Open Data Management and Policies in Eugene

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SCI
Sustainable Cities Institute

SCYP
Sustainable City Year Program

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About SCI

The Sustainable Cities Institute (SCI) is an applied think tank focusing on sustainability and cities through applied research, teaching, and community partnerships. We work across disciplines that match the complexity of cities to address sustainability challenges, from regional planning to building design and from enhancing engagement of diverse communities to understanding the impacts on municipal budgets from disruptive technologies and many issues in between.

SCI focuses on sustainability-based research and teaching opportunities through two primary efforts:

1. Our Sustainable City Year Program (SCYP), a massively scaled university-community partnership program that matches the resources of the University with one Oregon community each year to help advance that community's sustainability goals; and

2. Our Urbanism Next Center, which focuses on how autonomous vehicles, e-commerce, and the sharing economy will impact the form and function of cities.

In all cases, we share our expertise and experiences with scholars, policymakers, community leaders, and project partners. We further extend our impact via an annual Expert-in-Residence Program, SCI-China visiting scholars program, study abroad course on redesigning cities for people on bicycle, and through our co-leadership of the Educational Partnerships for Innovation in Communities Network (EPIC-N), which is transferring SCYP to universities and communities across the globe. Our work connects student passion, faculty experience, and community needs to produce innovative, tangible solutions for the creation of a sustainable society.

About SCYP

The Sustainable City Year Program (SCYP) is a year-long partnership between SCI and a partner in Oregon, in which students and faculty in courses from across the university collaborate with a public entity on sustainability and livability projects. SCYP faculty and students work in collaboration with staff from the partner agency through a variety of studio projects and service-learning courses to provide students with real-world projects to investigate. Students bring energy, enthusiasm, and innovative approaches to difficult, persistent problems. SCYP's primary value derives from collaborations resulting in on-the-ground impact and expanded conversations for a community ready to transition to a more sustainable and livable future.

About Eugene, Oregon

The city of Eugene is a central hub of commercial, educational, and recreational activity in the southern Willamette Valley. Incorporated in 1862 as "Eugene City," residents sought to turn Eugene into a center of learning. To that end, they raised the initial funding to start the University of Oregon, now the city's flagship university and public research facility.

With a population of just over 160,000 people, Eugene is Oregon's second largest city and the county seat of Lane County. Located in the heart of the county along the Willamette and McKenzie Rivers, Eugene is recognized for its green landscape, recreational opportunities, and sustainability efforts. The city's slogan, "A Great City for the Arts and Outdoors," reflects its commitment to the arts and culture as well as nature preservation efforts. Eugene is also popular for many nearby recreational opportunities, including Willamette Pass Ski Area, Fern Ridge Reservoir, and hiking and rafting along the McKenzie River.

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Executive Summary

This report covers the City of Eugene's current data management process with an emphasis on parking policies, including recommendations to improve the way the City collects, uses, and stores data.

Upon interviewing department managers, students discovered that the City currently has no open data plan to engage the public and local businesses in orchestrating the kind of changes the City would like to see.

The interview uncovered that City management desires to move into a co-production and citizen science-based process. The City is currently trying something similar to this type of data collection, called Vision Zero. Vision Zero was made available to the public in October 2016, but it has collected only forty-three data points to date. The program was launched without a marketing campaign, and appears to go unused by most citizens.

Factors that contributed to the lack of an open data management plan included the overwhelming amount of data being collected monthly, incompatibility between legacy systems and current systems, and no uniform system or protocol for storing and sharing data in a meaningful way. Problems that have resulted from not having an open data plan varied from not having a clear way to handle the sharing of data with potential stakeholders, to not having an easy way to respond to public records requests, to not having a clear understanding of what citizens want to see regarding changes in how they navigate and use space within the city.

After concluding a literature review, assessing the implementation of Vision Zero, and considering the desire of city management to move toward an open data plan, it is our recommendation that the City consider launching a major marketing campaign highlighting Vision Zero. It is also the opinion of this workgroup that the City move toward a more structured data management system using an informal records request system where data is freely available for download on a City website. This data should be processed to remove any private information prior to being made available for download. Finally, this workgroup recommends that the City consider expanding its workforce to accommodate the needs of this new platform.

Introduction

In today's information age, data are easier than ever to produce, access, and analyze and have great potential to inform decision-making in both the private and public sectors.

The potential for data to enhance decision-making in the public sector has increased interest in the issues of data management and service delivery for local governments. While larger cities may have the resources to invest substantially in data management, smaller jurisdictions often struggle to manage the enormous amount of data available and to incorporate it into their policy-making process. A central question for public managers is "do better data management policies enhance decision-making, enhance service delivery or increase public involvement in local governance?"

This report examines best practices in data management for local governments, specifically how data management policies, such as open data policies and citizen coproduction of services, may inform parking policy issues in the city of Eugene.

Methodology

The Public Management students engaged in a variety of research methodologies to inform our recommendations for the City of Eugene. These included a literature review, interviews with local government officials, and case studies of nearby cities' open data policies.

First, the literature review explored the body of knowledge on the topics of open data policies and coproduction of public services. Next, interviews were conducted with two officials at the City of Eugene including leadership from the Transportation Planning team and Parking and Administrative Support Services. Finally, case studies were conducted on open data policies in Portland, Oregon and Seattle, Washington. An additional case study was conducted on a citizen science data project produced by students at the University of Oregon regarding City of Eugene parking trends.

Literature Review

When the internet became widespread in the U.S. in the 1990s and early 2000s, many scholars of public administration predicted a far-reaching transformation in the way that governments interact with their constituents.

However, research by Norris and Reddick showed that this predicted transformation did not materialize (2013, p. 165). Nevertheless, the research conducted by the duo confirmed that over 97% of local governments in the U.S. provided some form of electronic service "to provide citizen access to local government information" (p. 170). Despite this reported desire to improve citizens' access to information, the top barrier reported by local governments to providing electronic services was limited financial resources, followed by a lack of information technology (IT) staff (p. 171). Despite these outcomes, Norris and Reddick reported that "fewer governments are reporting barriers to adoption" in 2011 compared to 2004 when it came to implementing electronic and online tools to improve interaction with citizens (p. 173).

This study by Norris and Reddick provides an interesting framework in the context of e-government, smart cities, open data, and coproduction of public data. A local case study that intertwines a number of these threads involves parking data for residential neighborhoods collected by undergraduates at the University of Oregon in the winter term of 2019. This survey contains information that could be used to implement or alter local policies for the City of Eugene. However, with raw, primary data such as these, there is the question of how to most effectively use it in the context of public management. A literature review

of the following topics in relation to this matter follow below. Some of the topics related to this issue can be divided into further subtopics, namely open data policy and the coproduction of public services.

OPEN DATA

Janssen et al. describe the benefits of having raw data from public organizations made open and available (2012). Some of the benefits include generation of wealth from downstream outputs, provision of necessary information for policymakers, increased public participation, and added analysis capacity for governments. The authors also note some of the barriers that prevent public agencies from adopting an open data model. These include institutional barriers such as risk-averse cultures and poor quality of data. Finally, the article points to common myths associated with open data and government agencies. Myths include that publicizing data will automatically yield benefits, that all information should be published without restriction, that every constituent can make use of open data, and that open data will result in open government.

COPRODUCTION OF PUBLIC SERVICE AND/OR DATA

Similar to the issue of open data that some local governments are wrestling with at the moment, Bovaird writes about and presents case studies on the emerging trend of the coproduction of policy and service by

public managers, along with users and community groups. Bovaird defines coproduction as the "provision of services through regular, long-term relationships between professionalized service providers (in any sector) and service users or other members of the community, where all parties make substantial resource contributions" (2007, p. 847). The author identifies the range of professional-user relationships in the public coproduction space. On one end of the spectrum are traditional top-down approaches to policymaking and implementation, and on the other end, community members are the sole deliverers of service with no input from public management professionals in planning.

By looking at many case studies, Bovaird developed lessons in public service coproduction. Lessons included: "coproduction means that service users and professionals must develop mutual relationships in which both parties take risks," public accountability is at risk of being diluted, and there are concerns about who gets to participate (Bovaird, 2007, p. 856). The author identifies two types of coproduction: governance drivers and logistical drivers. Governance drivers occur when service users and communities play a role in policymaking, while logistical drivers occur when coproduction focuses on service delivery, rather than the creation of the service or policies guiding it. Bovaird identifies some limitations in coproduction, attributing them to differences in values, incompatible incentives, unclear divisions of roles, free-riders, burnout of users or community members, and undermining of the capacity of the third sector. The author concludes that coproduction of public services is often

underestimated in its ability to increase the effectiveness of public policy.

Tulloch et al. assert the vast potential of citizen science, saying that "the popularity and scope of citizen science appears almost limitless" (2013, p. 134). They note the mutually beneficial nature of citizen science, offering citizens an opportunity to contribute to scientific work and scientists a cost-effective way to collect a great amount of data. Focusing on bird monitoring projects, Tulloch et al. examine the elements that contribute to a citizen science project's success. Key elements include project leadership and coordination (in the form of regional coordinators), enhanced communication between researchers and volunteer organizations, clearly defined project goals, and publishing resulting data for free and easy public access.

Clark et al. build upon the importance of citizen involvement in data gathering and production in their examination of crowdsourcing, a strategy in which the public "is used as a source of labor, energies, resources, and ideas" (2017, p. 62). The authors note that today's increasingly connected digital landscape allows for easier crowdsourcing than ever, and that these resources, though less stable than traditional bureaucracies, have the advantage of being more flexible than traditional data-gathering or data-producing public organizations. Interestingly, the key concepts identified by the authors for successful crowdsourcing often align with those identified by Tulloch et al. for citizen science, including the importance of having clear objectives, consistent engagement through project leadership and other investments, and nurturing relationships through communication and responsiveness. It seems that these qualities could be valuable in

any project that turns to crowds of volunteers to collect data and generate ideas.

While most studies reveal benefits of open data policies for governments, there appears to be some reluctance to fully embrace open data on a large scale. This may be partially due to the fact that open data requires clear policies and funding to collect it and make it available. Coproduction of public services may be one way to work in tandem with citizens to produce public and/or open data. Meanwhile, performance management in the public sphere seems to be in a position where it can take cues from the coproduction of public service for more meaningful metrics.

Key Findings

CITY OF EUGENE INTERVIEWS

To obtain a complete understanding of the operations of city parking and traffic management, our team interviewed Rob Inerfeld, City Transportation Manager, and Jeff Petry, City Parking Manager. The interview process revealed that the city did not have an open data plan, but they spoke of the City's recently adopted Vision Zero policy and accompanying online map. The map enables citizens to report issues with street safety issues, road hazards, and other issues they believe need addressing. The public appears to have not adopted the Vision Zero platform: since Vision Zero began in October 2016, it has amassed 43 entries in total. Further research is required to evaluate and describe why people have chosen to not use the platform.

EUGENE PARKING DATA

In our interview with Rob Inerfeld and Jeff Petry, they revealed that the City of Eugene collects data for all on-street metered parking, as well as in parking garages managed by the City. However, the City has no substantial data about on-street parking in residential neighborhoods. Residents have raised concerns that if housing density increases in Eugene, on-street residential parking will have no further capacity to handle the additional demands.

With these facts in mind, Professor Ben Clark at the University of Oregon assigned 140 undergraduates to collect parking data from six neighborhoods located around the university in the winter term of 2019. This yielded approximately 9,000 points of usable data. This collection of on-street

parking data during morning hours, afternoons, and evenings on weekdays and weekends from residential neighborhoods showed that current parking numbers are not near capacity. However, the question that remains is how the City could effectively use this data to inform policies and projects in the future.

OPEN DATA POLICY CASE STUDIES

To learn more about open data policies, we examined two nearby cities with open data policies: Seattle and Portland. According to the Seattle website, their open data program has four goals: increase residents' quality of life; increase transparency, accountability, and comparability; promote economic development and research; and improve internal performance management. The data are divided into several categories, including city business, community, education, finance, land base, permitting, public safety, and transportation data. The City also takes the concept of open data a step further than many by offering data that are presented in formats beyond the traditional table presentation, such as maps, dashboards, and animations, and by providing meaningful context to data. By acknowledging the potential drawbacks of offering dry data or data that lacks context, Seattle attempts to address some of the open data pitfalls identified by Janssen et al/ and Robinson et al. Seattle's open data policy includes a tenet of "open by preference," which asserts that city data will by default be made available to the public unless there is a privacy or security reason to keep it private. Based on this principle, city departments

are asked to consider which data they will make available to the public when planning new projects.

Portland adopted an Open Data Ordinance to establish an open data policy and open data program in 2017, citing the many benefits that open data will offer the city. Although there may be a large quantity of data available to the public, the data are less browsable and less accessible. Datasets are accessed through web page entitled "Maps, GIS, & Open Data" that does not appear to be up-to-date. The page is focused on maps and GIS information;

other types of open data come second. In order to navigate to all other datasets, members of the public must click on a link within the page menu called "CivicApps.org Open Data." On the CivicApps page, the reader can find datasets by sorting through a filter feature, but the searchability and navigation features of the website are limited. It is difficult to find data without having a specific dataset in mind, and the datasets appear to be largely raw shapefiles and CSV files—the tabular types of data that Seattle has worked to improve upon.

Recommendations

ENGAGE WITH RESOURCES AT THE UNIVERSITY OF OREGON

The City of Eugene can increase its capacity to manage data effectively by leveraging opportunities to coproduce data and engage meaningfully with citizen science programs. The parking data collected by the University of Oregon undergraduate students, examined in this report, can serve as a model to gather information where the City may not have the resources to engage fully. Many resources exist at the University of Oregon, including students that have a passion and curiosity for government, transportation, data analytics, and many other areas that are of interest to the City. One resource for local governments at the University of Oregon is the Oregon Policy Lab. The Oregon Policy Lab uses access to academic research and best practices, the expertise of UO faculty, and the curiosity of students to conduct research projects and add capacity to local governments in Oregon. Our team recommends exploring future data management and citizen science projects with the Oregon Policy Lab, among other resources at the University of Oregon.

CREATE AN OPEN DATA POLICY

We further recommend that the City of Eugene adopt an open data policy. This could further enhance the opportunities for coproduction and crowdsourcing by allowing the public to have access to the vast wealth of information collected by the City. The political, social, economic, operational, and technical benefits of open data are well-documented (Janssen et al., 2012). However, effective management of open data is key to ensuring its usefulness (Janssen et al., 2012, Robinson et al., 2008, Conradie et al., 2014). To ensure that the City's open data policy is strategic and effective, we recommend following guidelines that have been developed by experts in the field. "The eight principles of open government data," as written by 30 open government advocates from a diversity of backgrounds, define effective open data as: complete, primary, timely, accessible, machine processable, non-discriminatory, non-proprietary, and license-free (Tulloch et al., 2013). Additionally, the open data policy could include elements of the factors that emerged from Tulloch et al. and Clark et al.: clear objectives, consistent engagement through project leadership, and an emphasis on nurturing relationships through communication and responsiveness (2013; 2017). Following these guidelines will help the City of Eugene avoid many of the pitfalls of open data that have been identified by researchers such as Conradie et al.

INVEST RESOURCES TO DEVELOP A COPRODUCTION PROGRAM

Coproduction is almost in action with the City of Eugene Vision Zero website in place, but it lacks the stakeholders necessary to effectively bring the desired change and proper infrastructure. Based on the literature, coproduction appears to be the piece that is missing in launching a more accessible platform and an effective marketing campaign for the program. The cornerstone to establishing these stakeholders is to identify who the City is interested in working with and then assigning staff to reach

out to and develop a plan with these stakeholders. Coproduction may require that management establish a willingness to gamble on things that may or may not work and havethe fortitude to keep going until something does work. The City recently hired a Data Scientist, which is likely to be beneficial to implementing an open data platform. However, budget allocations could be considered to cover additional employees if deemed necessary. Designing the platform to allow for ADA access, ability to access from diverse interfaces, and ease of use can help to ensure that the platform is accessible and not time consuming or overwhelming to the public. Currently, the City of Eugene website does not accommodate accessibility to the website, which prevents some people from using it. Widening the diversity of access interfaces to include email, phone, and text could improve equity of access. The City has many opportunities to bring this Vision Zero platform to the citizens and local businesses in a manner that serves all residents in an equitable and meaningful way.

Conclusion

To examine the topics of open data and data coproduction, our team completed a comprehensive literature review of scholarly articles, assembled case studies of open data policies in Seattle and Portland, examined a citizen science project done through UO to gather parking data in the city of Eugene, and interviewed two experts in parking and data management at the City of Eugene. As a result of this research, we have developed three recommendation that the City of Eugene can consider: 1) create and implement a strategic open data policy, 2) enact citizen science projects, and 3) explore options to partner with UO in pursuit of these goals.

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