medium.com/@BloombergCities/innovation-in-the-heartland-how-sioux-falls-is-turning-public-problem-solving-on-its-head-1fc843a9f12f.

Bloomberg Cities. “Inside the Sioux Falls Innovation 'War Room'.” Medium, March 27, 2019. https://medium.com/@BloombergCities/inside-the-sioux-falls-innovation-war-room-54e4bf036f24.

Eggers, W. “New Orleans’ Fight with Blight Started with Data.” *Govtech.* October 25, 2017. https://www.govtech.com/fs/data/New-Orleans-Fight-with-Blight-Started-with-Data.html

Emerging Technology Initiative (Smart City) | KCMO.gov - City of Kansas City, MO. https://www.kcmo.gov/programs-initiatives/emerging-technology.

Hillebrand, K. “New Orleans Brings Data-Driven Tools to Blight Remediation.” Data-Smart City Solutions. October 12, 2016. https://datasmart.ash.harvard.edu/news/article/new-orleans-brings-data-driven-tools-to-blight-remediation-915

Kaysen, Ronda. “Sioux Falls Mayor Embraces Technology to Help Residents.” AARP, January 8, 2020. https://www.aarp.org/home-family/friends-family/info-2020/paul-tenhaken.html.

Mullholland, J. and Knell, N. “Chief Innovation Officers in State and Local Government.” *Govtech.* March 28, 2014. https://www.govtech.com/local/Whos-Making-Innovation-Official.html/.

“Reisdorfer Appointed Director of Innovation and Technology.” City of Sioux Falls, September 11, 2018. https://www.siouxfalls.org/news/2018/September/11/appointment.

Somerstat | Sommervillema.gov - City of Somerville, MA. https://www.somervillema.gov/somerstat.

Cover photo credit: Jacob Boomsma/Shutterstock

Icon credit: Flaticon.com