

Playing with Planning:
Evaluating games as a method of participatory planning and policymaking

by

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Abstract

In the past decade, planners and cities have made increasing use of engagement games as a form of participatory planning and policymaking. Games are often presented as a remedy for the shortcomings of traditional participatory processes. This thesis seeks to investigate those assumptions by situating engagement games in the theory of participatory planning. First, it reviews the literature on participatory planning to elucidate the primary goals and problems of participatory processes and to create a framework to evaluate engagement games. Then, a review of previous games used in planning reveals engagement games' relative strengths. Next, the thesis considers two case studies of engagement games used for participatory planning: the Big Easy Budget Game in New Orleans, LA, and the San Jose Budget Games in San Jose, CA. A comparison of these two case studies using the framework reveals that they both significantly contribute to situated learning. Other outcomes such as social learning, political efficacy, and involvement of marginalized groups depend on the design of the game as well as the design of the larger participatory forum in which it is played. The thesis hopes to offer planners, cities, and advocacy groups interested in using games to improve participatory processes a practical overview of the value of engagement games and the features which enable them to contribute to the goals of participatory processes.

Thesis Supervisor: Dayna Cunningham
Title: Executive Director, CoLab

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Chapter 1: Introduction

In 2010, Jane McGonagil gave a TED talk entitled “Gaming can make a better world,” which now has over 1 million views on YouTube. In it she says, “Right now we spend 3 billion hours a week playing online games. In fact, I believe if we want to survive the next century on this planet, we need to increase that total dramatically. [...] My goal for the next decade is to make it as easy as possible to save the world in real life as it is to save the world in online games.” Indeed, the last decade has seen a proliferation of games for social good, and this trend has left its mark on urban planning. One *CityLab* headline from February 2019 reads, “Can a Card Game Make a More Equitable Community?” (Hattam, 2019) In 2016, a barrage of articles in academic journals and in the popular press touted the power of *Pokémon GO* to get people outside, encourage new interactions, and consider urban space from a new perspective (e.g. Potts et al., 2017). A Swedish startup founded in 2012 sells a card game toolbox called *MethodKit* for €145 (Gaete, 2017). Indeed, the idea of using games for social change is a seductive proposition. While social change is often a tedious, messy, unending process, games are fun, engaging, and, eventually, winnable.

I personally became interested in games for participatory planning during a practicum class on solar microgrid planning for El Coquí, a neighborhood in Salinas, Puerto Rico. Charged with drafting a public engagement campaign for the microgrid project, our class faced the challenge of simultaneously teaching residents about how microgrids work while collecting information on their basic power needs and encouraging them to think of a microgrid governance structure. We created a card game designed to accomplish these three tasks. During the design process, however, we made many assumptions about what the card game should or could do for El Coquí. Specifically, I wondered how games could contribute to participatory planning. This thesis aims to situate engagement games in the theory and practice of participatory planning. Specifically, it investigates the questions:

1. What can engagement games uniquely contribute to participatory planning processes?
2. What features and practices enable them to do so?

In doing so, it hopes to offer planners a practical base of knowledge to determine how games can best contribute to participatory processes.

Defining an engagement game

Gordon, Walter, and Suarez define engagement games as a process that “use game mechanics to bring play and serious real-world processes together, so that real action occurs while playing the game” (Gordon et al., n.d., p. 7). In other words, engagement games have a purpose other than simply amusement (e.g., Monopoly), learning a skill

(e.g., Duolingo), or social interaction (e.g., SecondLife): they are designed to change something in the world. While there are many different applications of engagement games in business, education, humanitarian work, and other sectors, this thesis examines specifically games that directly inform urban planning and municipal policy. Games that are used for such purposes require critical inquiry from the perspective of planning theory because the policy outcomes of such games have the potential to affect many people for a long time, for better or for worse.

Gordon et al (n.d.) identify several elements that constitute a game:

1. Rules and structure governing interactions (gameplay);
2. Incentives for some actions or outcomes, disincentives for other actions or outcomes;
3. Collaboration with some players;
4. Competition with other players;
5. Interaction with material objects, such as a board, cards, dice, etc. or computer displays;
6. Random chance and different possible outcomes of the process.

Many “games” used in urban planning do meet all of these criteria. This study considers any effort that uses some combination of these elements to contribute to participatory planning processes.

Structure of the thesis

The next chapter presents the methodology for answering the research questions. The following chapter first examines theories of participatory planning and prior uses of games in urban planning to identify how games have contributed to participatory planning in the past. The fourth chapter presents two case studies of engagement games used for participatory budgeting efforts in New Orleans and San Jose and applies findings from the theory chapter. Finally, the thesis concludes with recommendations for planners and suggestions for future research.

Chapter 2: Methodology

Theory

The first section of this thesis investigates the contributions of games to participatory planning processes in the United States since the 1960s. To accomplish this, it first surveys the literature on participatory planning theory to elucidate the primary goals of participatory planning and the problems they face in theory and in practice. From this survey, it identifies a set of objectives to evaluate engagement games and how they compare to other participatory processes. Second, it reviews how games have been used for participatory planning in the past to identify their unique contributions and pitfalls as part of a participatory planning strategy.

Case studies

The second section of this thesis applies and grounds the theories from the first section in practice in two case studies in which games have been used for participatory budgeting. While the first section considers participatory planning broadly defined, the case study section focuses on participatory budgeting because it is one of the primary areas of city policy in which citizens are gaining increasing agency through participatory processes.

Thus, it is important to study participatory budgeting for its own sake, to ensure that this new channel of citizen influence over policy is democratic, equitable, and effective. But, studying this trend can also shed light onto how games could contribute to opening up other functions of local government to participatory processes.

The two case studies, the Big Easy Budget Game (BEBG) in New Orleans, Louisiana, and the San Jose Budget Games (SJBG) in San Jose, California, were chosen because they are the only example of major US cities using games to directly inform budget policy, and they are the most recent examples of local governments in the US using games to directly inform any kind of policy. Other engagement games have been developed by governments, nonprofits, and universities primarily for educational purposes. While educational games also have the power to effect social change, I argue that games designed to inform policy deserve more critical inquiry because the consequences of not functioning as planned are more sinister. If an educational game does not accomplish its mission, possible bad outcomes include not learning, learning false information, or a bad experience. However, negative consequences of a game that directly informs policy could include implementation of policy that does not reflect the interest of a city's residents or contributes to the under-representation of marginalized groups. Additionally, the similarities in the two games' goals allow for comparisons in their development process and outcomes.

This study uses a combination of semi-structured interviews and surveys with game designers and participants and a review of archival materials produced by the games' creators and organizational sponsors explaining their motivations, design process,

and assessment of the games performance. Following Osterwalder and Pigneur (2010), the interview and research strategy for the case studies was modeled off of customer discovery research, the process of matching a new product or service to unmet market needs. It is an iterative, inductive process that starts with a wide set of hypothesized value propositions. Then, through semi-structured interviews focused on customers' needs and experiences, it searches for evidence to support or disprove the potential value propositions. Using this information, the most likely value propositions are identified, and new potential value propositions are added if they emerge in interview evidence. The process avoids testing or directly asking about a single value proposition to elucidate the relative value of a new product in a competitive market– i.e., to avoid potential customers affirming the value of a product when they already have an adequate, comparable solution that they would not actually give up.

This thesis takes a similar approach: it identifies a wide swath of potential value propositions in the next chapter, then for those value propositions seeks evidence to support or disprove those value propositions. The customer discovery mentality allows a focus on games' comparative advantage and guards against the temptation to over-hype them as an innovation when there are many valid public participation techniques that can accomplish similar goals. I argue that customer discovery techniques should be more widely applied to civic innovations to better distinguish which innovations have a real value proposition to contribute to government and which are mostly attractive for their newness.

Due to the constraints of time, location, and financial resources, this study was unable to employ a large enough sample size or employ random sampling techniques which would allow drawing representative, statistically significant conclusions about the population of game players in New Orleans or San Jose, much less the entire population of those two cities. It is important to note that this research is analogous to the first iteration of a customer discovery process, thus the outcomes of the case studies are a series of refined hypotheses/value propositions to test rather than conclusive results. These refined hypotheses are meant to help other individuals or organizations such as those described in Chapter 4 to continue the customer discovery and game design process.

Interviews took place with game creators and other key stakeholders who both played the games and were involved in their implementation. Interviewees were recruited through contacting individuals mentioned in the published materials on the games, asking interviewees for their referrals, and through the help of two fellow graduate students at MIT from New Orleans. Survey respondents were recruited through posts on CBNO's social media. The interview guides can be found in Appendices A and B, and survey questions can be found in Appendix C.

Specific data sources in New Orleans include:

1. An interview with the BEBG's principal designer and proponent, Kelsey Foster, who works as the Budget Campaign Manager with the Committee for a Better New Orleans.

2. Four interviews with participants of the BEBG:
 1. Frank Rabalais, past president of the Gentilly Terrace and Gardens Neighborhood Association, who participated in the Big Easy Budget Game when Foster came to facilitate the game at two of the Neighborhood Association's meetings in 2017 and 2018;
 2. Emily Wsiclo, who first played the game on her own in 2015 and later played it as part of a community leadership seminar in 2016;
 3. Morgan Augillard, an urban planning student at MIT who played the BEBG on her own in 2019; and
 4. Chris Daemmrich, an architect, artist, and activist, who played the game in 2018 and 2019 after seeing it on social media
- b. Six responses to an online survey advertised by CBNO to BEBG participants
- c. CBNO's *Big Easy Budget Game Report for 2018* (CBNO, 2018), which presents recommendations for the city's budget based on participants' responses to the BEBG.

Data sources for San Jose include:

1. Two interviews with the game's creator, Luke Hohmann, CEO of Conteneo, Inc, and a volunteer facilitator, Joel Bancroft-Connors, who facilitated a table during the 2015 SJBG.
2. Two blog posts authored by Hohmann about the game design process (Hohmann, 2011; Hohmann, 2015b)

3. Hohmann's keynote address about the SJBG given at a conference on the Agile project management philosophy in 2015 (Hohmann, 2015a)
4. Eighteen interviews with participants of the 2012, 2013, and 2014 SJBG recorded and published on YouTube by the City of San Jose (Harkness, 2012; Harkness, 2013; Conteneo, 2014)
5. One interview with Assistant to City Manager Kip Harkness in 2012, also recorded and published on YouTube by Every Voice Engaged (Willmes, 2012)

Chapter 3: Games and Theories of Participatory Planning

This section situates engagement games in the history and scholarship of participatory planning in the United States. To do so, it first provides an overview of the evolving goals of participatory planning and an assessment of the current obstacles that planners face in realizing those goals. Next, it traces the evolution of games in participatory planning to ultimately answer the questions: what distinguishes games from other forms of participatory planning, and what can they uniquely contribute to a participatory planning process? How should engagement games be evaluated as a participatory planning technique? How can they be most effectively designed?

What is participatory planning?

For the purpose of this thesis, I define participatory planning as processes for consulting the public on policy and planning decisions, primarily at the municipal level of government. Participatory planning as a modern practice in the US arose from backlash against major urban renewal projects in the 1960s and 1970s (Shipley and Utz, 2012). Critics such as Jane Jacobs and Paul Davidoff questioned the appropriateness of the scientific rationales for the destructive changes of urban renewal, and sparked a wave of

support for better incorporating residents' preferences, values, and knowledge into urban planning decision (Shiple and Utz, 2012).

Sheila Arnstein's (1969) "ladder of participation," and the International Association for Public Involvement's (IAP2) Public Participation Spectrum (Orenstein et al., 2008) each describe a range of goals and techniques employed by planners in incorporating the public in their decision. These two works capture most of the range of perspectives found in the last fifty years of scholarship and practice of participatory planning. Arnstein's ladder ranges from "manipulation" and "therapy," which she characterizes as forms of non-participation that may masquerade as citizen involvement; to informing, consultation, and placation, which she characterizes as "tokenism," or giving citizens minimum input into decisions; to partnership, delegated power, and citizen control which she characterizes as "citizen power," or substantial agency to determine policy. IAP2's typology includes (from least to most involvement): explore/inform, consult, advise, decide, and implement. In this spectrum, earlier steps are prerequisites to later steps: so, for example, governments should seek to inform their constituents about traffic needs before involving citizens in a decision or implementation of a highway construction or new transit corridor.

Goals of participatory planning

Many planners, scholars, and citizens see public participation as an intrinsic, inherently good aspect of democracy (Delli Carpini et al., 2004). Digging below the surface,

however, reveals a range of goals for participatory planning processes, sometimes in conflict with each other. Differing goals and assumptions can lead to differences in the designs and outcomes of participatory planning processes. This section examines planning theory to determine the objectives of participatory planning, in order to have a common framework to evaluate different participatory processes and, in particular, to evaluate games' unique contributions to the goals of participatory processes.

Learning is a desired outcome of almost any participatory planning process, and there are many types of learning that participatory processes can foster. Paul Davidoff (1965), founder of the advocacy planning school of thought, wrote that learning about the technical problems of planning allows citizens to “respond to [planning proposals] in the technical language of professional planners,” permitting citizens be heard by government officials. The lowest levels of participation on Arnstein's ladder (“Informing” and “Consulting”) and the IAP2 spectrum (“Explore/Inform” and “Consult”) primarily accomplish information exchange between planners and the public. Under these two categories, the IAP2 Spectrum lists techniques such as public meetings, summits, and conferences, whose primary purpose is to present facts about plans or policies to the general public. It also includes techniques such as focus groups and surveys whose primary purpose is to collect comments and other kinds of information from the public, and techniques with both directions of information flow such as open houses, workshops, and public hearings.

Deliberative processes aim to foster a deeper understanding of policy issues through the linked processes of social learning and situated learning (Delli Carpini et al.,

2004). Deliberative processes refer to an event in which stakeholders, including members of the general public, representatives of interest groups, and/or public officials, come together to discuss an issue and, ideally, arrive at a consensus on how to approach the issue (Susskind et al., 1999). Situated learning occurs when people learn by actively engaging the topic through discussion and have a motivation to learn other than for the sake of new knowledge (McIntosh and Youniss, 2010). While this is difficult or impossible to trigger in a meeting, presentation, or focus group, deliberative dialogue is very effective at prompting situated learning (McIntosh and Youniss, 2010). The phenomenon of social learning occurs when participants learn through observing, listening to, and interacting with others on the subject (Delli Carpini et al., 2004). Furthermore, through expressing their views and listening to others, participants learn about their own motivations, assumptions, and values, allowing them to better communicate their beliefs to other participants and planners (Delli Carpini et al., 2004). Deliberation also allows participants and planners to learn about each others' opinions, motivations, assumptions, and values, thus permitting more effective and expedient dialogue (Shipley and Utz, 2012).

Participatory processes can also enable participants to learn crucial skills for elevating one's voice and making change in democracy. The collaboration skills already mentioned – forming an opinion, communicating with others, and finding mutually beneficial solutions – are one such set of skills. Another is being comfortable and knowing how to respond to conflict: according to (McIntosh and Youniss, 2010), American adolescents tend feel negatively towards partisan conflict and conflicting

political opinions. As a result, they tend to avoid political conflict, which may come from adult sources such as their parents. However, since conflict and differing opinions are likely to always be a part of American democracy, it is important for adolescents and adults alike to learn how to respond constructively to conflict (McIntosh and Youniss, 2010). Finally, deliberative processes can help build the capacity for participants to break down larger problems or concerns into incremental, achievable political goals (McIntosh and Youniss, 2010)

Political efficacy is another potential goal of participation which stems from social learning and civic learning. Beaumont defines political efficacy as the “belief that political change is possible and that we have the capacity to contribute to it through deliberate judgments and actions” (Beaumont, p. 525). Building the skills to effect change mentioned above is an important prerequisite for political efficacy but does not guarantee it: it also requires having role models of political efficacy, supportive relationships and networks, and an empowered and resilient political outlook fostered by interactions that promote hope, courage, and perseverance (Beaumont, 2010). Different than trust in government or the planning process, political efficacy is a belief in one’s own agency in the political process. In addition to being an outcome of deliberation in a political forum, political efficacy also enables higher quality deliberation: from a psychological perspective, efficacy augments our ability to handle complex information and difficult tasks (Beaumont, 2010). Individuals with a high sense of efficacy are more able to perform analytical thinking tasks and focus on goals while individuals with self-doubt tend to focus on what could go wrong and give up (Beaumont, 2010). Thus,

participatory processes which aim to foster both civic learning and political efficacy have the potential to initiate a virtuous positive feedback loop in which quality deliberation contributes to political efficacy through individual civic learning, observing role models, and hopeful interactions, which in turn leads to even higher quality deliberation.

Related to political efficacy, projective agency is the ability of an individual or group to imagine and aspire to possible future worlds. Emirbayer and Mische call this “projectivity” and define it as the ability to “respond to problems of the present by removing themselves in a way that allows exploration of alternatives” (Emirbayer and Mische, 1998, p. 976) They conceive of projectivity as one of the the three elements of human agency (the other two being the iterational element and the practical-evaluative element, which are beyond the scope of this paper), as it gives individuals the agency to rethink seemingly immutable, “received structures of thought and action” as a first step to transformational change (Emirbayer and Mische 1998, p. 976). Dewey similarly describes the “reflective capacity to read future results in present ongoing” as a core objective and enabler of democratic participation (Dewey and Mische 2009, pg. 697). In addition to an intellectual practice, projective agency is an emotional practice which spawns hope. Mische describes hope as the motivating force behind “the dialectic between the old and the new, between the reproduction and the transformation of social structures as these figure in thinking and acting individuals” (Mische, 2009, p. 694). Similarly, in her discussion of utopian imagination in planning, Susan Fainstein writes of developing a vision of a utopian, just city as a necessity for political will: “[C]reating a force for change requires selling a concept [...] making people think they want what

you're offering" (Fainstein, 2000, p. 15). Perhaps Desroche puts it most simply: "[F]orces of pressure pose and define a question. But it is the forces of aspiration which formulate and offer an answer" (Desroches abud Mische 2009, p. 694). Truly transformational change requires the ability to imagine and hope for a better future. Fostering projective agency should be an objective of any participatory process interested in this type of change.

Tolerance, a natural outcome of participants learning about each other, is another goal of many participatory processes, and flows from learning about others' needs and seeing problems from their perspective (Delli Carpini et al., 2004; McIntosh and Youniss, 2010). Tolerance, in turn, can help to break partisan deadlocks caused by polarization and a lack of dialogue and understanding between progressives and conservatives (Page, 2015; Gibson, 2006).

Consensus is another desired outcome of deliberative participatory processes. The process of clarifying one's own needs as a participant and hearing others' needs enables identification of mutually agreed facts, beliefs, and values (Susskind, 1999). This, in turn, enables participants in a deliberative forum to work towards a shared understanding of problems they are trying to solve and potential solutions (Page, 2015; Nabatchi, 2010). Assuming that all stakeholder groups are represented, achieving consensus through a deliberative process should result in a compromise that would be mutually beneficial to all stakeholders involved, if implemented.

Consensus is not possible in every case, but another important collective outcome for many participatory processes is the collective capacity to self-govern. Theda Skocpol

(1997) describes the government's role in creating "opportunity structures" for voluntary civic associations. Since the time of Alexis de Tocqueville's seminal text *Democracy in America*, such associations have played a key role in holding elected officials accountable to the interest of stakeholder groups (Skocpol, 1997). Social capital, or the quality and quantity of social networks in a city, show a positive relationship with performance of representative institutions including voting rates, school achievement, and economic development (Putnam, 1995). This is a potential highly desirable outcome of participatory processes that allow participants to make lasting connections, especially long-term participatory processes rather than one-time events (Gibson, 2006). While a participatory forum can only directly address an issue limited in scope and stakeholders, building social capital can increase the capacity of a city to deliberate and address problems outside of such forums and contribute to more responsive, representative, and informed policy decisions (Gibson, 2005; Innes and Booher, 2018).

From the planner's perspective, participatory processes also increase the sense of legitimacy for their actions and ease of implementation. Establishing ground rules for a participation process, maintaining transparent discussions, clearly designating decision making powers, and face-to-face negotiations foster this sense of legitimacy among participants (Page, 2015). Assuming participants represent the major stakeholder groups in a planning or policy question, the perception of legitimacy is likely to be widespread (Shiple and Utz, 2012).

Finally, involving marginalized communities that have traditionally been politically excluded is another goal of participatory processes (Godwin, 2014). This is

especially true in processes that select representatives of stakeholder groups as participants. These participants can then involve other members of their communities – often citizens who are less likely to participate in decisions or voice their opinions – through backtable discussions between representatives and the communities they represent (Susskind and Carson, 2008).

Objective	Description	Prerequisites
Information exchange	Presenting to, collecting information from citizens	
Situated learning	Learning through active engagement, discussion	Deliberation
Social learning	Learning from observing and talking to others Clarifying one's own opinions, motivations, and values Learning about others' opinions, motivations, and values	Deliberation
Civic learning	Learning skills to effect change	Deliberation Civic role models
Political efficacy	Belief in one's ability to effect change	Civic role models Supportive interactions Empowered and resilient outlook Positive feedback
Projective agency	Ability to imagine and aspire to possible future worlds	Political efficacy Perspective taking
Tolerance	Respect for and understanding of others' different opinions, motivations, and values	Deliberation Social learning Perspective taking
Consensus	Identifying and agreeing to mutually beneficial decisions	Deliberation Social learning Perspective taking Tolerance
Capacity to self-govern	Opportunity structures Social capital Enabling deliberation, political participation outside of government-initiated participatory processes	Deliberation Regular opportunities for interaction
Legitimacy	Support for the policy process and outcome among all or most stakeholders	Transparent process Including all stakeholder groups
Involving marginalized communities	Equitable representation for low-income citizens, communities of color, immigrants, and other groups historically excluded from political spaces	Fostering trust

Table 1. Goals of participatory planning

Problems with participatory planning

Perhaps the most important problem of public participation processes is that they provide another lever for citizens whose interests are already disproportionately represented to further their interests. Micheal Delli Carpini, Fay Cook, and Lawrence Jacobs (2005) refer to this as "gated democracy": on the whole, the same group of relatively wealthy Americans who are already politically engaged and use their money to support their political causes and candidates are the most likely to participate in participatory planning efforts. The American Political Science Association's Task Force on Inequality and American Democracy dramatically wrote, "Citizens with low or moderate incomes speak with a whisper that is lost on the ears of inattentive government, while the advantaged roar with the clarity and consistency that politicians readily heed" (Jacobs et al., 2004, p. 1). In an analysis of Boston area public meetings regarding housing and land use, Katherine Einstein, Maxwell Palmer, and David Glick (2019) find that participants tend to be overwhelmingly older, wealthy, male homeowners who oppose new development, meaning these meetings tend to amplify the voices of those already with political power whose interest is to maintain the status quo. In a separate paper, Einstein et al. (2018) further demonstrate that participants in these same meetings are overwhelmingly white, even in areas where white people are not in the majority. If marginalized communities are systematically underrepresented in participatory processes, those processes risk reproducing unequal access to other means of political persuasion. Furthermore, as Fine (1994) writes, those who are at the margins of a system are the most knowledgeable about that system's failures. Thus, participatory processes without the participation of

marginalized communities lack their wealth of knowledge about how government services are failing and what solutions could address these shortcomings. This leaves designers of participatory processes with two major challenges: first, understand why certain groups are underrepresented in participatory forums, and second, design processes accordingly that meet these groups' needs. These trends in participatory processes run counter to voting trends: Jon Rogowski and Cathy Cohen (n.d.) find that young people of color have sustained large increase in voting participation since the 2008 election, which brings up the question how can participatory processes tap into increasing engagement in other political domains?

Another potential problem especially is a negative or counterproductive group dynamic. Groups working together can experience groupthink, in which the goal of consensus overrides all other goals, leading the group to make irrational decisions or causing group members to forsake their own interests due to social pressure to conform (Delli Carpini et al., 2004). Furthermore, deliberation can actually cause opinion polarization rather than consensus (Delli Carpini et al., 2004). Shapiro gives the example of emotionally and ethically driven issues such as abortion access and gun control. These issues are more likely to trigger an emotional response among participants and they are unlikely to see other perspectives or be motivated to come to a consensus. Thus, a challenge for planners of participatory processes is to ensure that group interactions are structured to counter groupthink and polarization and to ensure all participants' views are heard and respected. While Shapiro gives examples of polarizing issues on a national

scale, planners should be aware of what particular issues could be polarizing at the local scale.

Fainstein (2000) critiques the core assumption of deliberative processes that deliberation and reaching consensus leads to just outcomes. In her view, focusing too much on quality dialogue and reaching consensus on specific policy issues is blind to the larger social and economic structures of marginalization. She claims that while deliberative approaches may result in a marginalized community receiving benefits in return for the nearby siting of a toxic facility, for example, such an approach is unlikely to address the larger structural and spatial pattern of such communities facing disproportionate exposure to pollution. Planners could respond to this critique by explicitly incorporating dialogue on these power structures, encouraging participants to imagine what could be done to address structural inequalities even if outside the power of the participatory forum, and critically consider the inherent limitations of participatory planning exercises.

Furthermore, governments may be unwilling to initiate participatory processes. Berry et al. note that public policy experts may see consulting technical experts a more valuable source of information and use of their time than consulting the general public (Berry et al., 1993, p. 8). Planners and local policymakers may also believe that participatory processes unnecessarily slow or halt important decisions (Bryer, 2009; Yang, 2005). In a National League of Cities survey of municipal officials, most agreed with the goals of participatory planning in theory, but doubted its effectiveness in practice and were divided on whether their cities should systematically incorporate it into their

processes (Godwin, 2014). Page (2015) claims that city officials are particularly hesitant to initiate participatory processes for wicked problems – problems with no clear solution that involve multiple stakeholders that understand them differently – because one agency leading a participation process might make other agencies with a stake in the issue feel spurned. Finally, officials often fear losing control over how an issue is addressed or they may fear criticism for not creating a solution themselves (Innes and Booher, 2018).

Even when governments initiate participatory processes, they may have no intention or commitment to act on the results of those processes. Some participatory processes are intended simply to placate a dissatisfied public (Arnstein, 1969). There is often a mismatch between planners' and participants' expectations of the end product: while citizens want concrete action items, planners often seek broad visions and policy directions instead (Shipley and Utz, 2012). Furthermore, planners may design participatory processes with a goal of justifying their predetermined framing of the problem and proposed solution, limiting the possibility for learning to occur in the process (Innes and Booher, 2018). This was central to Davidoff's (1965) critique of participatory planning processes of his time, in which planners structured meetings so that citizen input was limited to reactions to agency's proposed plans, thus constraining participants ability to propose alternative goals or future actions.

Even when governments support participatory processes, resource constraints often prevent governments from launching participatory campaigns. This especially true for processes higher on Arnstein's ladder or the IAP2 spectrum, such as deliberative processes. The more dialogue is involved in a process, the more demand it puts on staff

time, facilities, and budgets (Shipley and Utz, 2012). Often, the consequence of this is that deliberative processes are one-off exercises and tend to involve a small number of citizens (Shipley and Utz, 2012). Thus, cost-effectiveness is an important consideration for participatory processes (Shipley and Utz, 2012). What cost-effective means is context dependent, but generally it means spending fewer resources to accomplish the goals outlined in this section.

Finally, citizens may lack the time to participate in participatory processes. According to a survey conducted by Clary and Snyder (2002), while citizens have generally favorable views of participatory processes, this does not necessarily translate into actually taking part in one. Since participatory processes involve a time commitment, lack of free time is often what keeps interested citizens from taking part (Shipley and Utz, 2012). Citizens may also suffer from consultation fatigue if there are many attempts to involve them in government processes (Kim, 2018). To address this challenge, planners

Problem	Objective
Over-representation of politically powerful groups	Involve marginalized communities
Negative/counterproductive group dynamics	Prevent negative group dynamics
Lack of awareness of larger social and economic structures	Acknowledge larger structures and discuss limitations of participatory forum Projective agency
Unwilling government No intention or commitment to act	Build trust of government in participatory process
Government lacks resources	Identify cost-effective participatory techniques
Citizens lack time	Reduce barriers to entry (time required, location, transportation costs, childcare)

Table 2: Problems of participatory processes

should consider what motivates citizens in general and in their city, and how those motivating factors can be incorporated into participatory processes.

Summary

This section identified the primary goals of participatory processes according to the planning theory literature. It also surveyed the current problems with participatory processes that prevent them from meeting these goals. Table 2 lists general strategies for addressing these fundamental problems. Table 3 combines the two into a single list of objectives that include the goals and problems of participatory processes. This will provide the framework for analysis of games as participatory processes in the following sections. To answer the overarching question of what can

Objectives
Information exchange
Situated learning
Social learning
Civic learning
Political efficacy
Projective agency
Tolerance
Consensus
Capacity to self-govern
Legitimacy
Involve marginalized communities
Prevent negative group dynamics
Acknowledge larger structures and discuss limitations of participatory forum
Build trust of government in participatory process
Identify cost-effective participatory techniques
Reduce barriers to entry

Table 3. Objectives for analyzing games' contribution

games uniquely contribute to this space, I will seek to answer which of these objectives do games accomplish and how.

History of games in urban planning

Although Arnstein's ladder and the IAP2 Spectrum do not include games in their typologies of participatory processes, games have been used as participation techniques in the US for the entire modern period of participatory planning. Jennifer Light (2008) describes the history of the Model Cities Program that first brought simulation board games to a modern urban planning context. A response to community outrage over urban renewal programs, the Model Cities program ran in 150 cities from the mid-1960s to the late 1970s to promote a "marriage between science and urban affairs" (Light, 2008, p. 349). It included two board games designed to encourage systems thinking among players: *Our Town* and *Fair City*. In *Our Town*, members of the public, Model Cities staff, and local municipal employees played together. The participants divided into three teams: community members, the Mayor's administration, and the Department of Housing and Urban Development. Importantly, team assignment was random, so most participants played on a team that did not correspond to their identity in real life. Within their teams, players rank urban issues that are most important to them – for example, homeownership assistance, drug rehabilitation centers, and school breakfast programs – and bargain with other teams for allocation of city resources to those priorities. After collectively purchasing facilities and funding programs in line with the chosen priorities, dice rolls determined the successes and failures of the chosen strategies. The game concluded with

reflection questions on individual and collective learning during the process. *Fair City* had similar rules and structure, however it included a scoring system for how well each team was able to accomplish their goals, and at the end a winning and losing team were determined. The primary goals of *Our Town* and *Fair City* were:

1. to promote systems thinking among participants – that is, to see how different domains of urban policy affected each other. For example, the games encouraged participants to consider how interventions in the built environment affect economic development;
2. To establish a collaborative environment and empathy between city planners and members of the public;
3. To reach a consensus among planners and the public around policy priorities and potential programs; and
4. To increase communication with previously disconnected neighborhoods. (Light, 2008)

In 1970, funds for the program were cut from \$3.8 million to \$2.3 million, so there was never a formal evaluation of how the games met these goals (Light, 2008, p. 367). However, anecdotal evidence indicates that administrators were happy at the citizen learning that occurred, as well as the smoothing of relations between citizens and governments (Light, 2008). Citizens also appeared to value the program: for example, advocacy groups in Los Angeles with a strained relationship with HUD that had previously sued to stop urban renewal efforts actually sued again to continue the Model

Cities program after the funding was canceled (Light, 2008, p. 357). However, in service of the goals of citizen learning and collaboration, the Model Cities games neglected and even undermined other key goals of participatory processes. While elected and appointed officials reported learning about citizens' viewpoints by role playing as citizens during the game, facilitators of the games were trained to ignore any local, city-specific issues during game play: the *Our Town* operator's manual advised, "*Do not* let them discuss their real local situation. Stick to the game" (Light, 2008, p. 364). Such a directive implies an imbalanced flow of learning: while citizens were learning quite a lot about systems thinking and urban planning, planners were only learning about citizens' abstract priorities within the confines of a generic, hypothetical world, rather than the concrete concerns of life in their city. In addition to undermining the learning objective of participatory processes, it also undermines the action objective, since it is difficult to base effective action on results from an imaginary world without a discussion of their application to the real world. This perhaps explains why, despite signs of improving the process of participation, Model Cities had no observable impact on quality of life in the urban areas where it was used before the program was cut (Light, 2008)

More recently, Larry Susskind, Danya Rumore, and others have used role playing games as a participatory planning method. In four towns in New England from 2013-2015, Susskind and Rumore (2013) developed role playing simulations (RPS) for each town in which participants, including both citizens and public officials, take on a role in a fictional town faced with similar challenges to their own. Together, the participants had

to negotiate a solution to collectively manage the risk posed by coastal flooding and other symptoms of climate change. The goal of these RPS's was to:

1. Promote immersive learning of an issue for which a “sense of being there” is important to a complete understanding of the risks associated with coastal flooding;
2. Provide opportunities for perspective taking, the ability to identify with the role you play in a RPS;
3. Foster an environment conducive to trying out innovative and unconventional approaches to adaptation;
4. Encourage discussion between participants with different viewpoints, including residents and public officials alike, for creative problem solving; and
5. Build the adaptive capacity of coastal communities facing coastal flooding risks (Susskind and Rumore, 2013)

They found that taking part in the RPS increased participants' concern about climate and their desire for adaptation planning in their town. This effect was greater for those who came into the game with less knowledge or concern about climate change. The RPS also increased participants confidence in their town's ability for adaptation planning, due to seeing fellow residents and public officials take the issue seriously. Additionally, it increased participants' empathy for different perspectives. Finally, participants report having learned together and discussed creative solutions to coastal vulnerability (Rumore et al., 2016).

Web technology has significantly expanded the possibilities of participatory planning games. The Emerson College Engagement Lab has worked with cities to produce online games for master planning processes, including *Participatory Chinatown* in Boston in 2009 and *Community Plan-It*, a platform used by several cities in the US including Boston, Detroit, and Philadelphia (Gordon and Schirra, 2011; Gordon and Baldwin-Philippi, 2014). In *Participatory Chinatown*, players choose a character who lives or works in Chinatown and completes tasks as that character, all while learning about the challenges that that character faces (Gordon and Schirra, 2011). *Participatory Chinatown* also included an in-person component where players discussed different development scenarios in Chinatown informed by how it would affect their character and other characters (Gordon and Schirra, 2011). *Community PlanIt* is a virtual forum in which participants complete real-life challenges to gain points – for example, through visiting different parts of the city, attending engagement events, or learning about the city’s history (Gordon and Baldwin-Philippi, 2014). They then have a chance to discuss these experiences on the forum. Goals of these online role-playing games included:

1. Fostering empathy and perspective taking for different characters in *Participatory Chinatown*;
2. Experiential learning, either through exploration of a virtual environment, or prompting exploration of the city;
3. Enabling more citizens to play even if they cannot attend in-person meetings; and
4. Collecting data about citizens’ interactions and preferences (Gordon and Schirra, 2011; Gordon and Baldwin-Philippi, 2014)

Gordon and Schirra (2011) found that the role-playing aspect of *Participatory Chinatown* was effective at increasing participants' empathy towards others' experiences with development in Chinatown. *Community PlanIt* was successful in reaching out to many participants in settings outside of formal meetings. This success is evident in one remarkable statistic from Detroit: during the 4-week deployment of their version of CPI, *Detroit 24/7*, there was always at least one person playing at all hours of the day (Dan Pitera, personal communication, April 9, 2019). Both collected rich datasets of participants actions and discussions with each other that would be impractical to collect in an in-person setting (Gordon and Schirra, 2011; Pitera, 2019). These provide much more detail on participants' preferences and thought processes than traditional participatory forums.

Finally, other efforts have attempted to base engagement efforts around games about cities that are already popular in their own right. For example, *Participatory Pokémon GO* was another Emerson Engagement Lab project aimed at tapping into *Pokémon GO* players' enthusiasm for exploring Boston in augmented reality (Taylor, 2017). In the project, players considered which sites in Boston were important to them and proposed them as new PokéStops, local landmarks which attract Pokémon and provide rewards in the game (Taylor, 2017). In their recent Master Planning process, Johns Creek, GA, offered children older than 8 a chance to build what they think Johns Creek should look like in *Minecraft* (Brasuell, 2017). Adults had the opportunity to use a Lego table to provide more nuanced feedback on the master plan (Brasuell, 2017). While these efforts have been experimental, they point to the possibility of using existing games

that incorporate augmented reality, design, and simulation to create a participation process around it that is genuinely fun.

Synthesis

Given how games have been effective and ineffective as approaches to urban planning in the past, what can they uniquely contribute to the goals of participatory planning? And, which of the problems of participatory planning could they help address? From the review of games above, all had the following strengths:

1. **Experiential learning:** all of the games above conveyed information about a technical subject to a lay audience through simulating an experience, providing a means to learn by doing instead of absorbing, and making the subject matter more relevant to participants' lives. This clearly furthers the learning goals of participatory processes, at least in the direction of participants learning.
2. **Perspective taking:** all of the role play simulations involved assuming a character which, in the case of Rumore and Susskind's and Gordon's studies, demonstrably increased participants' empathy for other community members. This suggests games are especially effective at furthering the goals of tolerance and consensus.
3. **Civic learning and political efficacy:** all of the games involved making some kind of intervention to remedy a problem in the community, and providing real-time feedback about the effectiveness of those interventions. This suggests that games are superior at teaching about effecting change and promoting political efficacy,

- and even contributing to the virtuous positive feedback loop of learning and efficacy.
4. Information on participants: all of the games above produce some kind of information. Rumore and Susskind's games and the Model Cities games produced a list of priority problems and potential strategies to remedy them that were agreed on over the course of the game. *Participatory Chinatown* and *Community PlanIt* produced volumes of data such as participant actions and comments in the online environment. This can help with the goal of learning about participants' preferences, although the way in which data is collected and presented clearly affects the quality, quantity, and usefulness of this data to planners.

The review provides mixed evidence for the following strengths of games:

1. Imagination: While Rumore et al. (2016) found evidence for prompting participants to think of unconventional adaptation strategies, the Model Cities games seemed to purposefully constrain participants' actions and thoughts to the program administrators' understanding of the urban problems that were simulated in the game. Games inherently have a tension between player freedom and constraints, so the degree to which games can contribute to an imagination of other potential future or creative problem solving seems to depend on the game design.
2. Motivation: while the examples of Johns Creek *Minecraft* and *Participatory Pokémon GO* are inherently fun since they leverage existing popular video games,

the other games do not address why participants play them. Whether it is because participants find them fun, or feel fulfilled for having contributed to local policy, or some other reason, likely has bearing on who is motivated to participate, and whether the game can successfully engage new citizens and populations compared to traditional participatory planning methods.

3. Cost-effectiveness: the in-person games require a lot of time and preparation to execute, and only engage several participants at a time. While *Participatory Chinatown* did not engage many residents outside of the in-person meetings in which it was played, *Community PlanIt* seemed to be successful at engaging larger numbers of residents than traditional meetings, suggesting the potential for the web to make games more cost-effective than deliberative processes in terms of how many resources are required to bring a participant to the forum.

This comparison of game strengths to the goals and common problems with other participatory planning techniques suggests how games might uniquely contribute to participatory planning processes. The next section tests some of these hypotheses in the context of a subset of participatory games: games used for participatory budgeting.

Chapter 4: Case Studies

Based on the findings from the previous chapters, there is clearly the potential for games to substantially contribute and improve on democratic processes. However, there are some problems with participatory planning processes that games are not well suited to address and may even exacerbate. This chapter aims to test some of these assumptions from the previous chapter by applying them to two case studies of using participatory games to inform budget policy. For each case study, this section will investigate the following questions:

1. Which of the objectives identified in Chapter 2 does each game seek to address?
To what extent do they fulfill these goals? What features enable them to do so?
2. What major problems remain for each game?
3. Given the potential unique contributions of games to participatory processes, what else could these games aspire to do, with modifications to the actual game play, facilitation strategies, or deployment of the game? What other potentials exist for participatory games, for informing budget policy in particular?

Big Easy Budget Game

The Big Easy Budget Game (BEBG) allows New Orleans residents to explore how the New Orleans City Budget is allocated and reallocate it according to constraints on how it is spent and the participant's priorities. Originally only an in-person game, it is now mostly an online game.

Participants are greeted with a landing page that explains background information on the budgeting process, rules of the game, a brief history of the game, and an explanation of how data from the game is used. After pressing play, participants can choose either from the English and Spanish versions of the game. Then, participants must log in with either Facebook, Google, or an email. On the next screen, participants are presented with a video introducing the game and more detailed instructions. In the actual game,

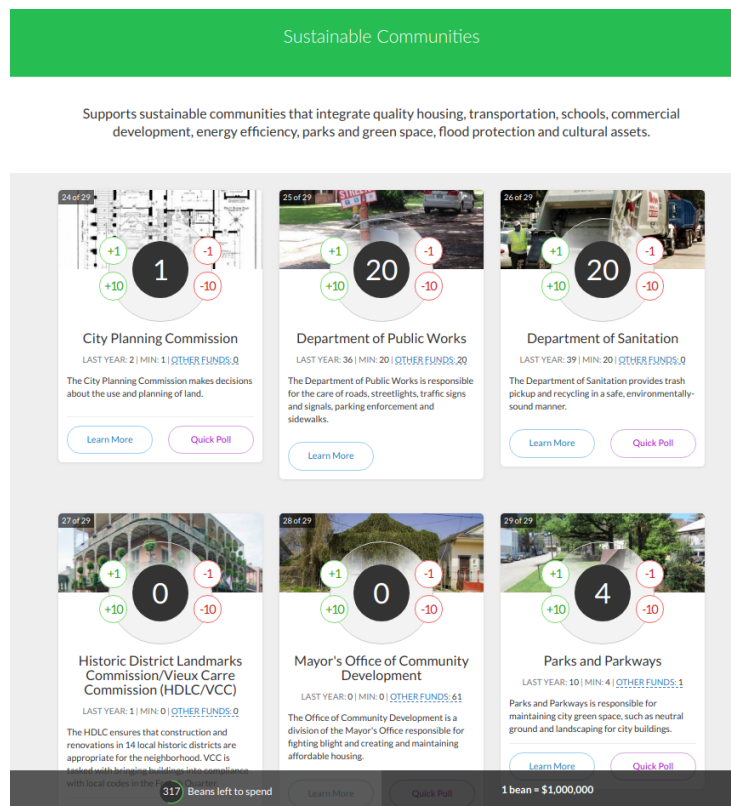


Figure 1. User interface of the Big East Budget Game. Users see different budget items, grouped by broad policy categories. Each item has a corresponding description and buttons to increase or decrease allocation of "beans".

participants are presented with 307 of a total 317 “beans” to spend of a total of 702 beans, where one bean represents \$1 million. Underneath, there are images for each department, along with a brief description of what they do and the minimum number of “beans” that you can give that department. The default allocation of beans for a department is set to last year’s allocation. Participants use “bean” buttons to adjust that department’s allocation in increments of one or ten beans, Certain department’s also have a “Quick Poll” option which brings up a survey question related to the work of that department. Participants must keep the budget balanced according to law in the City of New Orleans. (CBNO, 2019)

Problems with New Orleans’s Budget process

The Big Easy Budget game was created in 2014 by the Committee for a Better New Orleans (CBNO) (Kelsey Foster, personal communication, Feb. 28, 2019). Originally, the game was conceived as a way to teach participants in community meetings about the complexities of the city budget. CBNO is an advocacy group that seeks to create opportunities for civic engagement, open government, and dialogue across race, class, and generational lines. Founded in 2003 from a merger of two different advocacy groups, it continues the work of the Metropolitan Area Committee which for over five decades has focused on public engagement and civil rights issues (“History”, 2012). According to Kelsey Foster, Budget Campaign Manager at CBNO, CBNO first started engagement work around the city budget after Hurricane Katrina. In 2009-2010, CBNO and other community organizations were hearing from residents that they were frustrated and

confused that millions of dollars in recovery money were coming into the city from FEMA, yet many neighborhoods were still visibly damaged: some neighbors had not yet come home, and many streetlights were not turning on (Foster, 2019)

Furthermore, in 2010, then-mayor Ray Nagin came under scrutiny for corruption (Robertson, 2017). These allegations, combined with a generations-old experience with corruption in the city, exacerbated feelings of frustration and confusion over where recovery money was being spent and why residents saw few tangible improvements in their neighborhoods. CBNO recognized that residents wanted change, and yet without understanding where money was being spent, which expenditures were flexible, and which agencies were responsible for which services, residents and community organizations could do very little to effect change. In 2010, the only way to learn about the budget was to get to City Hall in person and check out a copy (Foster, 2019). Besides the barriers of knowing where to find the budget and having the time to do so, New Orleanians also face low rates of financial literacy, with approximately one-third of the city unbanked or underbanked (Foster, 2019). As a result, CBNO and other organizations set out to engage residents by teaching them about the budgets while collecting their feedback and enabling them to take action.

Before the beginning of the Big Easy Budget Games, there were several attempts to better engage citizens with the city budget. First, Mayor Mitch Landrieu, who succeeded Nagin in 2010, started by publishing the budget online, a major step towards transparency from a paper-only budget. However, the online copy remained fairly inaccessible: it was an 800-page PDF document, not searchable or machine readable, and

incomprehensible to someone who was not already versed in budget policy. Second, the Landrieu administration began having town halls on the budget in each of the city's five council districts (Frank Rabalais, personal communication, March 22, 2019). According to Foster, residents were excited about the town halls at first, eager to learn about the budget and have their voices heard. However, the town halls did not effectively educate participants about the budget, and as a result the dialogue was often off topic: for example, many citizens voiced valid concerns about school and transit funding, even though these areas are not covered by the city budget (Rabalais, 2019). Furthermore, these townhalls provided limited opportunities for residents to express their opinions or for any dialogue around budget issues as each resident's speaking time was limited to two minutes at a microphone addressing city officials (Foster 2019). By the end of the Landrieu administration, both excitement and attendance at these events dwindled: while the first series of town halls attracted hundreds of residents, the most recent town halls attracted only around 20 participants each. When Mayor LaToya Cantrell was elected in 2018, she canceled the budget town halls (Foster, 2019).

CBNO tried their own meetings as well. In Foster's words, "The first year, we went around neighborhoods with spreadsheets, and that didn't work. We needed something more visible and tangible." CBNO initially wanted to design a formal participatory budgeting process to give residents real control over a portion of the budget, and to make residents feel more connected with city processes. Furthermore, CBNO identified participatory budgeting as a way to include the perspectives of the growing population of Latin American immigrants, both documented and undocumented, as well

as formerly incarcerated residents, many of whom could not legally express their budget priorities through voting. However, Landrieu, whom Frank Rabalais described as “my way or the highway [and] autocratic”, did not see the value in a city-led participatory budgeting process.

Development of the game

In-person bean activity

Based on New Orleanians’ frustrations with the post-Katrina budget, the failing of traditional meetings, and the attitude of the Landrieu administration, CBNO faced a unique challenge: How could they simultaneously educate citizens about the budget, give them a chance to voice their priorities, and shape budget policy without a formal, city-led participatory budgeting process?

The Big Easy Budget Game was born out of this need. In 2014, CBNO hosted the People’s Budget Summit, a meeting for citizens who were interested in Foster worked closely with their community council, a core group of volunteers excited about budget outreach. Together, they designed an activity to allow residents to learn about the budget experientially by making it tangible and interactive. Participants were given red beans, a symbol of New Orleans’s unique cuisine and culture, each bean representing \$1m in city funding. CBNO designed the allocation process to be as realistic as possible, so that participants faced the same choices as the mayor and city councilors face during the budgeting process. Participants were limited to allocating the city’s General Fund. This meant that they could not modify approximately two-thirds of the budget, which is

dedicated to supporting police and fire pensions, federal consent decrees that require funding public safety and prisons, and other funding mandated by federal and state policy. Said Foster of these constraints on agency, “It hurts. New Orleanians don’t like it. But it’s an important teaching moment to show how much money is gone off the top.” Furthermore, within the allocation of the General Fund, each department had a minimum number of beans that participants had to allocate in order to keep the city functioning.

The commitment to realism also meant that the game reflected peculiarities of city government structure. For example, one of the largest budget allocations is to the “Department of Miscellaneous” which, though it sounds trivial, encompasses any department that is not required by city charter. Says Foster:

“Everything you love is in [the Department of Miscellaneous]. Parks, the public defenders, the Council on Aging, Veterans Affairs, all kinds of groups that matter to people you’d never find because they’re squirreled away in a strange department that you’d never give your money to. When council gives money to the Department of Miscellaneous, you don’t hear those important budgets.”

While adhering to this structure may confuse participants somewhat, Foster felt it was important to maintain the Department of Miscellaneous to draw attention to its importance. At the end of the activity, CBNO painstakingly counted each bean in each bucket to collect data on participants’ preferences for how they would spend their money.

Online version

CBNO judged the in-person game such a success that in 2015 they decided to recreate the game online. Working with local web development firm Legend, CBNO retained many of the design elements from the in-person game. Informed by the design of the in-person game with added opportunities from using a web environment, CBNO set out to educate more residents about the budget than was possible with a meeting format, reach out to marginalized communities whose voices were underrepresented in the policy process, and collect data on how participants allocated budget resources to inform the Mayor and City Council.

Assessment

This section evaluates (1) which public participation objectives identified in Chapter 2 does the Big Easy Budget Game attempt to address; (2) how effective is it at addressing these problems; and (3) what are areas of unmet potential, or goals and problems that the game could address with minimal modification. As described in Chapter 2, the analysis draws on four different data sources:

1. An interview with the BEBG's principal designer and proponent, Kelsey Foster, who works as a Budget Campaign Manager with the Committee for a Better New Orleans.
2. Four interviews with participants of the BEBG:
 1. Frank Rabalais, past president of the Gentilly Terrace and Gardens Neighborhood Association, who participated in the Big Easy Budget

- Game when Foster came to speak about it and facilitate playing the game at two of the Neighborhood Association's meetings in 2017 and 2018;
2. Emily Wsiclo, who first played the game on her own in 2015 and later played it as part of a community leadership seminar in 2016;
 3. Morgan Augillard, an urban planning student at MIT who played the BEBG on her own in 2019; and
 4. Chris Daemmrich, an architect, artist, and activist, who played the game in 2018 and 2019 after seeing it on social media.
- b. Six responses to an online survey advertised by CBNO to BEBG participants
 - c. CBNO's *Big Easy Budget Game Report for 2018*, which presents recommendations for the city's budget based on participants' responses to the BEBG.

Objectives of public participation

Situated learning

CBNO felt that the in-person game successfully allowed residents to learn about the budget through experiencing the allocation process. So, in the online game, they retained many elements of the initial design, including keeping the buckets as realistic as possible and using virtual red beans to symbolize \$1 million of city expenditure. It includes new features as well. Users are greeted with an instructional video before they enter the game to allow for individual play without a facilitator giving instructions. As with the in-person game, educating residents about how the budget works is a primary goal for CBNO. The

online game continues to restrict residents' input to the General Fund and reflects the structure of the actual budgeting process to inform citizens what is within and outside of City Council's control. Each bucket of funding has some description to educate players on what is included in that bucket and how the money is spent. Foster explains that they incorporated "a layering of how much you can learn as you go through the game. Some people take a lot of time to go through and read everything. Other folks, younger people tend to play faster and infer what's going on and roll through."

The Big Easy Budget Game seems very effective at teaching residents about how the budget works. Five of six survey respondents indicated that they "completely agree" that they learned a lot about the city budget. Of all of the positive outcomes that the survey asked about, there was the most agreement on learning about the budget process. Likewise, all four of the interviewees viewed learning about the budget as the most important takeaway from the game, both for themselves and for other participants as well. Wsiculo said "I thought it's a super useful and accessible tool to an everyday resident or person, so... as I'm thinking about myself as a person who hasn't worked in policy or dealt with any sort of city government budgets this is a helpful tool to get me to understand where my tax dollars are going...." For Augillard, the experience allowed her to better relate to budget allocations that are so large that most people have no personal reference point:

"When you get into many millions of dollars, very few citizens have encountered millions in their lives so conceiving of how you divvy out millions of dollars seems overwhelming at first. [...] I appreciated them saying this is how much they

got last year and this is what more or less money means for them in basic terms. I get what [departments] do now and what [they] use money for.”

Similarly, Rabalais brought up learning about the departmental minimums, saying “the idea is that there’s a baseline funding amount for various departments or functions of city governments. The game’s parameters only allow to add or subtract from the baseline funding amount...” As an engaged citizen, he echoed CBNO’s concern about a lack of knowledge about budget policy and what happens at City Hall in general:

“I feel as though there’s enormous power distance in New Orleans - we have a large disadvantaged population ... that don’t necessarily understand how the city runs things or how it funds things, and so getting to a point where every individual every adult person has some sense of how city spends its money and how to make meaningful suggestions and demands to city gov that’s really valuable. Failing that, what people tend to do is say, ‘Oh, the city wastes so much money. Why can’t they fix streets?’ General, grousing questions that can’t really be satisfactorily answered and don’t really advance discourse or lead to better public policy”

Social learning

Gameplay in the BEBG does not include interaction between participants, so it is not designed to promote learning about other participants. However, the BEBG has been used as part of meetings or other group setting. Interviewees and survey respondents played the game in very different settings: of the ten total, three played in a group setting, five

played alone, and two played in both types of settings. The three respondents who had only played alone rated the game on average 3 out of 5 in terms of how much they learned about participants, while those who had played in a group setting rated it 4.3 on average. One survey respondent who had played in a group setting commented:

“I enjoyed the debrief the most. After learning about the city budget it was great to discuss how others feel and see how we as residents could work together to support budget improvements and advocate for changes.”

Of the interviewees who played the game in a group setting, Wsiclo and Rabalais differed to what extent the game allowed them to learn about other participants’ viewpoints and priorities. Wsiclo related her experience hearing other participants’ experiences with the game at the leadership academy:

“[There were] 20 people in that group made up of residents from all across the city. We played it in smaller groups. That was interesting as well to see the vast array of people’s interest and concerns in terms of where their money was going and what functions it was helping to perform.”

Rabalais, on the other hand, described his experience as more solitary:

“I seem to recall people working through the game quietly. I don’t recall a lot of conversation or people talking out loud or things like that. People took it seriously and worked through conscientiously, but I’m not sure how effective it was at provoking any real feelings.”

This evidence suggests that, while social learning is not an inherent part of the structure of the BEBG, the setting in which it is played can prompt social learning. However, this

depends on the facilitation of the larger meeting – for example, whether or not it includes a debrief or discussion after participants play the game.

Political efficacy

Since political efficacy in large part depends on interacting with a group – for example, having civic role models and receiving positive feedback – one would expect that the extent to which BEBG promotes efficacy depends on the setting in which it is played more than the structure of the game itself. Indeed, there is mixed evidence on this. CBNO convened members of city councils with constituents to play the game together, and Foster observed that the players appreciated face time with elected officials and thought it led to more constructive conversations. Survey respondents responded with 4.5 of 5 on average when asked if they would feel more comfortable talking to city councilors about the budget after having played the BEBG.

However, Wsiclo did not think that it encouraged or enabled her to take meaningful civic action on the budget. Said Wsiclo:

“I don’t know if after playing it I would have used this as an informative tool to either go to a local official and kind of discuss and get more involved... in the city budgeting process.”

Wsiclo also recommended the game to other residents in the course of her work as a community organizer, but those people similarly did not seem motivated or empowered by the game to take action: “In general, they said, ‘Oh, I’ll check that out,’ but I did not get much follow up.”

CBNO has created a soft but strong link between game results and informing policy, since city councilors rely on their data but there is no formal commitment to use the game results on the part of either the mayor or council. Yet, neither Rabalais, Wsiclo, nor Daemmrich felt during the game that they were contributing to policy. Wsiclo explained, “Given the short timeframe we had to actually play the game during this meeting, it wasn’t really conducive to I guess informing any real outcomes from it.” Rabalais remarked that people’s responses were pretty predictable: for example, his group during the game preferred more money for parks and playgrounds and less for administrative salaries. He thought that this was a pretty predictable outcome, and that nearly any resident would want that outcome. He explained that this makes him question the validity of the results as recommendations to City Council:

“The findings aren’t terribly surprising like I said. The aggregate responses track what you would expect so I’m not sure how helpful it is from the standpoint of providing actionable information for City Council.”

Daemmrich similarly did not see playing the game as a contribution to policy: “City Council has no reason to actually respect [the results of the game]. To me, forcing them to respect it would involve CBNO organizing coalition of people to hold city council responsible to respond to it.”

Discussion of larger structural forces and projective agency

These two objectives are interrelated: before being able to distance oneself from the present and imagine what else is possible, it is first necessary to acknowledge and discuss

the larger political, economic, and social structures to contextualize the work of a participatory process. Two interviewees brought up this theme and felt the BEBG could improve how it treats the social and political context of New Orleans's budget. Augillard wondered about the budget for Jefferson Parish, a neighboring parish that is predominantly white and higher-income than New Orleans, and what comparing Jefferson Parish and New Orleans would reveal about the relationship and inequality between the two:

“I think about how these two places interact or not. They are so intertwined. [...] They can't be completely separate. They're regionally dependent even if they operate as two separate entities. [...] I'm nosy about the difference in what they spend on things-- is their police budget drastically different?”

The BEBG's focus on realism and actionable data in some ways intentionally restricts the degree to which the game prompts imagination of alternatives to incremental year-to-year changes in discretionary funds, since it has a heavy emphasis on learning about the existing structure of the budget and making incremental changes based on what is politically feasible with minimum effort on the part of city council. As a result, Daemmrich felt he was constrained in his ability to consider and express support for other possibilities. For example, he mentioned that as someone who favors replacing the police department entirely with a restorative justice infrastructure, he would want some way to consider alternatives to funding the police rather than simply cutting their funding to the minimum.

Build trust of government

For CBNO's situation, learning about residents' priorities and confronting a government unfriendly to public participation became tightly linked: facing an unfriendly administration, CBNO did not want any excuse to be dismissed. Maintaining realism in how the game was structured allowed city councilors to make apples-to-apples comparisons between game data and their real budget decisions. Furthermore, the website requires participants to log in with an email, Facebook account, or Twitter account. While this does not collect any personal information, it does allow CBNO to identify unique users so that their data are not skewed by users who play multiple time. As Foster explained, "We really wanted to be taken seriously, and give no reason to doubt the data."

Quick polls are located under some buckets, which allow users to respond to questions as they allocate money. This allows CBNO to ask residents in more detail about how they make their decisions, such as asking if they would support waste collection one day a week instead of two to save money. Foster explains that CBNO worked with twelve advocacy nonprofits last year, including transit advocates, affordable housing advocates, and mental health advocates, to draft these questions to allow them to collect data to support their work.

The structure and the online format of BEBG allows CBNO to prepare summaries of participants' behavior to councilors that are structured like councilors' real budget decisions. Foster believes that their efforts to provide actionable data are a success. Despite facing an unfriendly mayoral administration during the Landrieu years, Foster

says that CBNO created a constructive partnership with City Council, and eventually councilmembers trusted CBNO and the BEBG to come to them with special data requests on issues they were working on. Furthermore, City Council has reallocated money to priorities identified through BEBG into their budget: results from the first few years indicated that residents placed a high priority on children and family services and mental health.

Involve marginalized communities

CBNO incorporated several design elements in the BEBG to make it as accessible as possible to marginalized communities. To allow Spanish-speaking residents to participate, CBNO translated the game into Spanish. They also optimized it for use on mobile devices since that is many residents' (especially low-income residents') primary or only means of connecting to the internet: last year approximately one-third of players accessed the game through a mobile phone or tablet (Foster, 2019).

	New Orleans	BEBG players
% White	30%	64%
% Black	60%	22%
% Hispanic/Latino	5%	4%
% AAPI*	3%	4%
% income > \$50,000	41%	66%
% at least Bachelor's	36%	63%

Table 4. Comparison of demographics of New Orleans with Big Easy Budget Game Players. *AAPI stands for Asian-American or Pacific Islander. Approximately 600 players played the BEBG in total. Data sources: CBNO, 2018; American Community Survey, 2017

In terms of numbers, the BEBG has been a great success at reaching people that have not engaged with the budget before: each year since starting the game,

approximately 70-80% of participants have never participated in a budget outreach process such as the Landrieu administration's town halls (CBNO, 2018). In terms of demographics, the game proportionally engages fewer marginalized groups compared to the demographic makeup of New Orleans. At the end of the game, participants have the option to take a demographic survey. Around 60% of participants complete the survey. While the survey results are not linked to participants' answers, the survey allows CBNO to get a general sense of what populations they are and are not reaching. As seen in Table 4, citizens that are white, have at least a Bachelor's degree, and high-income are a much greater share of BEBG participants than of the City of New Orleans. Furthermore, though the share of Hispanic and Latino participants matches that of the city, only about 50 users played the Spanish version of the game next year, indicating that the game is not reaching those who primarily speak Spanish. While BEBG is engaging new people in the budget process who have never been before to a budget meeting, it has been most effective at engaging those who are already well represented in political spaces.

. CBNO is aware of the need to improve their outreach to underrepresented groups. In their first year, seniors were an underrepresented group among game players. While older individuals tend to be overrepresented in participatory processes in general (Einstein et al., 2018), CBNO found that seniors were not playing the BEBG due to a lack of knowledge of or access to phones, tablets, or computers. Thus, from 2015 to 2016 CBNO successfully increased the share of players over 70 by 30% through targeted partnerships such as with the Council on Aging (Foster, 2019). Together, they brought trained facilitators and youth volunteers to nursing homes and healthcare facilities to

directly engage seniors in their living environment with someone who could help them with using technology.

According to Foster, CBNO plans to use similar tactics to partner with other organizations that advocate specifically for black residents, Latin American immigrants, and other underrepresented demographics to involve more individuals in the game that are the hardest to reach. The reasons for seniors' underrepresentation are much different than for racial and ethnic minorities who face the history and present reality of structural, systematic political exclusion. While this tactic does not directly address the root causes for underrepresentation of certain demographics, the results for seniors suggest that it could be a pragmatic tool for increasing participation among target groups.

While CBNO is committed to involving underrepresented groups, their presentation of the data reproduces the underrepresentation of marginalized groups' perspectives. As previously discussed, BEBG's participants skew towards white, well-educated, and high-income New Orleanians: the demographics whose interests are already well represented at all levels of government in the US. While CBNO acknowledges this skew, the recommendations in their report to City Council are still based on aggregate figures of skewed data. Even for categories where there is evidence of split opinions, CBNO presented one recommendation to City Council as representative of New Orleans's wishes for the budget. For example, in 2018, public safety was both the second-most mentioned area as a funding priority, but also a top answer for receiving too much funding (CBNO, 2018). The People's Budget Report attempted to resolve this conflict by hypothesizing that public safety was a priority for New Orleanians, but that

the level of funding that New Orleans Police Department was not justified by its outcomes (CBNO, 2018). In doing so, they presented one recommendation at the expense of investigating if there is a rift in residents' views of public safety. However, favorability ratings for the police are polarized nationally, especially on lines of race and political party (Fingerhut, 2017). Since the demographic surveys are not tied to individual game responses, it is impossible to tell if this indicates a divide in opinion among racial or other lines among BEBG players. In any case, this highlights the risk risk that presenting one recommendation to City Council without investigating the cause of apparent divides in the data could mask the interests of minorities or marginalized communities.

Cost-effectiveness

Foster noted that each iteration of the in-person game took a lot of time and resources, including counting each individual bean in the different buckets. This necessarily constrained how many residents they were able to include in the process. According to Foster, the move from an in-person activity to a website made the BEBG significantly more cost-effective for CBNO by cutting the amount of staff and volunteer time required to set up the materials and count all of the beans. The website easily enables one staff member to facilitate the BEBG at any community group meeting. Furthermore, the ability to share the BEBG online has allowed them to engage citizens outside the context of meetings as well.

However, Foster also explained that the move online has not allowed them to scale as quickly and easily as they had hoped. Other cities, including Nacagdoches, TX,

and Cambridge, MA, have approached CBNO about adapting the platform to their budgeting processes. CBNO is currently fundraising for the resources to upgrade their game to a software-as-a-service (SaaS) platform that will easily allow modification of the tool to other budgeting processes.

Other possibilities

The BEBG accomplishes many of the objectives of public participation identified in Chapter 3. However, there are certainly possible changes in the design and implementation of the BEBG that would make it more effective at accomplishing these goals and improving dialogue on New Orleans's budget. Chapter 3 reviews the history of games in urban planning to identify their unique contribution to participatory processes. Drawing on the strengths identified, this section examines what changes could be made to the BEBG to enhance its contribution.

Facilitation kit

As seen in the previous section, since interaction with other participants is not part of the game, group objectives such as social learning, tolerance, and consensus depend primarily on the setting in which the game is played, especially how the group settings are facilitated. CBNO could produce a facilitation kit to accompany the game that provide guidance on how to use it in a group setting. This could include, for example, instructions on how to introduce the game, how to assist players who need help, and how

to lead a discussion that promotes social learning, tolerance, and consensus on budget priorities.

Perspective taking

Incorporating player interaction, perspective taking, or some way to see how others decide to allocate their beans could allow the BEBG to contribute to the type of social learning that enables citizens to have more productive dialogues around issues like the budget and find areas of overlap and areas of compromise. When asked about what improvements could be made, four out of six survey respondents asked for a visualization to see how their results compared to other participants or compared to the actual budget. This suggests that BEBG players are already seeking this kind of learning and there is a lot of potential for fostering interaction with a slight change in how the game visualizes results.

Drawing from the games of Rumore and Susskind (2016), the BEBG could also ask players to play from the perspective of someone else in the community. While this would not directly inform players about other players' results, it would encourage perspective taking to develop empathy and tolerance of other residents' attitudes towards the budget, which are also important prerequisites for dialogue.

Imagination

CBNO could consider how to acknowledge the political, social, and economic context of the budget process and how to prompt participants to imagine how it could be

reconfigured. Comparison with other cities, and especially nearby wealthier cities as Augillard suggested, would likely be an effective first step. CBNO could also consider open ended questions about restructuring the budget from scratch or what the budget should look like in ten or fifty years as part of the follow-up form or as part of a facilitation kit.

Summary

Like many other engagement games, the Big Easy Budget Game was created to fill a gap in democracy: the failure of traditional engagement techniques to address the frustration and confusion about the budgeting process in New Orleans since Katrina. CBNO has had success in helping residents to better understand the budget and providing a new way for city councilors to learn about and implement their constituents' priorities. They have also been successful at engaging residents that have not taken part in traditional engagement around budget issues, however these residents tend to be from groups that are already well-represented in engagement and political arenas. CBNO has identified successful techniques to reach out to demographics that are underrepresented in BEBG data. However, currently findings from the game skew toward demographic groups that are already well represented, potentially at the expense of the needs of marginalized groups. While there exists a link between the game and real political action, the game experience itself does not convey this link or make a direct link between what participants learn in the game and individual civic action. There exists potential for the BEBG to promote

social learning, fun, and more imagination around solutions to systemic issues that cannot be addressed through incremental budget changes.

San Jose Budget Games

The San Jose Budget Games (SJBG) occurred annually between 2011 and 2016. For the first two years, the games were in-person activities only that brought together community leaders from across San Jose to negotiate proposed additions and cuts to the budget. The games were modeled after *Buy a Feature*, one of the Innovation Games offered by Conteneo, Inc., as a prioritization technique to corporations using Agile project management techniques. For the last two years of the budget games, the game was also offered online to allow any San Jose resident to participate.

This section describes the motivation for the San Jose Budget Games, summarizes the goals of the games, and analyzes the extent to which the game accomplished those goals. As described in It draws on five data sources:

1. two interviews with the game's creator, Luke Hohmann, CEO of Conteneo, Inc, and a volunteer facilitator, Joel Bancroft-Connors, who facilitated a table during the 2015 SJBG.
2. Two blog posts authored by Hohmann about the game design process,
3. Hohmann's keynote address about the SJBG given at a conference on the Agile project management philosophy in 2015
4. Eighteen interviews with participants of the 2012, 2013, and 2014 SJBG recorded and published on Youtube by the City of San Jose,

5. One interview with Deputy City Manager Kip Harkness in 2014, also recorded and published on Youtube by the City of San Jose

Background

The recession of 2008 severely impacted San Jose's property tax revenues, and by 2009 the city was cutting services and faced a deficit of over \$100 million (Hohmann, 2015a). Recognizing the increasing importance of prioritizing expenditures that most impacted San Jose residents, the city initiated a participatory budgeting process in 2009. Similar to the Big Easy Budget Game, this process involved residents placing nickels in glass jars that represented different areas of the budget. Unlike the BEBG, however, as a city-led process it came with a commitment to spend part of the budget according to how residents voted (Willmes, 2012). The City recognized, however, that this process was failing to engage most citizens and capture their opinions.

In 2009, Kim Walesh, then Chief Strategist for the City of San Jose, met Luke Hohmann, founder and CEO of Conteneo, Inc., on a plane (Hohmann, 2015a). After describing his company's approach to helping Silicon Valley companies with organization and workflow problems, the two realized that a partnership between Conteneo and San Jose might help to solve the city's engagement problem (Hohmann, 2015a). Conteneo uses serious games to facilitate collaborative problem solving at companies. Conteneo's games allow small teams to collaboratively answer questions such as what do customers most want, what product features are worth keeping and letting go, and how should teams prioritize their time.

Walesh and Hohmann realized that the city's problem – figuring out what budget items to cut, and what items to save given severe resource constraints – was very similar to the business problems addressed by Conteneo's game *Buy A Feature* (Hohmann, 2015a). *Buy A Feature* helps teams to prioritize potential features that they could add to their company's product. In the game, a group of 6-8 participants is presented with a set of new product features that they can buy (Hohmann, 2015). Each participant is given a baseline amount of money that is usually not enough to buy any of the things on their own. Only through negotiating with each other can participants buy any important features. This game encourages participants to articulate their priorities, evaluate others' priorities, and reach a group consensus about what product features should be prioritized. Hohmann has found that this process is more likely to identify valuable priorities, more likely to have all members of a team on board with key decisions, and more likely to produce desired outcomes in a timely and effective manner as a result.

However, Hohmann realized that the premise of the game – splitting a pool of money between participants, was not appropriate in the city context (Hohmann, 2011). As he notes in an address to an Agile conference, “If the city is \$100 million in debt, walking up and saying here's a bunch of money doesn't match what the city needs” (Hohmann, 2015a) To make the game better match city needs, Hohmann limited the amount of funding each participant gave, and also introduced proposals for budget cuts that participants could choose to free up more funds (Hohmann, 2011). Hohmann and his team worked with city officials to generate the proposals under consideration; as in the New Orleans case, city officials wanted the proposals to match what city council was

actually considering so that participant feedback directly informed the options on the table. In 2012, following participant feedback, Hohmann and the organizers incorporated proposals for quarter- and half-cent sales tax raises as an additional means of raising revenue (Hohmann, 2015a).

Each year, the City invited neighborhood leaders to play the game, including leaders of the neighborhood associations and members of the Youth Council. Participants were divided into tables of 6-8, with one trained facilitator at each table – usually volunteers from Silicon Valley companies who had been through Conteneo games at work (Hohmann, 2015a). In 2013, Hohmann and the non-profit branch of Conteneo, Every Voice Engaged, created an online forum that any San Jose resident could join.

Objectives of public participation

Information exchange and trust in government

The initial impetus of the partnership between Conteneo and the City of San Jose was to better inform policy, thus obtaining actionable information was the primary goal of the Budget Games from their inception. Aligning the proposed new expenses, cuts, and taxes in the game with decisions city councilors were considering allowed them to directly incorporate resident feedback into their decisions.

According to Kip Harkness, Deputy City Manager of San Jose, the Budget Games produced much more nuanced and actionable results than a traditional survey (Willmes, 2012). For example, while surveys always indicate that public safety is a top priority, results from the first year indicated that residents have a limit to how much they are

willing to cut funding for libraries, community centers, and parks for the sake of public safety (Willmes, 2012). Harkness claims that data from the Budget Games had a marked impact on budget policy from the first year, when City Council reduced firetruck staffing to save costs based on results from the majority of tables at the Budget Games. As a result, he felt that the tone shifted from the first Budget Games to the second Budget Games: whereas initially there was skepticism around the city's commitment to listen to them, By the second year participants realized that the city was taking their priorities from the Budget Games seriously. By the latest budget games, Harkness claims there is "at least an 80% correlation between what emerged in the community process and what the mayor has directed [the administration] to do [in the mayor's budget message]."

Cost-effectiveness

The first Budget Games involved 92 city residents, but Hohmann wanted to significantly expand the number of residents involved. In his address to the Agile convention, he explained that after the initially successful year, he wanted to scale up to 5,000 participants for the second iteration in 2012 (Hohmann, 2015). This was a major impetus for creating the online forum. In another blog post, he wrote that he hoped to scale to tens of thousands or hundreds of thousands by hosting the game online (Hohmann, 2011). Hohmann even closed his keynote address by asking all attendees to play two games a year, with five participants per game, so that in 25 years (assuming a 10% player conversion rate) 200 million people around the world will be playing games for change. This sentiment was echoed in an interview with Joel Bancroft-Connors, a product

manager at a software company who volunteered as a facilitator during the 2015 Budget Games:

“I almost wonder if we’re starting to see replacing representative democracy with participatory democracy where everyone gets a direct vote, because we can scale [these games] up. If we see this get more traction – on the grassroots level and more cities doing this – we can see it growing into state legislatures and eventually something that might happen at a national level.”

Clearly both Hohmann and Bancroft-Connors believe in the viral potential for budget games to include exponentially more people and to transform democracy at different scales by providing a new means to participate in democracy.

The Budget Games did grow over the six implementations. In 2011, they started with 92 players, and reached a peak of 195 players in 2014: 93 in-person, and 102 online (InnovationGames, 2011; Conteneo 2014). However, the games did not scale in the way that Hohmann hoped for. The City did not have the resources to support the 5,000 participants that Hohmann wanted to invite to the in-person games in 2012 (Hohmann, 2015a). Furthermore, the online game did not naturally attract the number of participants that they had hoped for.

Consensus

Bridging disagreements and partisanship, providing a forum for participants to recognize each others’ needs, and reaching a mutually beneficial agreement that all participants could get on board with was another central goal for the Games. As Hohmann explained

in an interview: “Wicked problems seem intractable because we don’t take others’ opinions into account, and yet when we learn about others’ opinions, we’re willing to make different choices and approaches.”

Nearly all residents interviewed expressed some combination of surprise and delight at how their table was able to reach consensus. Ty Greaves, leader of a neighborhood council, said he “expected people to be binary in terms of something I’d consider trivial, [and I was] surprised how quickly we reached agreement.” Layla Forooghi, a Youth Commissioner, was surprised at how much the other, older participants agreed with her priorities: “As Youth Commissioner, I was advocating for libraries and community centers and the gang violence prevention task force. I didn’t have to advocate because people were advocates with me as well and I didn’t have to fight tooth and nail.” Joyce Cordi, another neighborhood council leader, found herself on the other side of the situation, leaving the conversation with some firmly held beliefs having shifted:

“If anyone had said a quarter-cent sales tax was more than a tiny ripple on a pond, I would have said they were crazy, but I found by 11:30 that a quarter-cent sales tax would allow us to partially restore all city services we’ve lost over the last couple of years.”

Other participants must have undergone a similar learning process, as eight of 11 tables unanimously agreed to increase the sales tax in 2012 (Harkness, 2012)

Prevent negative group dynamics

This is not to say that the picture was always rosy. Neighborhood commissioner Juan Estrada found it “tense at times,” while Daisy Trujillo described the process as “chaotic.” Steve Navarro said that “sometimes you have to bend a little bit to get things done, and if there are strong personalities it’s not easy to get there.” The tension, chaos, and strong personalities points to the imperfections of deliberative processes such as this, which often lead to those with the loudest or most persistent voices dominating the conversation and the outcome. It also points to the level of pressure to conform in these groups and the possibility of groupthink as a result.

Involve marginalized communities

The recruitment strategy for participants was designed to remedy the problem of underrepresentation of marginalized communities. The invited participants included the neighborhood commissioners for each neighborhood in San Jose, volunteers who are charged with representing their neighborhood’s interests in city functions. Each year, the organizers ensured at least one representative from each neighborhood participated in the event, and also made sure there was at least one youth commissioner at each table (InnovationGames, 2011, Conteneo, 2014). They also included the youth commissioners for each neighborhood, who are similarly charged with representing the interests of youth across the city at official functions. While this recruitment strategy clearly focuses on including citizens who are already very engaged in civic life, Hohmann and the other game designers assumed, following the theory of deliberative processes, that these

individuals would not only represent their own interests, but also their neighborhoods' interests through backtable dialogue, thus ensuring that the perspectives of those who were not present were also being included indirectly. Daisy Trujillo, a youth commissioner present at the 2013 SJBG, indicated feeling responsible for representing her community: she said that she worked hard "to get [other participants] to understand my point of view, not just mine but youth as a whole really."

While the in-person event addressed this issue, it was not thoroughly addressed in the online version of the SJBG. As previously discussed, the primary motivation for creating the online version was a dramatic increase in the number of participants. When asked "How do the Budget Games engage a diverse city?" Harkness expressed a belief that the increase in number of participants would naturally correct the underrepresentation of marginalized groups: "In a city of 1 million people, the only way to truly engage community is to scale. The only way to do that scale is through tech, using the internet and other tools." However, as previously seen in the case of the Big Easy Budget Game, this type of scale does not inherently correct problems of underrepresentation. The online version of the SJBG did not collect racial or other demographic information about participants, so it is hard to say empirically whose voices were and were not represented in the data. One online participant named Davide described the game as a race-blind environment: "It came down to facts. There was not body language and no prejudices, just ideas" (quoted in Hohmann 2015). While the idea of deliberative forum free of prejudices seems appealing, it also seems like an unrealistic expectation. Instead, this quote suggests that any prejudices or systemic inequalities faced

by participants is masked in the online environment and thus would make it even more difficult to address the problem of underrepresentation of marginalized communities.

Other possibilities

Projective agency

The SJBG's design is similar to the BEBG in that it asks participants to react to new expenditures and cuts proposed ranges to the budget. While imagination does not factor in to the actual gameplay, the act of bringing people together seems to have spawned some imaginative thinking on these kinds of topics. For example, in 2013 and 2014, Hohman and the game creators incorporated options for sales tax hikes based on participant feedback about options that they felt had been left out in 2012. Still, the game creators could think about how to include this kind of thinking as an explicit part of game play, rather than as a side effect.

Virality

The online version of the game never achieved the viral status that its creators hoped for. Their assumption was that making the budget fun would motivate players to share with friends and family (Willmes, 2012). However, similarly to the BEBG, participants seemed not to think of the games as fun, but took other feelings from the game such as satisfaction at having contributed and learned from their neighbors. One potential for the game is to figure out how to cause this type of feeling in the online version, and how to use those feelings to get the sharing effect that the creators had hoped for.

Summary

The San Jose Budget Games were born out of the mutual recognition between an engagement game professional and a San Jose civil servant that games could help a city facing a budget crisis. The organizers of the Budget Games were ambitious in their goals, aiming to bring citizens to consensus on tough prioritization questions, provide actionable information to City Council, and scale exponentially to include as many perspectives in the process as possible. The games fell short on their expectations of spreading organically in San Jose. However, participants reported a high level of situated learning, social learning, and constructive deliberation learning leading to consensus issues. Furthermore, the events seemed to foster a sense of trust between the city government and the participants, such that the city committed to implementing many of the recommendations of the games and participants grew less skeptical after seeing their priorities reflected in the city's budget after the first year of the games. The games' creators drew on techniques of deliberative processes to ensure equitable representation of the city's diverse communities in the in-person version of the game, though the online version seemed not to directly address the objective of involving marginalized communities. Though the games are not currently active in San Jose, in future implementations the games could incorporate features to promote projective agency and to motivate participants to share the game with their networks.

Synthesis of case studies

Evidence from both the Big Easy Budget Game and the San Jose Budget Games suggest that games allow participants to learn more about how city budget works than simply attending a meeting. Nearly all participants in both cities reported learning about the budget process as the primary positive outcome from playing the games.

In the San Jose Budget Games, which were explicitly designed to promote collaboration, nearly all participants also reported learning about other participants' opinions and identifying mutually held goals and values as a positive outcome of the games. The Big Easy Budget Game was not designed for collaboration between players, so the degree to which participants felt it contributed to a collaborative environment depended on whether that was part of the facilitation strategy for a particular event.

Both games were also used to inform policy, however especially in the BEBG this channel for granting players over agency in the budget did not translate into a feeling of agency over the budget. As identified in the previous chapter, promoting a feeling of agency and practice over means of democratic participation is a key component to fostering political efficacy among participants .

Participants in both games described their motivations as wanting to learn about the workings of government or feeling a sense of civic obligation rather than having fun. Designing an engagement game to be realistic and fun at the same time is certainly a challenge. Engagement game creators could consider how to design their games to maximize the other feelings that participants take away and experiment with translating

that into encouraging participants to share with their networks for organic growth of the player base.

Both games employed strategies to ensure equitable representation from marginalized groups within their respective cities. CBNO was mindful of this in their design of the online game, including translating the game into Spanish and optimizing it for use on mobile devices. However, the most important and effective strategies to address this objective in both cases were not in the game itself, but the wrapper of public participation around the game: how participants are recruited, how sessions are facilitated, and how participant input is collected and reported. This suggests that those who wish to use engagement games should look to how other participatory processes address this objective.

Finally, both games exhibited a commitment to realism to ensure that participants learned about the nuances of the budget process. This proved effective at strengthening both governments' trust in the process and informing budget policy. However, there seems to be a tension between realism and the potential for the games to foster projective agency and imaginative capacity. This tension is also linked to the tension between incremental change and more fundamental, structural changes in city government. Engagement game creators could consider if there is a way to allow space for re-imagining the political structures that the games emulate, either through gameplay or facilitated discussion, without compromising the learning and policy objectives of the game.

Chapter 5: Conclusion

Summary

This study examined the contribution of engagement games to participatory planning processes through applying a theoretical investigation to two case studies. In the first section, it identified the primary goals and problems of participatory planning processes, and identified a set of objectives of participatory processes to evaluate how games contribute to this space. A review of games used for participatory planning in the past followed, in order to identify some of the unique ways that games have already contributed to participatory processes.

In the second section, the study examined budget games in New Orleans and San Jose. In both cases, the most successful outcome was how much participants learned about the budget process. Both games proved effective at promoting learning among participants and fostering the government's trust in the process to better inform budget policy. Both addressed including historically underrepresented groups in the process through the wrapper of public participation around the games. The games' commitment to realism proved effective at informing policy, however there seems to exist a tension between a game's realism and its ability to promote projective agency and imaginative capacity among participants.

Further Research

Given the importance of representing marginalized groups in any democratic process, there is much potential work in examining the intersection of identity and experience with games. Academically and practically, the relations game with seniors in mind? And, given younger voters' underrepresentation in elections (and the exclusion of those under 18), how could cities take advantage of this tendency to design games specifically to engage youth on issues that matter to them?

Furthermore, the overrepresentation of men and exclusion of women in the players, designers, and characters of video games suggests the need for an understanding of the experiences of women, trans, and/or nonbinary individuals in engagement games (Williams et al., 2009). Such an investigation may illuminate design considerations for ensuring engagement games are inclusive of all genders.

Finally, research from the education field suggests that technology use in classrooms that are predominantly black, Hispanic, or low-income students is more likely to be “drill-and-practice” than predominantly white classrooms, where technology is more used for exploration and simulation (Warschauer, 2007). This suggests the need to examine if there is a difference in engagement games designed for low-income communities or communities of color, and games designed for predominantly white or high-income communities.

Looking forward: planning games in and for the future

All of the games examined in this study were designed for a general audience, meaning all citizens or stakeholders in the cities in which the games were implemented. However,

creating games with a more focused intended audience could prove fruitful. For example, to accomplish the objective of involving marginalized communities that are historically underrepresented in other political spaces, game creators could consider designing games with those communities specifically in mind. This would allow the game to better accommodate their unique language, cultural, or other needs. This would not mean excluding others from playing the game, but centering the needs of marginalized communities in the design of the game.

Games' strengths in situated and social learning and the tension between realism and imagination make them a potentially valuable tool for addressing emerging problems in planning such as climate change adaptation, managed retreat, and autonomous vehicle regulation. These complicated topics require a fair amount of learning to enable constructive discussions. Furthermore, they require the ability to simultaneously consider short-term, incremental approaches and imagine how they could challenge and reshape political, social, and economic structures in the long-term.

In Chapter 2, I framed this investigation as the first iteration of a customer discovery process for engagement games. No customer discovery process is complete until a product finds success in the market. I hope that the value propositions explored here prove useful for anyone interested in using games as part of participatory processes, and I look forward to seeing the value propositions validated with more examples of games successfully contributing to robust participatory planning efforts.

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Appendix A: Interview Guide for Game Designers

1. Why did you choose to design a game as opposed to other forms of engagement?
2. What problems do you seek to address with the games?
3. Why do you care about participation? What inspired you to get involved with participation, and what continues to motivate you?
4. How did you design the game?
5. How did you expect participants to react to the game? In what respects did/didn't they meet these expectations?
6. How did the game change once you started using it?
7. Having used the game, would you now make any further changes to it?

Appendix B: Interview Guide for Game Participants

1. How did you come to be a participant in this game?
2. What was the setting in which you played it?
3. What were you expecting it would be like?
4. In what ways did the game meet or differ from your expectations?
5. What have you taken away from it?
6. What feelings came up during the game?
7. How did you feel about the other participants? How did you feel about the facilitator?
8. What have you done with the information you learned from the game?
9. What were highs and lows during the game for you?
10. What were your reflections on the game after playing it?
11. If you were to change three things about the game, what would you change?

Appendix C: Survey Questions

1. In what year(s) did you play the game?
2. How did you hear about the Big Easy Budget Game?
3. Did you play it by yourself, or in a group setting?
4. Before playing the game, had you ever attended a meeting related to the city budget?
5. On a scale of 1 (completely disagree) to 5 (completely agree), how much do you agree with the following statements?
 - i. I had a lot of fun playing the Big Easy Budget Game.
 - ii. I learned a lot about our city budget.
 - iii. I learned about what other New Orleans residents think about the budget.
 - iv. I plan to discuss what I've learned with friends or family (or I've already done so).
 - v. After playing the game, I'd feel more comfortable talking to a city councilmember or other politician about the budget.
 - vi. After playing the game, I want to be more involved in how the budget is spent (through attending a meeting, talking to my councilmember, making a petition, etc).
 - vii. After playing the game, I have more ideas about how the city could spend its money better.
6. What did you learn from the game?
7. What did you most like about the game?
8. If you could change three things about the game, what would you change?