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Proposal #2321936: CIVIC-FA Track B: Improving Service and Resource Distribution Programs through Public Deliberation

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Table of Contents

Section	NSF Page(s)
Cover Page	3
Project Summary	4-19
References	20-27
Data Management Plan	87-88
Letters of Collaboration	90-95

Project Summary

Overview

The services and resources government provides to communities often prove insufficient or inequitable. One reason is that underserved community members have limited influence over allocation decisions, and public agencies have difficulty reaching those members for consultation. Our proposal tests the premise that foregrounding marginalized voices using a cost-effective public deliberation process could address these underlying problems for governments across the United States. The civic leaders in Lexington, Kentucky who are collaborating on this study have led community deliberations and identified early childhood education as a key issue for policy reform. A majority (58%) of Lexington's children arrive in kindergarten unprepared for school, owing to under-developed adaptive, cognitive, behavioral, and emotional skills. We assess the direct and secondary impacts of a public engagement on this topic, which will involve more than three thousand community members in small group discussions. If successful, these forums should generate actionable policy recommendations for Lexington public officials, as well as boosting residents' civic self-confidence, trust in local government, and readiness to seize future engagement opportunities. This study should also bolster prospects for civic-government partnerships to promote meaningful deliberation in the future. Our project advances social scientific theories of public deliberation, but its main takeaway is testing an innovative digital technology's ability to channel community-wide expertise and ideas through inclusive deliberation to yield successful social outcomes.

Intellectual Merit

Deliberative democratic theory has led to the creation of expensive processes beyond the capacities of local governments. Audacious "deliberative minipublics" populated by a small random sample of citizens generate policy recommendations after weeks or months of face-to-face discussions. Full-scale projects can cost hundreds of thousands of dollars. This project will fill gaps in the public deliberation literature concerning more cost-effective methods for achieving high levels of inclusion, deliberative quality, and long-term social and policy outcomes. We propose testing hypotheses regarding (1) successful recruitment of diverse community members, (2) the effects of communication mode and facilitation method on deliberative quality, and (3) the multifaceted impact of government responsiveness on community efficacy, civic self-confidence, trust in government, and readiness to participate in future public consultations. We also examine whether (4) high-quality discussion spurs deliberative infrastructure formation by demonstrating the value of eliciting meaningful public input into policymaking and service/resource delivery systems. To test these hypotheses, we will recruit a large sample of community members ($N = 3,360$) and place them in 420 groups. These groups will deliberate in one of six modes in a 2 x 3 design that contrasts a passive versus targeted facilitation style by three communication modes—in-person meeting, online video chat, and asynchronous online engagement. Data will consist of direct observation, transcript analysis, and longitudinal surveys.

Broader Impacts

This project has the potential for several large-scale impacts. It designs and tests a scalable form of deliberation to help governments tailor their service/resource decisions with a level of precision only achievable through public engagement. This applies to the vexing issue of inequity in preschool education, which has tremendous social cost so long as it remains unaddressed. This project should provide valuable insight into how communities like Lexington view educational policy alternatives. Such insight could help similar municipalities set policy that can garner broad public support. Beyond this issue, we anticipate secondary benefits, such as boosting civic and public health for deliberation participants. By devising methods for more diverse recruitment, this study could also broaden opportunities for engagement in underserved communities. By boosting the legitimacy of a responsive government and its civic partners, such deliberation can also enable government to *govern* effectively, particularly when it needs public support to implement policy.

The services and resources that government provides to communities too often prove insufficient, inefficient, and inequitable (Rycroft & Kinsley, 2021). Politically underrepresented communities can have little influence on service/resource allocation decisions, and well-intentioned public agencies have difficulty bringing those voices into their decision making (Einstein et al., 2019; Hjortskov et al., 2018, 2018; Pape & Lim, 2019). When public discussion does ensue, another challenge is keeping it informed, balanced, respectful, and productive (Gastil, 2006; McComas, 2001; Mendelberg & Oleske, 2000). Our proposal aims to address these underlying problems by designing and testing a cost-effective process of public deliberation that foregrounds marginalized voices in local government policymaking.

The site of our study is Lexington, Kentucky, which the American Academy of the Arts & Sciences identified as its inaugural city to pursue its recommendations for civic renewal (American Academy of Arts and Sciences, 2020). As for where to begin, civic leaders in Lexington recently found that “too many people” in their community “do not believe their voices matter” on issues related to educational equity (Harwood, 2022, pp. 5-6). Within that broader resource and service challenge, we focus on early childhood education—a key problem highlighted in that study. A related report released this year found that 58% of Lexington’s children entering kindergarten were unprepared in terms of their “adaptive, cognitive, motor, communication, and social-emotional skills” (Fayette County Public Schools, 2023).

Thus, we will use the focal topic of early childhood education in our study on the direct and secondary impacts of a large-scale deliberative process. This project will involve more than three thousand Lexington residents in small group discussions. If successful, these deliberations should help Lexington develop an effective early childhood education policy that garners broad public support. Simultaneously, this process should boost residents’ civic self-confidence, trust in local government, and readiness to seize future opportunities for deliberation. It should also bolster prospects for civic-government partnerships to promote meaningful public deliberation in Lexington on future policy issues. This project will advance basic theories of public deliberation, but the main takeaway would be establishing *a cost-effective process for identifying policy priorities and solutions* in any community. In the language of the CIVIC solicitation, we assess an innovative digital technology’s ability to channel community-wide expertise and ideas through inclusive deliberation to yield successful social outcomes.

Our proposal begins by presenting the knowledge gaps that we aim to address, the resulting research questions and hypotheses, and our study’s methods from Stage 1 preparation to Stage 2 implementation. We then detail the civic partnerships at the heart of this project, along with our plan for collaboration. After reviewing broader impacts, we discuss our management and evaluation plans and the potential for our project’s deliberation model to transfer to other communities as a sustainable and scalable process.

Research-Centered Pilot Project

Gaps in the Present Knowledge

This project draws on a vast empirical literature regarding deliberative democracy (Gutmann & Thompson, 2004). This body of research has advanced our understanding of how to make more inclusive, well-informed, and reflective decisions within democratic society (Fishkin, 2018; Landmore, 2013; Neblo, 2015; Young, 2002). Over the past forty years, deliberative scholarship has transformed from abstract political theory (Barber, 1984; Cohen, 1989; Mansbridge, 1983) to empirical theories on the efficacy of reforms (Elstub, 2010; Kingzette & Neblo, 2023; Steiner, 2012). PI Gastil, for example, began by theorizing democratic small-group processes (Gastil, 1993), then examined the civic impact of jury deliberation (Gastil et al., 2010), and more recently designed and tested—with NSF funding—a novel deliberative method for improving initiative elections (Gastil & Knobloch, 2020; Knobloch et al., 2019).

Too often, however, deliberative scholarship has focused on expensive reforms that float far above the reality of on-the-ground agency rulemaking and resource/service allocation in communities (Böker, 2017; Lafont, 2015). Scholars coined the term “minipublic” to encompass such processes, which are typically populated by a large random public sample that follows an agenda for weeks or months to generate detailed policy recommendations (Curato et al., 2021; Grönlund et al., 2014). These processes are rare

partly because of their cost. For instance, a single Deliberative Poll (Fishkin, 2018) can cost hundreds of thousands of dollars. This might be justified for high-profile minipublics on national climate policy (Boswell et al., 2022; Willis et al., 2022), but local governments cannot sustain a consultation process that has a high price for each convening. This overemphasis on minipublics has left wide knowledge gaps concerning the more routine practice of deliberative consultation, which involves recruiting residents to generate inclusive and high-quality deliberation on a modest budget (Przybylska, 2018). This CIVIC proposal aims to fill four such gaps in our present knowledge about large-scale deliberative engagement.

Gap 1. Ensuring Inclusive Recruitment

The research literature on public participation already makes plain the challenge of drawing into civic life those residents who have the fewest resources, experience, and self-confidence (Verba et al., 1995). In recent decades, this pattern has only worsened in democracies around the globe, with socioeconomic inequities translating into stark civic engagement inequality (Dalton, 2017).

Deliberative processes aim to draw diverse voices into ongoing discussions of local problems. Engagement that seeks to be *deliberative* can attract participants by featuring not only partisan disagreement but also open-ended dialogue (Burkhalter et al., 2002). Ideally, one's voice blends with others, rather than being expressed merely in one side of a debate (Knobloch, 2022; Myers, 2022). There is encouraging evidence of government's ability to harness deliberative engagement (Collins, 2021; Neblo et al., 2010). Unfortunately, recruitment for such processes often falls short of aspirations (Afzalan & Muller, 2018; Shortall et al., 2021), particularly in mixed-income communities (Chaskin et al., 2012; Collins, 2018). Thus, we explore a method for ensuring broader and more inclusive engagement.

Gap 2. Generating Actionable Recommendations

Past research has found that well-organized and intensive processes, such as minipublics, can yield a high level of democratic deliberation (Knobloch et al., 2013). In particular, such events yield rigorous problem and solution analysis, equitable and respectful discussion, and well-reasoned recommendations that often display a degree of empathy and far-sightedness (Landemore, 2020; Suiter et al., 2020). Minipublics can advise an electorate (Warren & Gastil, 2015) or give clear policy guidance to national governments (Fishkin, 2018), provided that they have a direct connection to policymaking (Barrett et al., 2012; OECD, 2020). What remains less clear is how to achieve such impacts when the deliberative process involves a larger number of diverse participants in numerous small group discussions.

There are two parts to this puzzle. First, creating a cost-effective, scalable, and replicable deliberative process requires learning which features of such processes are *essential*. Researchers have begun to explore this question for both in-person deliberation (Brinker, 2017) and online engagement (Brinker et al., 2015). Nonetheless, scant research has varied both the communication medium (e.g., online versus in-person) and process design features, such as facilitation method (Dillard, 2013). Deliberation can outperform traditional meeting formats on resource/service delivery policies for underserved communities (Collins, 2021), yet research has not yet discerned which design features yield this improvement.

Second, each minipublic stands as a discrete body, akin to a jury or legislature, which speaks with a singular voice. A more inclusive deliberative process brings together thousands of participants to build a broader public will for any recommendations that emerge (Leighninger, 2006; Nabatchi & Leighninger, 2015). Out of necessity, such large numbers require breaking a deliberation down into small groups. One such design convenes these groups simultaneously at one or more large venues, then uses a "theme team" of live analysts to extract common discussion threads across groups and share those findings with participants through a digital display (Lukensmeyer et al., 2005). This labor-intensive design comes with a prohibitive price tag, which partly explains the brief lifespans of nonprofits that relied on them (Lee, 2014). Fortunately, promising developments in natural language processing and artificial intelligence may help fill this knowledge gap (Goñi et al., 2022; Kropczynski et al., 2015, 2019), though public engagement software has yet to implement a robust digital solution to this problem. Consequently, we aim to use machine learning to cost-effectively distill themes and generate actionable recommendations.

Gap 3. Spurring Community Efficacy

Existing scholarship has shown how participation in deliberative events can yield a range of civic attitudes conducive to democratic self-government, such as confidence in one's ability to speak up and the ability to recognize when a government has responded effectively to community needs (Knobloch et al., 2019). In theory, these civic attitude shifts can create a virtuous circle, whereby participation in a deliberative process reinforces the same attitudes that lead one to participate in the future (Burkhalter et al., 2002). Researchers have found, for instance, that faith in one's own political competence can both result from political participation and spur continued engagement (Finkel, 1985; Gastil & Xenos, 2010). This effect may be even stronger for attitudes toward deliberation itself (Chung et al., 2022). This is analogous to how serving on a jury makes citizens more favorable toward juries and more willing to answer a future summons (Gastil et al., 2010). In this study, we will explore the reciprocal link between public deliberation and *community efficacy*. Adapted from Halpern's (2017) concept of "collective efficacy," community efficacy refers to one's confidence in the capacity of the local community to deliberate, formulate solutions, and achieve positive social outcomes that address public problems.

Recent studies have shown that positive shifts in civic attitude only occur when discussion participants have a reasonable expectation that their deliberation will influence future policy (Myers et al., 2020). For example, jurors can see a direct link from their verdict or judgment to a legal outcome, but discussion participants can become frustrated if they expect their recommendations will fall on deaf ears (Johnson, 2015). In our research context, local government needs to balance its decisional autonomy with the public's desire for direct influence. We address this issue by testing the impact of government *responsiveness*, which includes the timeliness of a reply (Andersen et al., 2011), acceptance of public recommendations or reasoned justifications for deviating from them, and inviting the public to assess the government's response. The latter step of public assessment is all but absent from prior research, though it plays a critical role in a self-reinforcing model of deliberative public consultation (Gastil, 2021).

Gap 4. Building Deliberative Civic Infrastructure

Finally, previous deliberation research rarely has the scope to examine how outputs from deliberative processes go beyond a focal issue to improve the health of the civic infrastructure (Kaufman et al., 2022). Though deliberation research has made a *theoretical* turn toward considering such systemic impacts (Owen & Smith, 2015; Sintomer, 2019), empirical studies have remained rare until recently (Elstub et al., 2016). Recent reviews suggest that deliberation could be a central component of a more permanent infrastructure for public participation (Hierlemann et al., 2022).

There are case studies documenting public discussion programs flourishing over many years in communities, with favorable reception by local media and public officials (e.g., Mallory et al., 2018). Successful national and state-level deliberations have also boosted officials' confidence in the use of deliberative methods for future engagements (Edelenbos et al., 2009; Fishkin, 2018). Even so, questions remain about what opportunities and barriers exist to embedding deliberative practices into how communities make decisions about resource/service distribution.

Consistent with the broader focus of the CIVIC challenge, we aim to address this gap by tracing impacts beyond participant attitudes and local policymaking. We also examine whether a successful deliberative engagement can secure future commitments to sustaining civic infrastructure on the part of residents, nonprofits, and government.

Research Questions

To fill these four gaps in present knowledge, we present hypotheses and research questions regarding inclusive participation, achieving high-quality deliberation and actionable recommendations, attitudinal and behavioral impacts on participants, and sustaining a civic infrastructure to address future local government policy challenges.

Motivating Participation

Ensuring diverse participation in deliberation remains a challenge for those government and civic organizations that cannot afford to assemble paid random samples (Lee, 2014). Accordingly, the American Academy of Arts and Sciences (2020) identified inclusion as a key principle for civic renewal, encouraging local governments to “adopt formats, processes, and technologies that are designed to encourage widespread participation by residents” (p. 42).

Our study will assess the efficacy of a multifaceted recruitment strategy that draws on prior research. First, community members face significant time constraints (Verba et al., 1995), so they must believe that a proposed deliberation addresses a serious problem affecting themselves (a “basic needs motivation”) or others in the community (an “altruistic motivation”) (Gastil & Broghammer, 2021). Given that early childhood education emerged as a top priority for community action in an extensive self-study conducted in Lexington (Harwood, 2022), we hope to have met one or both of these basic motivations, since this issue appeals to parents, grandparents, and any resident concerned about youth in Lexington.

Second, participation is more likely among those who have sufficient confidence that they can deliberate constructively, as individuals and as a collective (Burkhalter et al., 2002; Gastil, 2004). One is also more likely to take part if convinced that fellow residents can produce recommendations that will have an impact on a responsive government (Myers et al., 2020). We will measure individual differences in these variables as predictors of deliberative participation, as well as for how discussion participants respond to the invitation to a future deliberation that comes near the end of this study.

Third, personal resource inequalities remain a barrier to inclusive public participation (Brady et al., 1995; Dalton, 2017; Nabatchi & Leighninger, 2015). Our study aims to address this problem two ways. We modify a recruitment incentive used successfully by one of our principal partners (CivicLex, 2022) by transforming a traditional survey-response lottery system (Dillman et al., 2009) into an optional lottery, whereby every one-in-twenty participants may either accept a \$100 gift card (usable anywhere in Lexington) or donate the prize to a local charity. In addition, we are offering a \$50 stipend to any participant who requests it. For example, attending an in-person meeting might necessitate hiring a babysitter or using a taxi, or the asynchronous online sessions may require a one-time boost to a resident’s mobile data plan. Thus, we budgeted for up to one-fifth of the sample requesting a stipend.

We also address participation inequality by testing the effect of alternative public meeting modes on recruitment success. After participants complete an initial screening survey, we will randomly assign them to one of three meeting modes—an in-person meeting, a Zoom-style video-chat, or an asynchronous online discussion. This will permit us to compare the recruitment efficacy of each mode. In-person participation skews in favor of those with higher socioeconomic status, owing to greater discretionary time and resources (Brady et al., 1995; Jacobs et al., 2009). Digital modes likewise favor those groups with higher adoption rates for broadband and mobile phones (Dijk, 2020; Reddick et al., 2020). Nevertheless, some prospective participants have found an online format welcoming (Neblo et al., 2010). A mobile-friendly asynchronous mode may also better fit into the busy daily schedules that otherwise lead to attrition (Karjalainen & Rapeli, 2015). Thus, we anticipate the asynchronous mode to not only have the highest rate of recruitment success but also to generate the most diverse pool of participants.

Obtaining High-Quality Deliberation

Even if one can convene inclusive discussions, it remains necessary to ensure their deliberative quality. Existing theories offer complex accounts for the communicative dynamics of high-quality deliberation and its effect on decision quality (Black, 2012; Himmelroos, 2017; Knobloch et al., 2013), but sometimes the procedural quality of a deliberation gets conflated with the quality and impact of its recommendations or “outputs” (e.g., Farrell & Suiter, 2019).

Our study distinguishes these two concepts both conceptually and operationally. We will employ three process measures of deliberation—participation equality (Bonito et al., 2013), argument divergence (Boulianne et al., 2018), and integrative conflict resolution (Gastil, Reedy, et al., 2008). We will code the

quality of deliberative outputs using neutral third-party civic experts provided by our project partners (see Leathers, 1972; Propp & Julian, 1994) and through a multi-criteria peer rating system by the deliberative participants themselves (Adomavicius et al., 2011).

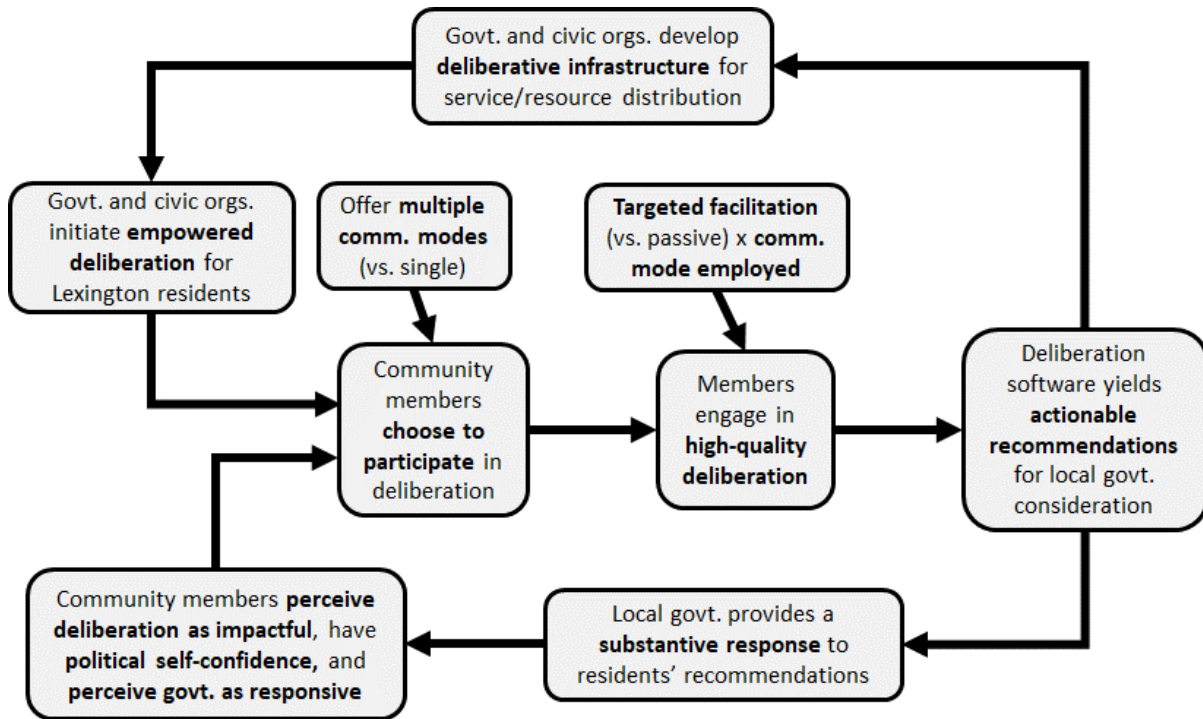
We hypothesize that the three deliberative process measures will predict output quality, but we also identify two predictors of the process variables themselves. Previous literature has stressed the need for active facilitation and structured agendas (Gastil, 1993; Sunwolf & Seibold, 1999; White et al., 2022). The purpose and content of facilitator behavior, however, have been undertheorized (Dillard, 2013). Meanwhile, researchers routinely presume that effective facilitation only occurs in face-to-face settings, despite the recent surge in online deliberation via video-chat platforms (e.g., Grönlund et al., 2020; Kies, 2010; Strandberg & Grönlund, 2018). Some online processes have incorporated automated facilitation with promising results despite such technology only using simple coding thus far, such as encouraging turn-taking by limiting speaking turns (Fishkin et al., 2019; S. Kim et al., 2020, 2021; Wyss & Beste, 2017). Overall, studies find many similarities in the quality and impact of online and face-to-face deliberation (Baek et al., 2012; Min, 2007; Papacharissi, 2004; Stromer-Galley et al., 2020). Even so, researchers have yet to disentangle the live aspect of in-person/video modes from asynchronous chat. Nor have studies accounted for the effect of facilitation, which is typically absent in chat.

To address this deficiency, we will compare six different deliberative experiences in a two-by-three experimental design. First, we will contrast two facilitation styles, which reflect the difference between a group with minimal intervention versus one with careful oversight. Discussions in the “passive” experimental condition will have a facilitator who only ensures that the discussion moves through its agenda on time, whereas the discussions in “active” condition will have a facilitator whose interventions target three key deliberative process indicators—equality, disagreement, and integrative solutions. Second, our experimental design will compare three different communication modes: an in-person meeting, an online video format, and an asynchronous online engagement that permits posting text, audio, or video. We predict that the guidance provided by targeted facilitation will produce high deliberative quality across all three modes by meeting the need for social coordination during a complex group discussion (Briggs et al., 2006, 2006; De Kwaadsteniet et al., 2012; DeVreede et al., 2002; Galinsky et al., 2005). By contrast, the passive facilitation method should fail to meet those same needs, which become greater as one moves from in-person to video and to asynchronous (Gastil, 2000).

If asynchronous groups with targeted facilitation perform as well as predicted, we believe this will be among the most important discoveries of this project. If correct, we will show that the key investment for deliberation is targeted facilitation, whether meeting in person or not. This finding could have powerful ramifications for the equity of such programs if underrepresented community members avail themselves of the asynchronous communication mode because of its ability to mesh with their busy schedules.

Completing the Feedback Loop: Recommendations, Responsiveness, and Impacts

The preceding hypotheses concern the production of inclusive and high-quality deliberation, but Figure 1 shows that these are merely the centerpieces of the longer feedback loop theorized by PI Gastil (2021). First, sound deliberation should yield actionable recommendations that, if adopted, could lead to better decisions for policymaking and program implementation. These recommendations, in turn, should generate substantive responses from the public officials (Hendriks, 2016; Niemeyer & Jennstål, 2018), given the commitments expressed by local officials in our Letters of Collaboration. Provided that those responses meet or exceed residents’ expectations, that should bolster their sense of political efficacy and their willingness to engage in future deliberation when invited to do so (Boulianne, 2019; Christensen et al., 2016; Hjortskov et al., 2018; Knobloch & Gastil, 2022). By virtue of demonstrating deliberation’s capacity to yield high-quality recommendations, this should improve the prospects for deliberative civic infrastructure, as local leaders grow more willing to initiate future rounds of empowered group discussion (Gastil, 2021; Nabatchi & Leighninger, 2015; Williamson, 2011). In effect, this closes the loop in Figure 1 back to where it began, with government and civic partners more likely to convene deliberations and local residents having developed attitudes that incline them to accept such opportunities.

Figure 1. Summarizing a feedback loop of participation, deliberative quality, input, and govt. response

Research Method and Plan of Work

Having laid out our theoretical model, research questions, and general hypotheses, we now detail the work plan for this project. We first summarize the activities that occurred during the Stage 1 planning grant period. Next, we provide a detailed description of our work plan for Stage 2.

Stage 1 Project Development

During the first stage, civic and research partners coordinated their activities to lay the groundwork for completing the research-centered pilot project in Stage 2 within a one-year timeline. In September 2022, PI Gastil and the civic partners met in Lexington, Kentucky to conduct planning meetings, observe public deliberations convened by project partner Civic Genius, and gather local leaders to discuss the focal issue for the deliberations in this NSF study. The latter activity was the key because it narrowed our focus for Stage 2 to rethinking preschool—a particularly pressing and actionable aspect of educational equity in Lexington. This educational challenge arose from a two-hour discussion that included community leaders and representatives from Lexington civic organizations.

A subsequent online meeting of project leaders further narrowed the focus of Stage 2's deliberations to three alternative policy approaches, a framing method that can help focus citizen input (Leeper & Slothuus, 2018). Following the National Issues Forums "choice-work" format (Melville et al., 2005), we clustered a variety of policy approaches into three principal options, each of which has clear advantages but also tradeoffs. Complementing the Lexington meetings with existing issue framings (National Issues Forums Institute, 2014; Program for Public Consultation, 2017), Table 1 shows that for this issue, the key choices in Lexington are (1) universal preschool, (2) more focused preschool funding for low-income households, or (3) providing resources for at-home preschool. This framing effectively contrasted different educational approaches, public investment strategies, and political perspectives in the region.

Table 1. Issue framing for Stage 2 deliberation on preschool funding in Lexington, Kentucky

	Choice 1: Universal preschool funding	Choice 2: Low-income preschool funding	Choice 3: At-home resources for preschool
Argument in favor	Lexington taxpayers should provide sufficient funds to give every child in the community a first-rate preschool experience, which will improve outcomes for all students in K-12 schools.	The Lexington community should take responsibility for helping those youth with the greatest need by targeting funding on special preschool programs for low-income households	Lexington should pair the ethics of personal responsibility and choice by providing educational resources to families, which can choose their own path for at-home preschool education.
Tradeoffs and downsides	This choice creates a high tax burden, while helping families who do not need or want new preschool opportunities.	This choice provides special educational privileges to some households, but not to those bearing the brunt of a new tax burden.	This choice will create a program with low quality control, which may not benefit children with the highest needs.

A January 2023 project leader meeting in Lexington addressed the following tasks, identified in the original Stage 1 proposal:

- Formalized the role of government and civic leaders in Stage 2, as described in the Civic Partnerships section of this proposal.
- Developed the agenda and issue guide for use in the Stage 2 group discussions, elaborating on the three choices shown in Table 1.
- Refined the training protocols for the two facilitation styles (within each of three communication modes) used in Stage 2, adapting the practical facilitation guide developed by White et al. (2022).
- For participant recruitment, we opted to use the 30,000+ resident database deployed last year to enlist a diverse cross-section of Lexington in public meetings (CivicLex, 2022). Based on that experience, this list should enable us to recruit the full sample size required.
- Identified the pool of prospective facilitators from the Lexington community who will lead the Stage 2 deliberations, doing so after attending a paid training. In the interest of replicability and cost-effectiveness, we opted to draw from the more than 100 community members who led one or more small group discussions in a previous issue engagement led by CivicLex.

January's online meeting of project leaders also was a crucial step in choosing the digital tools used for the Stage 2 group discussions that occur online. This required identifying potential commercial/nonprofit software developers for this project. Starting in October 2022, we used a competitive bidding process designed by the Penn State Grants & Contracts office to solicit, review, and score proposals. After meeting asynchronously, project leaders from Penn State, Civic Genius, and CivicLex met to review their proposal ratings, and we chose to adopt the CitizenLab platform, which is described later in this proposal.

As planned, PI Gastil also used Stage 1 to identify academic collaborators. This brought into the project four new collaborators. Each has contributed to the development of this proposal, and each will help implement the study and serve as co-authors in subsequent reports, presentations, and publications.

- Co-PI Brian Manata (Assistant Professor of Communication Arts & Sciences at Penn State University) has advanced skills in experimental small-group research and multi-level data analysis. Dr. Manata will ensure that the design and statistical analysis of our core deliberation experiment meet the highest levels of rigor, and he also will review a sample of the asynchronous discussions.
- Jess Kropczynski (Associate Professor at the School of Information Technology at the University of Cincinnati) brings expertise in civic technology, natural language processing, and connecting public input and government decision making. Dr. Kropczynski will bring state-of-the-art knowledge to a

key challenge in this study, which is automating the distillation of discussion findings across in-person and online modes to provide actionable recommendations for local government.

- Iuliia Shybalkina (Assistant Professor at the Martin School of Public Policy and Administration at the University of Kentucky) brings expertise in various forms of citizen participation in government and local public finance. She has experience planning, observing, and evaluating public participation. Based in Lexington, KY, her awareness of local government budgetary processes will help shape the issue framing, and she will observe a sample of the in-person group discussions.
- Kristinn Már Ársælsson (Assistant Professor of Behavioral Science at Duke Kunshan University) has co-authored with PI Gastil and brings sociological expertise on democratic innovation and the challenges of democratic governance, as well as professional experience in civil service. Dr. Ársælsson will assist the study with hypothesis preregistration, survey design, measurement, statistical modeling, and robustness testing to ensure the validity of our main findings.

Finally, to ensure compliance with ethical guidelines for the treatment of human subjects, Co-PIs Gastil and Manata also submitted this proposed study to Penn State’s Office for Research Protections, which completed its review with an approval issue in January 2023 (see Other Supplementary Documents).

Stage 2 Study Design

Table 2 shows how civic partners and researchers will work closely together throughout the study. The table breaks the project down into six phases: preparation, scheduling, deliberation, response, evaluation, and reporting.

Table 2. Timeline of project activities in Stage 2

Preparation (Months 1-4)	Scheduling (Month 5)	Deliberation (Month 6)	Response (Month 7)	Evaluation (Month 8)	Reporting (Months 9-12)
Project staff meetings, virtual and in Lexington	Recruit residents for small group discussions	Conduct discussions	Present outputs to civic/govt leaders	Distribute govt response to participants and invite them to future deliberation	Interview local civic/govt leaders
Finalize discussion materials	Train facilitators in active/passive styles and three comm. modes	Survey discussion participants	Obtain govt commitment to future deliberation	Attend NSF Smart & Connected Communities annual meeting	Reporting on study, plan for national adoption
Recruit facilitators		Transcribe discussions			Plan for future projects
MetroLab kickoff		MetroLab workshop			MetroLab showcase

The Management Plan and Evaluation Plan appear in later sections of the proposal, so the remainder of this section summarizes our experimental design, study population, measurement techniques, and budget.

Experimental and deliberative design. The heart of the study is a randomized controlled trial comparing the impacts of varied deliberative discussion processes using a 2 x 3 experimental design (c.f. Carman et al., 2015). Residents recruited to deliberate will be assigned at random to one of six conditions, which crosses a passive versus targeted facilitation style by three communication modes—an in-person meeting, an online video chat, and an asynchronous online format. Such experimental methods have proven effective for examining deliberative processes (Esterling, 2018; Gastil, 2018; Grönlund & Herne, 2023), even outside the lab (Kingzette & Neblo, 2023).

As for the structure of the discussions, each of these will proceed through the essential steps of a deliberation (White et al., 2022, p. 111): a brief introduction conveying how group members can work together toward a shared purpose; a discussion phase, wherein participants learn new information, scrutinize policy options (see Table 1), and arrive at a decision; and a closing phase that permits reflection and assurance that the group’s recommendations will be conveyed to policymakers. This design follows

the principles broadly accepted in this field of practice, though it does have a tighter time frame for discussion (i.e., two-hour max) than some processes (White et al., 2022, p. 18). Within that general design, however, facilitator training protocols will systematically vary between those implementing a passive facilitation style (i.e., only advancing discussion through successive steps) with one that targets the three key deliberative process indicators—equality, disagreement, and integrative solutions.

Sample size and statistical power. Our principal local partner has experience convening and surveying thousands of residents at a time (CivicLex, 2022) and will recruit a sample of 3,360 individuals using the techniques described in the previous section. These discussion participants will be placed in groups averaging a size of eight, which should yield 70 group discussions per experimental condition. This affords the study substantial statistical power at the individual level of analysis (power > .95 even for small effect sizes with subsamples $n = 500$) and sufficient power for group-level analysis even between just two experimental conditions (power > .90 for medium effect sizes, e.g., $d = .5$). These power levels are more than satisfactory given the typical effect sizes found in experimental research on deliberation (Gastil, 2018; Gastil et al., 2017). Likewise, we will have power > .95 to test the relationships among measured and experimental variables in a path model adapted from Figure 1.

In addition, a comparison group of 500 Lexington residents will be offered \$15 to complete the final two surveys, minus the content that only applies to discussion participants. This separate sample will provide a baseline for comparing attitudes and evaluations of the government's response to policy recommendations. This permits contrasting all six deliberating groups' evaluations against that of a comparable non-deliberating group of residents. This also helps detect any attitude changes resulting from mere *awareness* of the deliberations, even among those who did not take part (Knobloch et al., 2019).

Participant surveys. The participant surveys in this study will measure basic demographic data and attitudes on early childhood education, the latter using questions paralleling the issue framing in Table 1. Using the three survey waves shown in Table 3, we can measure changes in participants' sense of political self-confidence (internal efficacy), capacity for public action (community efficacy), and government responsiveness (external efficacy) using items tailored to the local level of government (Halpern, 2017; B. J. Kim, 2015; Knobloch et al., 2019; Niemi et al., 1991), along with separate items concerning their attitudes toward public deliberation (Brinker et al., 2015; Chung et al., 2022; Knobloch & Gastil, 2015). To assess the impact of deliberating on future willingness to do so, the final survey will also ask respondents whether they plan to participate in discussions on the next issue chosen by local government and civic leaders. Participants will be invited to complete this and all the surveys online (via mobile phone, tablet, or PC), with paper copies provided on request to those who need them.

Collection and analysis of open-ended data. The other principal data consist of more open-ended data, which will be analyzed and summarized through different means. First, the post-deliberation survey will include open-ended questions inviting participant comments on early childhood education, which will be distilled into themes using both natural-language processing and validation via human coding. Those data will be combined with the closed-ended responses collected at the close of discussions to develop the policy recommendations presented to public officials. This step receives special attention in our study because it represents a crucial step in public consultation. Project collaborator Dr. Kropczynski (and a doctoral research assistant) will devise a streamlined and replicable automated method for summarizing discussions and formatting themes for data-driven decision making (Kropczynski et al., 2015, 2019).

Second, our three discussion formats will each generate qualitative data. As CivicLex has done previously (2022), it will record the in-person discussions and transcribe them using software. The video-chat discussions will be recorded and transcribed automatically, as well, with research assistants editing all these transcripts for clarity and accuracy. The bulk of the asynchronous discussion will consist of typed input, but we will also transcribe the optional audio/video input that some participants may produce. Research assistants will then code all of these transcripts following procedures used previously to judge deliberative quality (Bonito et al., 2013; Gastil, Black, et al., 2008), with adaptations made to account for

the online variants of traditional in-person deliberation (Kies, 2023). We will also code facilitator behavior to validate the experimental variation in active versus passive styles across sessions.

Table 3. Sequence of survey, interview, transcript, and open-ended data collection

Activity	1. Screening (Month 5)	2. Deliberation (Month 6)	3. Response and Evaluation (Months 7-9)
Survey and interview data collected	Recruitment survey records baseline attitudes, demographics, and availability in-person vs. online modes. Survey comparison sample for baselines.	Survey discussion participants after deliberating to assess civic and policy attitudes, evaluate and characterize the deliberative process, and offer qualitative input on early childhood education.	After obtaining govt. response, survey participants (and comparison sample) to evaluate the summary of their recommendations, the govt.'s response to those recommendations, and residents' willingness to accept an invitation for future deliberation. Interview civic/govt. leaders for their assessments of the process.
Collection and analysis of discussion transcripts and open-ended data	--	Automated transcription of in-person and video chat discussions. Full recording of participant data from asynchronous deliberation. Analyze themes in open-ended survey data to incorporate into summary recommendations.	Research assistants correct the discussion transcripts, then code them to measure deliberative quality. Analyze civic/govt. leader interviews to identify policy impacts of deliberation.

Finally, researchers will conduct structured interviews with Lexington officials and civic leaders to get their assessment of the entire study process. We will complement these interview data with public records to trace how deliberative recommendations may have influenced policy, governance priorities, or policymakers' perceptions of the public (Font et al., 2016; Pickering, 2023).

Budget. The Blue Grass Community Foundation will administer the bulk of the Stage 2 budget through a subaward from Penn State University. The foundation will disperse its funds to pay for the work of our civic partners, cover licensing and labor from CitizenLab, and to provide incentives and stipends for research participants. A second subaward goes to our University of Cincinnati collaborators, who are testing a semi-automated method for distilling focused recommendations from the thousands of participants in our study spread across hundreds of discussion groups. Another portion of the budget covers the effort of the Penn State PI, Co-PI, research assistants, and academic collaborators who will assist with different elements of the research project, particularly the analysis and reporting. Finally, each budget covers travel for civic and academic partners to meet throughout this project, as well as for presenting the project's findings at professional and academic conferences.

Civic Partnerships and Engagement

Project Site and Problem: Early Childhood Education in Lexington, Kentucky

A detailed investigation of Lexington found that educational and economic opportunities vary tremendously across the city's neighborhoods (Harwood, 2022). Strong population growth and shifting demographics further reinforce these inequities. This has divided neighborhoods and ethnic communities, strained marginalized residents' resources, and forestalled the formation of a coherent public will.

Recent studies led by a mayoral commission (Akins & Smith, 2020) and a national nonprofit (Harwood, 2022) identified educational equity as vital for closing this opportunity gap. Community leaders view it as a critical indicator of the overall resource and service equity across Lexington's neighborhoods, and this study focuses on one key aspect of this problem—early childhood education. Declining state investment

in preschool forces localities to find their own solutions. Unfortunately, Lexington residents—particularly those most affected by inequities—do not believe their voices matter in community decisions (Harwood, 2022). This leaves residents feeling powerless about their ability to address this problem.

A key recommendation of Lexington’s self-study was the need to “put the community’s voice at the center of education” (Harwood, 2022, p. 32). This study aims to do so through a process led by local civic organizations experienced with public engagement. CivicLex led a process in 2022 that convened more than 500 group discussions on local development questions, along with a survey of 2,500 discussion participants that yield a response rate in excess of 50 percent (CivicLex, 2022). In this study, we augment and validate a similar process to help residents reach a shared understanding of their problems, develop tailored solutions, and shape decisions made by local government and service/resource providers.

Local and National Civic Partners

This project’s principal civic partners have been essential in the Stage 1 project development, and they are at the center of our Stage 2 study. In Lexington, our principal civic partner views collaboration as its mission. CivicLex is a nonprofit that partners with other Lexington stakeholders to give residents a voice in local decision making. CivicLex will manage facilitator training, participant recruitment, and group discussion logistics. It has already drawn into the project other civic partners and local government, and it will continue to keep this project connected to public officials, including the solicitation of a government response and follow-through aimed at building deliberative civic infrastructure. Our principal partner at CivicLex is Executive Director Richard Young, who has spent the past decade working on civic engagement and community development. He brings a deep knowledge of Lexington’s civil society and government, as well as a passion for creativity and innovation, which he has applied to our project design. Other Lexington partners include the following.

- United Way of the Bluegrass is a 101-year-old philanthropic and human service organization. It runs a series of neighborhood WayPoint Centers that help residents navigate and access a multitude of community resources and social services. It will coordinate neighborhood-level recruitment, deliberative event hosting, community program partner engagement, and direct service provision. As part of the Commission on Racial Justice and Equality (Akins & Smith, 2020), they will also facilitate the programmatic changes that respond to deliberative outputs. Our principal partner at United Way of the Bluegrass is Timothy Johnson, President and CEO.
- Government officials, such as the county’s Commissioner of Social Services and the Chief Public Engagement Officer for the county’s public schools, are committing to respond in writing to the recommendations that come from community deliberations (see Letters of Collaboration). Officials will also play a role in the definition and framing of the focal issue, ensuring that it asks residents to weigh timely and actionable policy alternatives.
- The Blue Grass Community Foundation will oversee the principal subaward within our project. Their budget is devoted to the activity of civic and nonprofit organizations, as well as payments to study participants and facilitators. This foundation has years of experience administering funds and working on federal grants, such as with the National Endowment for the Arts.

Our project also involves two partnerships that extend beyond Lexington. One national partner is Civic Genius, a nonprofit focused on building a deliberative civic culture in communities across the country. Since its inception in 2017, Civic Genius has built credibility as a public partner in numerous parts of the United States, including Lexington but spanning from Orange County, CA to cities in Wisconsin, Ohio, Pennsylvania, New York, and Maryland. On a national scale, it has convened stakeholders to develop or policy innovations on criminal justice reform, policing, energy and the environment, government reform, Social Security, the national debt, and misinformation online. In this project, Civic Genius will manage partner relationships and project implementation, manage the deliberative design, help create the issue and facilitator guides, and lead the development of our national action plan for transferring this deliberative method to other local governments. The key Civic Genius project member is its Executive

Director, Jillian Youngblood. She has deep experience interfacing with policymakers and securing buy-in for policy change at the federal, state, and local levels. Youngblood's core competencies include development of accessible content on policy issues, bolstered by a background in public education.

In addition, our Stage 1 search for a suitable software partner led us to select CitizenLab. Since its inception in 2015, CitizenLab has aimed to make large-scale community engagement more inclusive, participatory, responsive, and cost-effective. Its online platform has an intuitive and mobile-friendly interface, strong privacy and security features, and robust data analysis and dialogue management tools. Its platform has been used by more than 400 local governments and civic organizations around the world, including nearly 50 in the United States. Recent collaborations include Seattle, WA, Wichita, KS, and Pennsylvania cities and towns, such as Carlisle, Lancaster, and Philadelphia.

Plan for Effective Collaboration

As for closing the loop between research and practice, PI Gastil has experience conducting research that meets the practical needs of government and non-governmental organizations. His study of elections involved working with civic leaders to design a reform, providing the Oregon legislature with accessible research findings, and facilitating the dissemination of the reform to other states interested in adopting it (Gastil & Knobloch, 2020). This project also illustrated Gastil's ability to lead a large grant-funded project (NSF Awards 0961774 and 1357276/ 1357444), which led to twenty-six scholarly articles co-authored by nineteen faculty, eight graduate students, and four non-governmental program officers.

Taken together, the project team has years of collaborative experience within Lexington (CivicLex and United Way), across the non-governmental sector and government (Civic Genius and CitizenLab), and among academic, civic, and government partners. These shared experiences enabled us to prepare this proposal during Stage 1, and it will help us execute our Stage 2 study. As for our ability to complete this project within the one-year timeline, Civic Genius and CivicLex have experience working together to run deliberative programming in Lexington, and they already have begun developing their local efforts into a national plan. In addition, PI Gastil has been working with these civic partners for more than a year. He has the capacity to do this work owing to two permanent course releases at Penn State, one as a Distinguished Professor and the other as a Senior Scholar at the McCourtney Institute for Democracy.

Broader Impacts

This project has the potential for several large-scale impacts. It designs and tests a scalable form of deliberation to help governments tailor their service/resource decisions with a level of precision only possible through meaningful public engagement (Landemore, 2013). This applies to the vexing issue of educational inequality, which has a tenacious persistence (Lewis & Diamond, 2017) and a tremendous social cost so long as it remains unaddressed (Kozol, 2012). Our project should provide valuable insight into how communities like Lexington view educational policy alternatives. Such insight could help similar municipalities set policy, far beyond our project's formal one-year scope.

Beyond this particular policy, the validation of a cost-effective and transferable deliberative method for public consultation and engagement could have numerous secondary benefits. Such engagement can boost civic health and public health for those who take part (Reeves & Mackenbach, 2019). Deploying an efficacious online mode of deliberation (Dommert & Verovšek, 2021) could draw in more diverse participants, thereby broadening opportunities for engagement compared to the status quo (Stromer-Galley, 2017). Finally, by boosting the legitimacy of a responsive government and its civic partners, such deliberation can also enable government to *govern* effectively (Parkinson, 2006), such as when it needs public support—or at least sufficient latitude—to implement policies that address long-term problems or the particular needs of underserved populations.

Results from Prior NSF Research

PI Gastil received NSF CIVIC grant #2228517 to develop this Stage 2 proposal (“Track B: Improving service and resource distribution programs through public deliberation,” 2022-23, \$49,457). *Intellectual*

merit. This grant enabled elaboration of the study’s hypotheses, refinement of the research methods, the specification of the focal issue and its framing for discussion, and the development of a robust plan for collaboration (see “Stage 1 Project Development” herein). No publications have resulted from this grant. *Broader impacts.* This grant gave us time to solicit bids and find a well-established CitizenLab platform, which provides accessibility, privacy, mobile-friendly deployment, scalability, and transferability.

In addition, Co-PI Manata was a research associate on NSF SES grant #1231206 (“Structural, climate, and communication dynamics of innovative interorganizational project teams,” 2012-17, \$303,855).

Intellectual merit. This grant led to three articles on group dynamics (Manata et al., 2018, 2021, 2022) using the same multilevel analysis methods Dr. Manata will deploy in this project. These articles showed which communicative behaviors led to effective teamwork on technical projects. *Broader impacts.* The published research can be of use in designing optimal discussion procedures for teams within the Architecture, Engineering, and Construction industries.

Management Plan

Table 4 reviews the principal roles of each project partner, breaking the project into four stages defined by the tasks completed within each stage. Through the year, Civic Genius will host monthly checkpoint meetings among the project staff to track progress against benchmarks, solicit constructive process feedback to partners whose work falls behind schedule, and adapting to unforeseen challenges or delays that arise. These partners appear in the Stage 2 budget, as each has considerable responsibility for the execution of the project. Management of the budget itself will be overseen by Penn State, with the Blue Grass Community Foundation overseeing the primary subaward and the University of Cincinnati overseeing its own subaward. The budget also covers in-person project meetings, three of which pair with the MetroLab meetings in DC and a fourth to be held in Lexington while finalizing the study protocols.

Table 4. Distribution of project management responsibilities over the 12-month project

Team member	Preparation/Scheduling (Months 1-5)	Deliberation (Month 6)	Response/Evaluation (Months 7-8)	Reporting (Months 9-12)
PI Gastil with Research Assist. (RA)	Approve final survey instruments and other research materials	Manage the inflow of data from face-to-face discussions and observe online ones	Oversee public reception survey and integrate with previous survey data	Lead author on deliberative model Oversee transcript coding
Co-PI Manata with RA	Dry-run data extraction, finalize measurement and multilevel analysis model	Manage the inflow of research data from online discussions	Integrate all group-level data and oversee transcript preparation	Lead author for analysis focused of group-level effects
CivicLex, assisted by United Way of the Bluegrass	Prepare local discussions, lead recruitment, oversee facilitator training and recruitment, and schedule face-to-face discussions	Oversee in-person discussions and handle problems that arise	Present participant recommendations given to govt. and elicit govt. response Finalize invitation to future deliberation	Lead Lexington report on local impact and program sustainability Production of video summarizing project design and outcomes
Civic Genius	Oversee final discussion design, community listening session, and facilitator training	Oversee online discussions	Review participant recommendations report	Lead national report on project scalability, sustainability, and transferability

(Table 4 continues on the next page)

Table 4. (continued)

Team member	Preparation/Scheduling (Months 1-5)	Deliberation (Month 6)	Response/Evaluation (Months 7-8)	Reporting (Months 9-12)
Citizen Lab	Schedule online discussions	Manage any problems that arise online	Integrate follow-up survey with platform	Assist with national replicability report
Kropczynski with RA	Dry-run method for integrating participant recommendations	Integrate participant recommendations for govt reception	Test robustness and replicability of data integration method	Lead author on integrating recommendations
Academic collaborators (Shybalkina, Ársælsson)	Review issue framing (Shybalkina) Pre-registration of hypotheses (Ársælsson)	Observe a sampling of the in-person discussions (Shybalkina)	Finalize statistical code for analysis (Ársælsson)	Co-authors on social science articles, taking lead in area of specialization (All)

The Data Management Plan attached to this proposal details data sharing and governance. It stresses that our research team will share anonymized data after de-linking participants' personally identifying information from the survey and transcript data. Likewise, all civic and academic project partners will share the intellectual property developed during the project.

Evaluation Plan

Civic Genius, CivicLex, and PI Gastil served as the project leaders for the purpose of team self-evaluation during Stage 1, and they will continue these roles in Stage 2. Together, we will track progress on the key project milestones, including finalizing discussion materials, recruiting participants, convening discussions, eliciting government response, collecting surveys, data analyses, and preparing final products, such as reports, articles, and a video. To facilitate these regular assessments, we have budgeted for planning meetings that we append to the mandatory MetroLab meetings in Washington DC. We also scheduled a project meeting in Lexington to review the logistics of the group discussions at the heart of this study. Additional project personnel will attend these meetings virtually, as needed.

We also built into this project ongoing feedback by local government partners and the Lexington residents who take part in the deliberative discussions. Public officials' review of the public discussion agenda will help to ensure the relevance and actionability of the policy choices presented to residents. Officials' evaluation and response to the public's policy recommendations will indicate the quality of deliberative outputs. The local government's willingness to commit to future policy discussions will indicate the local sustainability of deliberative engagement. As for Lexington residents, this project's recruitment success will indicate public receptiveness to policy deliberation. Residents will provide explicit process evaluations through post-discussion surveys. The final wave of public surveys will assess residents' perceptions of government responsiveness and their willingness to deliberate together in the future.

Scalability, Sustainability, and Transferability

The most ambitious activity in this project appears in the final column of Table 2's project timeline simply as a "plan for national adoption." The research embedded in this project assesses the efficacy of a novel deliberative model—one that avoids the cost-prohibitive features of minipublics while delivering high-quality outputs on which government and civic partners can take action. We predict that our methods will yield an effective deliberative process with targeted facilitation that any government could implement simultaneously in-person, through video chat, and asynchronously online. If successful, this will provide a reliable method for gathering a large and diverse body of community members to generate deliberative input on any resource/service policy challenge.

The innovations and insights from this project will have a lasting impact both locally and nationally because of the partnerships we are building. The most modest of these will occur within Lexington itself,

where CivicLex intends to use this study's deliberative design in its future engagements. Given its history of effective partnership with local and county government, this will mean applying the technologies it helped to design for our project directly to its future engagements. The only modification required is the content of the deliberative issue framings and agenda, but past research on the predecessor of our deliberative design already confirms the viability of using the same choice framework across diverse local (and national) issues (Melville et al., 2005). The power of the Lexington model will be amplified by the fact that the American Academy of the Arts & Sciences identified this city as the inaugural model for a prospective civic renewal in the United States (American Academy of Arts and Sciences, 2020).

Our aim, however, extends far beyond Lexington. We intend to sustain our deliberative approach through coming years, across numerous municipalities, and even up to larger state and national scales. Here again, it is the partnerships at the heart of this project that make such ambitions realistic. Civic Genius helped to initiate this project because its leadership was searching for a way to engage wider publics on issues at scale. Going forward, this nonprofit intends to achieve this goal by using the methods developed in our study. Civic Genius will take from this partnership the tools it needs to transform its stakeholder model into a broader public engagement model. This will enable it to blend stakeholder expertise/influence with a more authentic voice of the public, attuned particularly to the marginalized communities too often left out of the democratic process.

The partnership with CitizenLab provides our third conduit for sustainable public engagement at scale. This partner joined this project for Stage 2 precisely because of its interest in improving its platform by incorporating a more streamlined and effective approach to recruitment and facilitation. Their existing online tools will benefit from the assessment of our recruitment model, which leverages prospective participants' motivations to maximize earnest and efficient engagement by a diverse public. CitizenLab will also benefit from incorporating our streamlined facilitation model and our approach to facilitated asynchronous engagement, which pulls in participants unable to commit to longer synchronous meetings without compromising on the quality of their contributions. Our project budget includes funds specifically for incorporating these changes into the existing CitizenLab platform.

Beyond these separate ambitions, our project partners are considering a long-term partnership that leverages each of their strengths. CivicLex hopes to make Lexington a test-bed for ongoing innovation, following the example of Maricopa County, Arizona, which became the hub for small and large jury reforms in the United States (Yarnell, 2006). In this same way, CivicLex could become a local training site for those seeking to learn its facilitation techniques and online tools first-hand, thereby easing the faithful transfer of its process to other municipalities. Meanwhile, Civic Genius and CitizenLab are discussing a partnership pairing the former's on-the-ground stakeholder engagements with CitizenLab's online platform. Using Lexington as a testing site, all three partners could sustain not only this project's engagement model *but also its collaborative model for future research, design, and innovation* to improve how local governments allocate services and resources across the United States.

There are precedents for participatory and deliberative reforms proving their success in one setting and becoming more widely adopted afterward. Prominent recent examples include Participatory Budgeting (Gilman, 2016) and Citizens' Assemblies (Lacelle-Webster & Warren, 2021). In so many cases, what began as experiments in selected cities, states, or nations (Gastil & Levine, 2005) gathered momentum to become a wave of democratic reforms built on deliberative designs (OECD, 2020). This project may help spread democratic innovation across the United States by ensuring that such reforms meet high standards for effectiveness and inclusion of underrepresented voices, while holding down costs by identifying the most essential features of these new designs. In sum, this study could prove a crucial step in rebuilding this nation's civic infrastructure through deliberative public engagement.

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**Data Management Plan
The Pennsylvania State University**

**For the NSF CIVIC proposal
“SCC-CIVIC-PG-Track B: Improving Service and Resource
Distribution Programs through Public Deliberation”**

Our data management plan will conform to NSF policy on the dissemination and sharing of research results, as well as policies established through international conventions, including the General Data Protection Regulation (GDPR) (Regulation (EU) 2016/679) and the Regulation of the European Parliament and of the Council establishing Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020). We prepared our data management plan with those regulations in mind because we intend this project’s methods to be replicable not only within the U.S. but—eventually—in other countries, including European nations. This requires that our data plan meet the highest standards across all participating nations.

Research Participants

- This research project involves controlled social and behavioral experiments involving human participants. All of them will be residents of the state of Kentucky who voluntarily decide to participate in the citizen engagement opportunities promoted by local civic organizations in Lexington, KY.
- In all cases, participants will be recruited on a voluntary basis according to international declarations (Declaration of Helsinki, Edinburgh, 2000; Council of Europe Convention for the Protection of Human Rights and Dignity of Human Being with regard to the Application of Biology and Medicine, Oviedo, 1997; Universal Declaration on Bioethics and Human Rights adopted by UNESCO’s General Conference on 19 October 2005). All participants will be healthy volunteers of legal age (18 or older) and will involve neither children, patients, nor people unable to consent.
- Participants, who will be volunteers, will be informed beforehand about the purpose of the activity they will be involved in, the type of data collected, the intended use of this information, the measures taken to protect their privacy and their right to withdraw from the project or prohibit the use of their data at any time. They will be asked whether they need any further clarification.
- Before participating in the forums, they will be given a document containing information about the project and a statement of informed consent. More specifically, the document will contain the objectives of the research, the institutions involved, the usefulness of the participation of the volunteers, a statement of scientific and confidential use of the data, a statement that participation is voluntary and can be interrupted at any time, clarification about the lack of compensation (financial or otherwise), a statement about the exclusive use of the information on and for the project and an explanation of whom to contact in case of an incident or simply for more information about the project. This informed consent will be written in a language and in terms they can fully understand.
- The Citizen Lab software platform, which we will be using for the online engagements, has already received a favorable security review by BSI Cybersecurity and Information Resilience (in October, 2021). It is also compliant with the data privacy policies of the Pennsylvania State University.

Privacy and Confidentiality

- Confidentiality of data will be maintained by using research identification numbers/codes that uniquely identify each user. Researchers will ensure that data generated as a result of the trial will be kept securely and that the form of any exploitation and publication neither directly nor indirectly leads to a breach of agreed confidentiality and anonymity.
- Each participant will be given an ID code. Participants' performance will be anonymous and stored with only this ID code as identifier, such that none of the researchers can access the corresponding contact information used for recruitment by the civic organizations in Lexington who contact study participants.
- None of the data collected in this research is, in principle, socially or personally sensitive. Some demographic information about participants is necessary for the study, such as age, gender, etc., but this information will be also stored with the data files, only identifiable through the ID codes disconnected from contact information.

Digital Data Collection, Storage, and Protection

- Only relevant data will be collected, not more than what is strictly needed for the project. This digital information will be centrally stored at a Penn State server, which is located within a secured environment with controlled access and is provided with a backup service to prevent data loss from accidental deletion or corrupted file systems.
- Backup data access is performed by both project managers and IT staff, without needing direct physical access to any of the devices. Fire and water counter-measures are also installed on the main datacenter.

Data Publication, Retention, and Destruction

- Findings will be summarized and be made available to participants via email before the destruction of the email list of study participants.
- At the close of the study, identifying information will be destroyed, rendering the research data collected anonymous from that point forward.
- For access beyond the research team, the data will be made available as anonymized ASCII data, with ID codes but no personally identifiable information such as email or IP addresses. Research instruments will be retained in that same public archive. Data may be shared with researchers interested in reanalysis or replication, so long as that use conforms with IRB regulations at both Penn State and the researcher's own institution.



February 23, 2023

To whom it may concern,

The proposed NSF project's aims of addressing local resource and service inequities by engaging the public in a robust, inclusive problem-solving process directly aligns with CivicLex's vision of a community in which residents are able to meaningfully participate in the decisions that shape where they live.

If the proposal submitted by Dr. John Gastil entitled "SCC-CIVIC- PG Track B: Improving Service and Resource Distribution Programs through Public Deliberation" is selected for funding by NSF, it is my intent to collaborate and/or commit resources as detailed in the Project Description or the Facilities, Equipment or Other Resources section of the proposal.

CivicLex will serve in a variety of roles in this project, including: co-designing the process; coordinating civic partner and local government engagement; co-managing the deliberative process; managing citywide resident recruitment; and organizing and communicating deliberation outputs to a broad universe of stakeholders.

Bringing residents into public governance is the core of what CivicLex does. This project represents an exciting opportunity to expand who is at the table when decisions are made about social needs and resources in Lexington, a crucial issue for our community.

Not only that, but the robust national and local partnerships will allow us to measure that engagement, understand the efficacy of our methods, track its impact, and share the results with a wider audience. We look forward to the opportunity to deepen our relationships with the United Way of the Bluegrass, CivicGenius, Dr. Gastil, and our community through this important work.

Sincerely,

Richard Young,
Executive Director, CivicLex



February 6, 2023

To Whom It May Concern:

The proposed NSF project's aims of addressing local resource and service inequities by engaging the public in a robust, inclusive problem-solving process aligns with Civic Genius's mission of empowering citizens and communities to create and advance policy solutions across ideological lines.

If the proposal submitted by Dr. John Gastil entitled "SCC-CIVIC-PG Track B: Improving Service and Resource Distribution Programs through Public Deliberation" is selected for funding by NSF, it is my intent to collaborate and/or commit resources as detailed in the Project Description or the Facilities, Equipment or Other Resources section of the proposal.

Civic Genius will manage partner relations and implementation at the project level, co-design the deliberative process, co-manage the deliberation process and facilitation training; create and disseminate educational content across a variety of media; and facilitate scaling this CIVIC Innovation solution in localities across the country.

We are thrilled about the promise of this project to connect community members across differences and forge solutions that benefit everyone and build long-term infrastructure for ongoing engagement.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jillian Youngblood', written in a cursive style.

Jillian Youngblood
Executive Director



02/27/2023

To Whom It May Concern:

The proposed NSF project's aim of addressing early childhood education through public deliberation is the kind of local civic engagement project that CitizenLab has been supporting for years. We were pleased to win the competitive bidding process held by Penn State as a result of obtaining a Stage 1 NSF CIVIC grant, and we now glad to be part of this Stage 2 proposal.

If the proposal submitted by Dr. Gastil entitled "SCC-CIVIC-PG-Track B: Improving Service and Resource Distribution Programs through Public Deliberation" is selected for funding by NSF, it is my intention to collaborate and/or commit resources as detailed in the Project Description or the Facilities, Equipment or Other Resources section of the proposal. CitizenLab will provide its software platform for the online group discussions taking place in Lexington, KY during this project. We view this project as aligned with the core mission of our organization, and we are hopeful that this collaboration will lead to innovations in the practice of deliberation and in our ability to provide state-of-the-art software to enable those deliberations.

Sincerely,

Billy Trakas

Billy Trakas, Account Executive



February 24, 2023

To Whom It May Concern:

The proposed National Science Foundation (NSF) project's aims of addressing local resource and service inequities by engaging the public in a robust, inclusive problem-solving process aligns with United Way of the Bluegrass' (UWBG) mission of fighting for the education, financial stability and health and basic needs of every person in our community.

If the proposal submitted by Dr. John Gastil entitled "SCC-CMC-PG Track B: Improving Service and Resource Distribution Programs through Public Deliberation" is selected for funding by NSF, it is our intent to collaborate and/or commit resources as detailed in the Project Description or the Facilities, Equipment or Other Resources section of the proposal.

UWBG will leverage its series of WayPoint Centers to coordinate neighborhood-level recruitment, hosting, provision of services and engagement with community program partners, and will also act as a key facilitator of programmatic changes that respond to the deliberation outputs.

The proposed project aligns with UWBG's commitment to building equity and resilience across our communities and both encouraging and fighting for equity for each Lexingtonian. As witnessed by UWBG's role on Lexington-Fayette County Urban Government's new Commission on Racial Justice and Equality, we see this work as another facet of educating and engaging community members to understand how to effectively advocate for change and providing them the audience and tools to do so.

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy Johnson", written over a large, horizontal, looping flourish.

Timothy Johnson
President and Chief Executive Officer



FAYETTE COUNTY PUBLIC SCHOOLS

February 24, 2023

To Whom It May Concern:

The proposed NSF project's aims of addressing local resource and service inequities by engaging the public in a robust, inclusive problem-solving process aligns with Fayette County Public Schools' mission of educating the next generation of civic leaders and playing an active role in the success of our broader community.

If the proposal submitted by Dr. John Gastil entitled "SCC-CIVIC-PG Track B: Improving Service and Resource Distribution Programs through Public Deliberation" is selected for funding by NSF, it is my intent to collaborate and/or commit resources as detailed in the Project Description or the Facilities, Equipment or Other Resources section of the proposal.

We look forward to highlighting this process as a hands-on opportunity for young people to participate meaningfully in civic life. Our exceptional faculty is enthusiastic about working with the core partners on this project to develop accessible, user-friendly content that will guide participants throughout the process.

Creating engaged citizens is a key responsibility of educational institutions like ours, and we are excited to offer this extraordinary opportunity to our students, teaching the lifelong skills critical to living in a thriving democracy.

Sincerely,

A handwritten signature in cursive script that reads "Carrie Rogers".

Carrie Rogers
Chief Public Engagement Officer
Fayette County Public Schools

MAYOR LINDA GORTON



LEXINGTON

KACY ALLEN-BRYANT
COMMISSIONER
SOCIAL SERVICES

February 23, 2023

To Whom It May Concern:

The proposed NSF project's aims of addressing local resource and service inequities by engaging the public in a robust, inclusive problem-solving process aligns with our local government's commitment to deploying resources and implementing programs in a way that equitably benefits all residents.

If the proposal submitted by Dr. John Gastil entitled "SCC-CIVIC-PG Track B: Improving Service and Resource Distribution Programs through Public Deliberation" is selected for funding by NSF, it is my intent to collaborate as detailed in the Project Description or the Facilities, Equipment or Other Resources section of the proposal.

We look forward to leveraging this diverse generative process in long-term service of our community by creating mechanisms to receive community deliberation outputs; meaningfully considering and responding to deliberation outputs with substantive actions; providing information based on local data that informs discussions on the topic; and considering ways to institutionalize this deliberative process into government processes of decision-making.

At a time of decreasing trust in government, we feel strongly that this project will build powerful engagement from community members and position our government institutions to increase responsiveness.

Sincerely,



Kacy Allen-Bryant, MSN, MPH, RN
Commissioner of Social Services
Lexington-Fayette County Urban Government

