This paper reviews the various tools and methodologies for measurement and evaluation that have been deployed for civic assets around the country. In addition to a summary of different technical approaches, this paper also takes stock of the questions driving such analysis and the desired outcomes of these studies. Based on these outcomes—desired and/or realized—this topic often overlaps with the subject of governance and partnerships (where measurement and evaluation factors into funding requirements), community engagement (when measurement is conducted by or with community partners), and economic inclusion (when the measurement is evaluating different benchmarks associated with inclusion). Based on the research and interviews, it is clear that there is no "one-size-fits-all" approach to evaluation. Rather, the methodology depends a great deal on the community that the researchers hope to reach, the impressions they are trying to gather, and the resources at their disposal for data collection.

The drive to measure and evaluate civic assets stems in part from significant changes in the philanthropic sector, which has shifted its focus in recent years and now encourages or requires much more evaluation for funded projects. Many funders have sought to define and quantify the impacts of their grants, pushing decision-makers to think beyond small-scale solutions to instead address larger, systemic problems. To meet this need, then, entire industries of evaluators have emerged, offering their services to define and quantify impacts. Policymakers should be cautious when hiring these contracted evaluators: such for-profit evaluators are not inherently bad, but they do risk polishing their results to offer the desired, rather than accurate, findings.

Measurement and evaluation breaks down differently in each location and for each type of asset (park, library, recreation center), but there are common types of assessments and measurements, including: individual program evaluation (based on varying factors); public perception or annual use surveys; master planning for programming; master planning for infrastructure; strategic plans and updates; neighborhood master plans; trail master plans; site master plans; financial advisory plans; public health surveys; etc. Each type of plan has a specific methodology based on what the decision-makers want to know, and what tools can help collect that data. Regardless of the type of evaluation, the consensus agrees that any evaluation should be periodically revisited, reviewed, and updated. No matter how thorough the methodology, any evaluation that is published and put aside is useless. Behaviors, attitudes, and trends inevitably change over time, and decision-makers should commit to ongoing measurements in order to respond to these changes.

As researchers begin to design and develop the evaluation methodology, they must first clarify what they want to know and then identify the appropriate metric for that data point. There is no end to the combination of questions, prompts, or exercises to collect information from users and non-users of a civic asset, and so a multi-layered approach is necessary to capture the various levels of data that already exist or should be collected. (Attendance figures alone are not meaningful in isolation.) This means that the planning phase is as important as the data collection phase in the research design process; it should not be rushed or overlooked.

Although digital platforms and technology can assist in the speed of data collection, nothing can or should completely replace the human-to-human interaction. Researchers can never digitally recreate the relationships that measurement and evaluation should build on, particularly in disadvantaged or disenfranchised communities that do not feel represented or heeded by their park system, city representatives, or public agencies.

Most data collection begins with benchmarking, to determine a baseline of opinions and activity to compare against in subsequent surveys. Only with a solid initial dataset and regular intervals of data collection can researchers document any changes over time and measure their positive and negative impacts. Without a consistent method of data collection, it will be harder to compare follow-up surveys to the baseline measurements with any accuracy. For this particular topic, researchers focused on the following types of evaluation that can be established with a baseline and revisited over time: intercept surveys; post-occupancy evaluations; participant observation mapping; and predictive modeling.

Traditional **intercept surveys** are becoming increasingly problematic, particularly as people become more reluctant to answer *phone surveys*. Today, a mailed *paper survey* still yields the best and most representative response rate for a large geographic area. Individuals may still respond to surveys received by mail, but research conducted by The Pew Charitable Trusts found that those willing to answer questions those people who were willing to answer questions were more likely to be civically minded; the research findings can therefore overestimate certain behaviors that are often asked about in surveys. *Online surveys* can work, and they can be a useful tool for city agencies (and other organizations) with limited staff capacity for research and evaluation. However, the responding audience may (and usually does) oversample some constituents and exclude others, and city staffers conducting their own research may not be prepared to utilize this data effectively. Some survey organizations are working to improve online sampling, but it is still not a completely reliable method of data collection. Moreover, data mining of social media posts has increased in recent years, using opinions on social media platforms as data points, and weighting responses where necessary. This method is not as successful or reliable as communicating with respondents on an individual basis. This does not mean that all online data collection is unusable, but researchers should be transparent about the biases and limitations that are inherent to this method of engagement. *In-person intercept surveys* are useful, but again, there are limitations to participations, including language barriers, activities that preclude people from taking a survey (e.g. runners and cyclists unwilling to stop), and excluding those people who cannot or do not use a particular resource. Because each of these methods of intercept survey has inherent advantages and disadvantages, most researchers today adopt a layered approach that includes a combination of intercept surveys, perhaps alongside other types of evaluation.

Other methodologies include a **post-occupancy evaluation**, which is more often conducted in libraries rather than parks. Some of the new design excellence programs require them. Based on a conversation with Michael Miller at OLIN, an increasing number of design firms are conducting their own post-occupancy evaluations to help think through design challenges and solutions. Since project budgets and timelines do not always allow for this type of measurement, these post-occupancy evaluations may be conducted outside the scope of contracted services, for the firm's internal use only. In that case, the measurement offers designers a reference point for future projects as they consider the investment and interventions for other civic assets.

For **participant observation mapping**, activities are linked with geographic location, resulting in data that can be particular useful when evaluating parks or open public spaces. The passive nature of this methodology helps to model how space is actually used in real time; it can then point to areas where design, maintenance, or other factors have hindered or helped the intended use. As a result of this type of mapping, designers and site managers can target their efforts to plan improvements and boost a more positive visitor experience.

Some cities are using data to be proactive in the form of **predictive modeling**. For this type of evaluation, data analytics are used to predict building code violations and other types of predictions based on physical conditions. For example, in the wake of the deadly 2016 Ghost Ship warehouse fire in Oakland, California, some cities have used predictive modeling to try to anticipate fire risks. These programs are still in their infancy, but they are part of a larger trend to deploy data to improve lives and living conditions. Predictive modeling overlaps to some extent with new apps (e.g. 3-1-1 in Philadelphia) that cities use to collect citizen-reported data on building code violations, street repair requests, nuisance issues, etc.

Although the data collection methodology may vary between the models described above (or others not included here), the most successful examples of measurement and evaluation use the data to inform larger planning documents and/or use it as the basis for the start of the next planning process. Thus, in terms of measurement and evaluation for civic asset reinvestment projects, policy-makers should:

- Embed strong measurement and evaluation into all civic assets projects, emphasizing rigorous research design as well as data collection.
- Clearly link the research design's questions and hypotheses to the data collected and the methods of analysis, and then be transparent and public with the survey findings.
- Think in both qualitative and quantitative terms in evaluating the value and use of civic assets.
- Factor in the necessary capacity and resources for implementation.
- Recognize that there is no one-size-fits-all methodology for civic assets of different types, scales, and contexts. Design the research process accordingly.
- Build on existing community relationships to gather feedback on a long-term basis, as no single evaluation tool can tell you everything about how a community feels over time.

The most important lesson for any measurement process is that simply asking for feedback is not enough. People want to see the results of these evaluations, and they want to understand how these data-driven decisions will impact them. Survey findings often inform budget decisions, and constituents want to know how their public money is being used. Transparency in data collection matters, and should be embraced at all scales of data-driven decision-making in city governance.