

Going the Distance: *Trust Work* for Citizen Participation

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ABSTRACT

Trust is a vital component of citizen participation—whether citizens decide to engage in opportunities for participation in local government can hinge entirely on the existence of trust between citizens and public officials. Understanding the role of trust in this space is vital for HCI and the growing area of Digital Civics which works to improve or create new modes of citizen participation. Currently, however, trust is understudied from the perspectives of public officials. This gap creates a critical blind spot as technical interventions may be mismatched to the ways trust is put into action by public officials working to support citizen participation. We begin to address this gap by presenting a broad qualitative study of how public officials in a large US city operationalize trust in citizen participation. We found trust is enacted through ongoing practices that manage distance in relationships between public officials and city residents.

Author Keywords

Trust; Digital Civics; Community Engagement.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION

“[Citizen participation is] *the process by which members of a society (those not holding office or administrative positions in government) share power with public officials in making substantive decisions and in taking actions related to the community.*” [62:7]

In HCI, citizen participation has been a rising topic of interest since the 1990’s when new modes of participation were made possible by wide-spread networked computing [6,28,37]. That interest continues in the present day hopes for mobile and social computing [2,55,63], and through the developing questions of how citizen participation will evolve in the coming age of smart cities [13,24,74]. Given the growing capabilities of these technologies—viewed collectively

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as digital civics [71]—what new forms of interactions and relationships could or should we support between citizens and public officials?

In this paper, we seek to understand the role of trust in citizen participation. We examine the context of local governance where democracy plays out in a hodgepodge of city departments that carry out every-day municipal work. Because municipal governments are diverse organizations comprising multiple functional units, we take a broad approach to understanding trust across the full breadth of local government, including: service provisioning, planning, building and maintaining infrastructure, legislation, education, workforce and economic development. In all of these areas, public officials engage citizens in a variety of ways, ranging from information collection through surveys, to information sharing through social media; from intensive, short-term participation through planning engagements, to long-term participation through citizen led panels.

One common challenge running through all points of interaction is that of establishing trust, or more frequently, overcoming distrust between public officials and city residents [41,57]. While the current consensus is that growing distrust is an existential threat to citizen participation, historically, the good-bad split of trust and distrust is less clear: some scholars suggest distrust from citizens provides a healthy and necessary check against the power of public officials [25,29]; while others argue that trust is essential to enabling participation [57,58]. It is this interplay we set out to examine. By understanding where and how trust operates in the relationships between different city departments and services, we can more carefully layout a design space for computing interventions that are built around a more nuanced view of how trust, or its absence, helps cities to function, enables residents to hold public officials accountable, and enable and support engaged participation.

For HCI, there are multiple areas where trust and municipal governance have a role: planning [15,18], community policing [19,44], policy debate [7,8] and infrastructure maintenance [30,50] to name a few. Across these areas, the idiosyncrasies of trust shift how it functions given the histories, relationships, and risks involved in a given context [43,51]. Thus, given these opportunities and the specificities of how trust operates—we are motivated to expand existing perspectives in HCI (e.g. [30,38,39]) by stepping back from specific interventions to ask: What is the role of trust in citizen participation from the perspectives of public officials across the multiple arenas of local governance? More importantly, how

is trust operationalized in the various forms of citizen participation practiced by public officials?

To answer these questions, we conducted interviews with 48 public officials across the breadth of departments in our municipal government. In our findings, we describe the making of trust—how trust is performed by public officials as *trust work*. We point out how trust accrues in an ongoing process through both interpersonal and institutional relationships. From our fieldwork, we articulate the central goal of *trust work* as traversing various manifestations of distance across interpersonal and institutional relationships. Understanding these distances exposes the risks and opportunities for building systems that enable and support citizen participation by focusing on trust.

BACKGROUND

There are two key perspectives we draw upon in order to locate and operationalize the role of trust in civic relations: political philosophy which situates the nature of trust in citizen engagement within the context of governance, power, and participation; and trust theory which provides a way to distinguish different forms of trust, understanding it as a process of managing expectations and risk in relational distance between public officials and citizens.

Trust and Governance

The role of trust in democracy has always been paradoxical as “the mere fact that a social relationship has become political throws into question the very conditions for trust” [74:1]. In this regard, the question of how to trust is the essence of political relationships. The development and rise of liberal democracy was one answer to this question. Fueled by the distrust of the traditional power structures of the monarch and sovereign, liberal democracy relied on mechanisms to limit the discretion of those in power [32]. At the same time, liberal democracy was also very much distrustful of direct citizen control of government. Thus, the trade-off between distrust of those in power as well as distrust of direct citizen participation produced a representative system in which citizens legitimize a government of divided powers but remain outside of that government [67].

The role of trust and distrust is in flux however due to the “Crisis in Confidence” which is characterized by a deeply rooted antipathy toward both public officials and opportunities for citizen participation [42]. The sources of the crisis are many: limitations of the state in the context of globalization, enduring income-inequality, and increased skepticism toward expertise are just a few sources [70]. When taken together, these issues produce increased complexity. Moreover, greater access to information reveals the limitations of the state in coming up with solutions to these complex problems. Thus, the crisis is rooted in greater sensitivity to risk in society which then reduces confidence in the state [5].

This crisis is now so pervasive that in many modern democracies it is now “a given and perhaps even a framework that conditions all possible relationships” between the public and

their government [62:78]. Many have noted the paradoxical and self-reinforcing nature of this crisis: trust in government is required to enable the collective action and cooperation needed to address increasing complexity and risk in modern society [66,68]; yet, it is the distrust in those very institutions that both limits and weakens government and with that, opportunities for citizen participation [64,70].

One solution to the crisis lies largely in the hands of public officials to “go out and get democracy” through direct citizen participation [61]. Understood as a mechanism for sharing power with the public [61], citizen participation in this use differs from both political participation—which refers to voting or volunteering for a political party—and from the civic engagement that Putnam used to describe the ways in which citizens harness social capital to collectively address issues [60]. Rather, citizen participation is more in line with what Arnstein set out to categorize in her “ladder of participation” which provided a topography of power sharing and citizen agency with respect to direct involvement in decision making and policy setting [1]. Our aim here is similar, but rather than focus on the ways in which participation practices are organized by power, we consider how they are organized by trust.

The Multivalence of Trust

The need for trust arises when actors are confronted with risk [51]. If risk can be eliminated outright, there is no need for trust, so for this reason, trust only becomes relevant in the face of irreducible risk and uncertainty [46]. The process of trusting, then, is a matter of how one comes to form positive expectations in the face of risk, thereby reducing possible harm to an acceptable level [52]. The mechanisms that enable this process derive from “distinct cognitive, emotional, and behavioral dimensions which are merged into a unitary social experience” [43]; this social experience functions through the “reduction of complexity, [and] discloses possibilities for action which would have remained improbable and unattractive without trust” [46].

The expectation of positive outcome is what distinguishes trust from rational-choice. As a mechanism for action, “trust begins where knowledge ends” [52], allowing for actions that may not be completely rational or which operate in the face of poor or conflicting information. Colloquially, this enables a “leap of faith” [51,52] which entails an action that closes a *distance*, a *process* of moving across that distance, and a *relationship* between the origin and destination. Each of which—distance, process, and relationship—are important for articulating and understanding trust.

Drawing on social psychology, *distance* is the perception of when, where, whether, or with whom an event will occur [65]. The distance between what is and will be might be temporal, social, or spatial, and the further away an event, idea, or person, the more abstract the mental representation. For example, the mental representation of attending an event that is one year away will be more abstract than an event next week. Furthermore, distances are associative such that spatial distance is mentally associated with social distance (i.e.

sitting further away from someone). Similarly, the use of polite, formal language instead of casual, informal language conveys social distance but also produces a sense of spatial and temporal distance. It is in this way that trust and distance are related: as distance is extended and thus abstraction, so too is the trust needed to overcome greater uncertainty and risk. Conversely, trust becomes a vehicle for closing different kinds of distance—spatial, temporal, social and hypothetical.

Trust allows for the “leap” over distances, but completing that leap is often described as a *process*. Scholars tend to break the process down into three typical stages. Roughly, these are developing, building, and maintaining [62]. Across each stage, different forms of trust come into play as the overall scope of trust increases. For instance, developing trust comprises calculative or weak trust. Trust in this stage can be primarily cognitive, relying on evidence of deterrence or proof as well as strong external enforcing mechanisms. In the building stage, as interactions continue over time, trust relies less on cognitive resources and more on affective resources that have been built through interactions over time. Trust in the maintaining stage is more relational as opposed to calculative—relying on a shared sense of goodwill and benevolence.

Growing from the goodwill and benevolence, trust develops into *relationships*, which can again be further decomposed into interpersonal and institutional [31]. Interpersonal trust refers to trust between two people where the focus is on behavior and perspectives that are conducive to trust between individuals. Institutional trust, on the other hand, is the relationship between an individual and situations or structures. For instance, the police as an institution requires trust to function in its capacity to provide public safety. Similarly, financial and regulatory institutions require trust in monetary structures. In both examples, the extended social and cultural institutional relationship determine the level and kind of trust, with obvious breakdowns across different demographics and socio-economic positions. There is an important interaction between interpersonal trust and institutional trust in that our interactions with institutions come through individuals. That being said, while these two forms of relationships are deeply entangled, trust in an individual public official is different than trust in the public official’s department.

Trust in Digital Civics

The role of trust in democracy, as well as its role in enabling other forms of cooperative work have been topics in computing for many years. Early examples can be found within digital democracy where networked computing was envisioned to usher in a new age of trust and citizen participation [6,28]. The success of digital democracy in this regard, however, has been limited at best as neither trust nor participation have increased. In fact, both have been in decline for some time now [59,69,70]. While it would be unfair to place the cause for

this solely on digital democracy, the larger point is that supporting trust and participation remains an ongoing challenge for HCI.

The shortcomings of digital democracy are now being taken up in digital civics by a more critical and politically engaged HCI [56,71]. For instance, Borning et al. explored how to design features that would increase trust of an urban development simulation application by addressing risks that stem from legitimacy and transparency [8]. Both Factual [35] and the BudgetMap [34] addressed citizen participation in budget planning by attempting to improve trust by reducing the complexity of budget data. Le Dantec et al.’s work in citizen participation in planning with crowd sourced data [14] addressed the processes by which public officials come to develop trust in data collected by citizens using mobile crowdsourcing. While Erete explored the use of ICTs in developing relationships between citizens and public officials in local governance, showing both the limits and opportunities for technology in civic relations [18]. Throughout all of these studies, the systems address different elements of trust albeit in a piecemeal fashion—either supporting citizen trust in systems designed for citizen participation by addressing risk and complexity, how a system can engender trust in data collected as a form of participation, or how trust as relationships can be built through interactions within systems.

Our goal in this paper is to ground an understanding of trust in digital civics through the ways in which public officials operationalize trust in citizen participation. Our motivation is similar to Harding et al.’s recent work on studying how trust in the relationships between public officials and citizens could inform civic technology [30]. Harding et al. argue that HCI’s focus tends to skew exclusively towards citizens—their perspectives and needs for trust—and how systems might empower citizens by increasing agency in participation. This focus of attention in HCI is also the case in the political science literature where the default viewpoint of operationalization for trust is predominately citizen-to-public official [9,11,57,70]. Thus, we do know many of the sources of trust for citizens such as proven character, consistency of trustworthiness, and encapsulation of interest [29]. We also understand major sources of distrust such as self-interest, dishonesty and poor performance [59]. What we do not yet know, however, is how trust is viewed and operationalized by public officials. Our contribution is to extend this prior work in order to develop a more holistic view of trust and how it might be operationalized through research and design interventions.

METHOD AND ANALYSIS

Our investigation of trust in citizen participation was a component of larger collaboration with our mayor’s office to understand and improve relations between city agencies and residents [3]. In this project, we conducted 48 semi-structured interviews that spanned 30 different departments and agencies within our home municipality—a large US city with a populous urban core and a much larger metro region.

We interviewed at least one person in each department or agency who were recruited through our partner in the mayor's office. Each interview lasted 45 to 90 minutes and began with a brief overview of the purpose of our research collaboration, followed by a series of questions asking the informant to describe their background and role in their organization. Next, we asked them to define community engagement, followed by how it factors into their role as well as the work of their agency or department. The interview then proceeded to questions on how they carry out the work of community engagement within their department, including identifying key constituents and assessing outcomes of different campaigns or projects. We then asked how trust factored into community engagement: including what the role of trust is, how it is obtained, if trust currently exists within their relationships with residents, if not why or if yes, how so.

We recorded and transcribed the interviews and analyzed the interview data following Charmaz's guidelines for grounded theory [12]—first completing open-coding of the data followed by focused coding to pinpoint and develop salient categories. This inductive portion of our analysis resulted in the following concepts: eight practices that were important for trust in citizen participation, the temporal order of these practices according to where in the process of participation and trust they needed to occur, and several institutional and interpersonal trust characteristics. We noticed there was a common theme throughout the practices: distance. Practices would often be described in relation to overcoming some form of distance: physical, social, power, etc. In order to account for this common attribute, the deductive portion of our analysis drew from social psychology—using the construal level theory of psychological distance [65] as a lens. We found this was instructive in explicating what was at the core of the practices we found and allowed us to relate the practices more richly to trust theory concepts such as risk and expectations.

FINDINGS

We organize our findings around the concept of *trust work*: the ways in which public officials establish and maintain trust. We describe trust work through eight exemplary practices that arose through our inductive analysis: *meeting people where they are*, *community education*, *participation in goal setting*, *setting expectations*, *being present*, *managing expectations*, *shared decision-making* and *sustaining engagement*. These practices build trust in two forms that must be distinguished: interpersonal and institutional.

In order to organize the practices identified through our fieldwork, we structure our findings around two frames: distance, and process. For distance, we rely on six dimensions: social, temporal, spatial, hypothetical, power and knowledge (the first five are derived from the literature [47,65], while the final arose from our own fieldwork). The goal of *trust work* is to reduce different manifestations of distance—the dis-

tance in power of decision-making, distance as social closeness or temporal distance in reaching civic goals—between public officials and citizens. Distance presents risks that trust work needs to overcome; however, each measure of distance is along its own vector, so even as one area converges on trust, others might open up. As a result, trust work should be viewed as an ongoing process. The second frame we use is process which describes different stages of trust [62]. For instance, there are practices initiate trust, practices that prove trust, and practices that retain trust. These stages help describe a trajectory of establishing, building, and maintaining trust. The trajectory helps us describe how officials traverse different vectors of distance over time in their efforts to develop and deploy trust.

In all, the eight practices that emerged from our inductive analysis provide a bridge between existing theories—of distance and trust process. In turn, those existing theories help us organize and present the emergent practices that arose from our fieldwork. Taken together, our findings and our analysis with respect to extant theories of trust provide a conceptual framework a conceptual framework to describe the different kinds of work that go into building and maintaining trust a between citizens and government.

Initiating Trust

Trust work at this stage initiates the trust process with the practices: *meeting people where they are*, *community education*, *participation in goal setting* and *setting expectations*. These practices begin to traverse distance in social closeness between community and public officials, distance in knowledge of participation processes or distance in decision making power.

In this stage, the distinction between the role of interpersonal and institutional trust is most clear. As P21 in the city housing authority describes, “*Trust is obtained in two ways: one, it comes from as an organization, does that community trust the city? And then the second part of it, does that community trust the person who's speaking and managing that engagement process?*” First, there is trust in the institutional relationship, followed by trust in the interpersonal relationship. Trust is ultimately a product of both of these but the order in which each operates is important, as we illustrate below.

For instance, the relationship at the institutional level configures participation and conditions how trust is built. P42 in regional planning illustrates this, “*Well, one of the first challenges is when you go into a community that may only be aware of your name, you have to build trust. You have to go in and establish that. That depends on the level of the individual's knowledge and awareness of your organization so that will determine how fast we're able to start our process.*” Identifying the distances of knowledge and social awareness that must be traversed in order to build trust, P42 makes clear the interaction between interpersonal and institutional trust. In situations where individual trust is absent, institutional trust is important to scaffold the trust building process [53].

Trust building is a reflexive process of continuous and open communication between actors [52]. Each of the practices below illustrate the locus of attention in that process, shifting between interpersonal and institutional depending on which distance vector is being addressed.

Meeting People Where They Are

In situations where institutional relationships are frayed or just being established, *trust work* must first operate interpersonally. The primary practice describing this work is *meeting people where they are*, which is how public officials go out into the physical and social worlds of residents in order to establish relationships. P21 in environmental planning describes the practice as, “*sitting down - like we're sitting down now - at their kitchen table and talking with them.*” By moving into the environment of their constituents, rather than staying within the offices or domains of the municipal institutions, the officials are removing barriers of authority. Doing so acknowledges that the onus is on the public official to go out and start the process, conveying their own responsibility in closing the ownership of the distances between themselves as public officials and the residents whom they are representing.

During our interviews, there was often a strong preference for face-to-face interactions when meeting people where they are. This is due to the kinds of distance the practice traverses: spatial-physical and social. Spatial-physical distance shares a strong associative relationship to social distance [65] and both are tied to building trust as trust is often directly reciprocal to social and physical proximity [4].

Connecting trust and distance reveals the importance of face-to-face interactions in meeting people where they are. P7 in city council illustrated this when contrasting face-to-face with digital interactions, “*Internet technology can help you get the information quicker, but being in front of someone, being able to see these emotions, get a hug, get a handshake, eat over some bread and some food, then people will kind of buy.*” This makes sense as trust in the initial stages is more reliant on interpersonal trust which is built reflexively through affective exchanges that are more easily accomplished in social and physical proximity.

P7 further illustrates this when describing legislation he passed in order to provide home-repair subsidies to prevent gentrification in an area of the city under-going rapid development. His office was surprised at the low-levels of utilization of the funds—he speculated that institutional distrust of city hall was the cause. The solution for this was meeting people where they were: “*It didn't work until we walk the street, knock on doors, take some time, in the cold, in the rain, "Yes ma'am, that's why I'm out here. I love you, I care about you. You need to stay in this town. I grew up in this town. Yes ma'am, we're going to do it the right way, yes."*” Knocking on doors and walking the streets to engage in conversations each contribute to the work of meeting people

where they are. Although, meeting people where they in initiating may be the most labor intensive, it is also foundational for the rest of the process.

Community Education

While meeting people where they are traverses spatial-physical and social distance, the practice of *community education* traverses distance as knowledge. This practice is how public officials bridge gaps in citizen knowledge important for participation. This can include technical, domain specific knowledge such as planning or financial terminology, or it may be procedural, helping residents understanding a department or civic process sufficiently enough to interface with it. Regardless of the form, distance as incomplete knowledge produces uncertainty and risk that is problematic for trust. P11 in public schools describes how this distance is a barrier for participation, “*You can't go and engage someone on something that they know nothing about.... the face of education changes so much, the acronyms that we throw out there.*” Distance in knowledge as P11 describes is not static—technical domains develop (in this case the education system) and the practice of community education is necessary to traverse gaps in knowledge as they (re)appear.

An example of how community education is carried out by public schools is described by P11, “*we use robo-calls, we do town halls, we use social media as a means of engaging the community. We have our own cable news channel, and that allows us to like run some information to support that. Our website has a plethora of information...*” This approach to community education is multi-modal, occurring through different media in order to reach different segments of citizens simultaneously. It is also worth noting how some of the media (town halls and social media) work on the interpersonal level whereas (news channel and website) operate at the institutional level. The challenge with mediating community education on the institutional level is that these can seem impersonal as P10 in city council describes his opinion of the city’s website, “*The [website] says, "Click here," and the next thing pops up on the screen, "Click here. Fill in this. Click here." That's impersonal.*” So while websites could serve as a source of information to reduce distance as knowledge—by nature they are socially distant, which presents a barrier.

The school system’s community education is atypical in both its scale and reach given how large the institution is. More typically, community education is carried out in meetings where public officials make presentations on the relevant information then engage in open conversations. P35 in the city’s planning office describes her method for community education regarding a large development project the city was embarking on: “*Because you have built a relationship with the people in the community. You come out, and you don't talk to them in a condescending manner. You understand what your audience is, and you're relatable.*” Being relatable and understanding your audience turn on interpersonal

elements of trust and are key aspects in the practice of community education. This calls attention to the interplay between social distance and knowledge distance. P35's social closeness underlies and enables her community education efforts. This has implications for how different forms of media emphasize either personal or institutional relationships. Community education is done on both levels but depending on the current level of trust—one may be more effective in traversing distance as knowledge.

Participation in Goal Setting

Moving along from distance as physical, social, and knowledge, there is also distance as power. A practice that emerged from our fieldwork that was deployed to traverse distance in power was *participation in goal setting*. This practice reflects how public officials involve citizens in determining goals for projects, programs, and services. This is the opposite of how typically goals are pre-set before participating with citizens. This can be problematic for trust as described by P43 in public health, *"If you come in and you already have a plan, you've probably already lost some trust. So, trust can be gained by engaging the community from the very, very get-go. It can be lost if decisions are made there and the community wasn't part of those decisions."* Here, P43 emphasizes that the trust process is already significantly handicapped if participation in goal setting does not occur. This is because distance in power is at the core of citizen participation—power is both the goal and essential challenge for participation. The extent to which citizens (and "which citizens") have the power to influence plans and make decisions have long been a concern for scholars considering civic participation [1]. Power is also significant for trust—as the act of trust grants discretionary power while accepting the risks involved in doing so.

Participation in goal setting is accomplished by having initial, early, exploratory conversations in order to give shape to goals. Typically, this occurs through focused and targeted conversations with community leaders or by forming advisory groups. While ideal, challenges arise with participation in goal setting for public officials when the constraints of budgets or departmental objectives create non-negotiable goals. In these cases, institutional transparency is vital as it lays bare the constraints limiting goal setting. At the interpersonal level, honesty becomes important in how clearly the public official can convey limiting factors.

Setting Expectations

The last distance traversed in initiating trust is hypotheticality—the sense of how likely an event or idea will occur. So, a highly unlikely event is hypothetically distant whereas a highly likely event is hypothetically close. This distance is addressed with the practice *setting expectations*. This practice describes the way in which hypothetical distance is framed by public officials in participation. P39 in parks and recreation describes this as follows, *"You tell them early on that I'm more than happy to help, but these are kind of my limitations that I'm working within, and so even though I can*

help you, I'm not actually got to be able to build the park. I can help you plan this park. I don't have the \$20 million it's going to take to put this plan into action."

In this case, risk is presented in the goal of developing a new park. This risk stems from hypothetical distance—as P39 states neither herself or her department can guarantee participation will lead to the park being built. The role of trust here is to bracket the risk presented by hypothetical distance by coming to positive expectations. This is important for citizen participation as goals are often hypothetically distant: revitalizing a neighborhood, preventing gentrification, or addressing systemic violence for instance all entail a great deal of risk and complexity in addressing. Therefore, enabling participation to address these issues will need to overcome their hypothetical distance.

While forming positive expectations is key for trust, these expectations must be grounded as P18 a director in the city economic development agency describes, *"you cannot over-promise and under-deliver. You have to manage expectations. And I think a lot of times when people are involved in community engagement, they will say what they need to say at that moment to get the room settled, as opposed to being honest."* Here, rather than saying what is immediately expedient to enable participation, the practice setting expectations requires honesty, transparency and "thick-skin." The challenge lies in "who" promises and "who delivers" as expectations are always entangled between interpersonal and institutional logics. The interplay between how expectations are met (or not) have significant impact on proving trustworthiness in the next stage of the trust process.

Proving Trustworthiness

Proving trustworthiness reflects the prevailing view of trust among public officials as the eventual result of delivering on the expectations that were set when initiating trust. This is accomplished with the following the practices: *being present, managing expectations, and shared decision making*. As mentioned in the previous section, one of the challenges in proving trustworthiness is when interpersonal expectations are misaligned with institutional constraints: budgets, staff resources, legal statutes, and bureaucratic process. This sets up a conflict for interpersonal trust which relies on integrity, performance, and predictability. The paradox is that stronger trust relationships are more resilient to these kinds of challenges, but developing a strong sense of trust first requires overcoming these kinds of challenges [43].

While most often proving trustworthiness is directed at service performance or efficiency of a department, here the same the efforts are implicated but directed to trust in participation. P18 in the city economic development agency describes the need for this clearly, *"you can't engage people who don't believe in what you're saying. It's just that simple."* This belief rests on both on institutional and interpersonal trust as officials have to articulate the goals of their department with the public as well as their personal commitment to seeing those goals through.

Of course, belief in P18's institutional objectives comes with risks for residents, especially for those who might be susceptible to gentrification that might be spurred either (intentionally or not) by her department's economic development efforts. This is where trust comes into play as it enables belief allowing for action and cooperation in situations of incomplete knowledge, uncertainty and thus risk. But trust must be earned gradually in process over time with practices that prove trustworthiness.

Being Present

The first practice in *proving trustworthiness* is *being present* which is how public officials maintain social and spatial-physical presence in communities. Being present continues the relational work started previously in meeting people where they are but here the emphasis is on how progression of social closeness is achieved over time. It is this progression that eventually blurs the distinctions of "those in power" and "citizen." For this reason, being present precludes meeting people where they are—the former prevents the distance that necessitates latter. Put simply, if you are present you are already "there." In this way, being present presumes a greater level of trust which changes the scope of possible actions. This leads to the transition from calculus based trust that characterizes trust in the initiating stage to relational based trust which draws on emotional history [43,62].

Being present is accomplished by regularly attending events held within the community, maintaining ongoing conversations and being aware of what is important outside of the needs for participation. This last point is emphasized by P41 in environmental planning, "you go to their meetings whether you have something to say or not. Find out what they're generally concerned about." Here, P41 points out the value of being present in a non-transactional manner—not just because there is a specific request that needs to be made or task that needs to be completed. Doing so conveys benevolence and partnership in addition to predictability which are key indicators of trust in both its institutional and interpersonal forms.

Being present in this manner is proactive rather than reactive as P12 in public schools describes, "*most of our community engagement is reactive, to get a response on something or feedback on something, when it could be more just listening and being more out there. Then, eventually, based on the trust that you build in the communities, then you can talk about solutions. But before requiring feedback, maybe just be there and be available first.*" The challenge with proactive engagement is it can be time and labor intensive. This leads to public officials exploring technology use as means to being present in a more efficient manner.

Use of technology always involves weighing the tradeoff between the efficiency of digital/asynchronous interactions on one hand and the value of the affordances of physical/synchronous interactions on the other. P21 in the city housing authority describes this in her contrast of social media use vs face-to-face interactions, "*I do think that, while social media*

can be great and mailings can be great, that one-to-one relationship is really the most key, the most important." However, even though digital media do not allow for the same affective quality of in person, one-to-one interactions, they were recognized as being an important way to amplify connection as P7 in city council describes: "*[The website] Nextdoor, the good thing about those type of programs, just like Facebook you can set a notification schedule or tickle or something that says alert if it says MY NAME or alert if it says crime in progress or shooting or whatever you think is an emergency you can do that. Otherwise my staff monitors it.*" The use of social media to connect to residents has risen rapidly in our city [48]. These serve as another channel for being present that traverse social distance in a much more efficient way than in person. P7 highlighted some of these affordances such as notifications based on keywords and multi-user access on personal accounts allows. This together allow for more tactical presence as well as allowing presence to be extend. However, being present digitally is always done in addition to physically as many public officials fear issues of equal access limit the reach of digital presence. This requires a one-foot-in, one-foot-out perspective to being present. P7 in city council describes this, "*I think technology is one thing, but everybody don't have access to technology. We have to go HiFi, LoFi. We got to go high-tech and low-tech. Super low, like knock on doors.*"

Overall, it seems digital media become more relied upon later on in trust work as P41 describes, "*[building trust is] that front end loaded activity, level of activities that is important to build that trust and to bring awareness to a process that will yield participation, and fruitful participation for a project. You can't do it digitally first. You can do it along the way, but you can't start out in a digital capacity.*" This was also evident in the contrast between technology use in meeting people where they are and in being present. In meeting people where they are, trust work leans heavily upon interpersonal trust which is built through affective, face-to-face interactions whereas later in proving trustworthiness when some trust is in place, trust can begin to work through history or institutional familiarity. This shift de-emphasizes the need for the affordances of interpersonal communication that digital mediums lack.

Managing Expectations

Next, there is *managing expectations* which builds from the early work in setting expectations but here the emphasis is on how expectations can persist in the face of challenges and setbacks in this later stage of trust building. P8 in city council describes a typical scenario in which this practice becomes important, "*let them know, "Yeah, I will try to get that pothole fixed, and these are the steps that are associated with doing that...And if you can't get the pothole fixed, it's bad.*" Failure to fix the pothole may reduce the probability of achieving the goal (which increases hypothetical distance) as well as extend the timeframe of reaching it (increasing temporal distance). Moreover, as distances are associative [65] others might be implicated: social distance might grow, distance in

knowledge might feel greater or distance in power might feel more pronounced.

On the other hand, failure to reach a goal does not always have to lead to reduced trust. In fact, trust process theory views overcoming challenges as key opportunities to prove trustworthiness [52]. Doing so successfully requires managing expectations in such a way that holds trust in place even as hypothetical and temporal distance are extended. However, to achieve this transparency of institutional forces at play as well as honesty at the interpersonal level need to be able to provide visibility and subsequently accountability.

In these situations, the institutional relationship is brought to the forefront with public officials mediating the bureaucracy on one hand and citizen confusion and anger on the other. In order to continue managing expectations, accountability must be visible and this applicable to both interpersonal and institutional trust. But this starts at the interpersonal level with the public official taking ownership as described by P18 in the city economic development agency, “*if somebody distrusts the work that you’ve done... You’ve got to reset. Perception is reality. You know, whether I did it or didn’t, if the perception is that I did it - I did it. And so, what I have to do is start over.*” P18 must contend with the challenge of trust being subjective: with trust perception is reality. Moreover, in the same way trust as positive expectations can reduce distance, distrust is just as powerful in working in opposite.

At the institutional level, this means making organizational changes to put forth a structure that affords accountability. P44 in the city workforce development department describes her departments experience with this, “*we had to rebuild simply because the [CITY] didn’t trust this agency. They didn’t trust us with federal funds. They didn’t trust us with their kids. They didn’t trust us to help them get jobs to help them be able to take care of their families.*” Ultimately, there is a limit to how far trust can be built interpersonally if the relationship institutionally has gone too far into distrust.

Shared Decision-Making

Finally, *shared decision-making* continues traversing distance in power. As the trust process continues to develop over time, reducing distance in the form of power requires public officials defer and allow citizens to share in decision-making authority. Shared decision making presents a risk for public officials—as they cede power institutional objectives and constraints may be compromised. This produces vulnerability for the public official but doing so is key to proving trustworthiness: stronger trust relationships are characterized by mutual vulnerability. In this way, the trust process is a two-way street: risk is present both directions thus making both sides vulnerable.

P28 the director of a city-wide infrastructure development describes how a discrepancy in his department’s work presented a typical scenario for shared-decision making: “*residents in a neighborhood on a project we were working on*

discovered something that they questioned that we might have missed on what we were doing.”

For context, P28’s department is fairly new and the work controversial as many fear the development efforts will lead to wide spread gentrification. To overcome both the risk their work presents as well as the unfamiliarity of their department—P28 had engaged in much of the earlier trust work practices: meeting people where they are by going out to residents: meeting people where they are by going out to residents: meeting people where they are by going out to residents: meeting people where they are by going out to residents: providing community education through various workshops and presentations, setting expectations on development efforts, and remaining present socially through the community. Thus, they had traversed many distances and proved trustworthiness to some degree. However, in order to complete the transition into the next stage of trust, distance in power must be reduced. P28 describes how his department traversed distance in power in this case, “*After evaluating it I had to make the decision to tell my team, we’re going to side with the neighborhood on this.*” While reducing power in decision making may be more recognizable when it occurs in formal processes and mechanism—privileged moments—they can also arise in points of unexpected friction and risk [40]. However, it is in these opportunities that trustworthiness is proved most convincingly as P28 reflects, “*again, that’s about relationship with the community, as opposed to just an exchange with the community.*”

Retaining Trust

After initiating trust by meeting people where they are and sharing power, followed by proving trustworthiness through consistent presence and doing the things you said you are going to do, both interpersonal and institutional relationships may now be established, but trust is not fixed. Rather than introduce additional practices, we highlight a high-level strategy—*sustaining engagement* that is used in order to *retain trust*. In adopting this strategy—an ecological perspective towards trust is advanced.

Sustaining engagement

Sustaining engagement manages the erosion of trust from temporal distance by repetition and consistency of participation efforts. Whatever the mode of participation—weekly conference calls, bi-monthly planning meetings, end of the month happy hours, quarterly work-shops—it needs to be held stable over time. P42 in regional planning describes the importance of sustainability, “*We as people who engage communities we can’t afford to just do this one-off type thing. It’s about building relationships, it’s about building trust. That comes over the course of a period of time.*” Throughout the interview data sustaining engagement was important to public officials because they believe it produces predictability. Predictability is significant for trust—in fact it is one of the most powerful trust enabling characteristics such that it can even override missing or deficiency in other characteristics [49]. The importance of predictability seems appropriate as predictability makes the process of forming positive expectations less uncertain.

Outside of producing predictability, sustaining engagement suggests taking an ecological perspective to trust work. As we have shown this far, trust exists as an ecology: of people and institutions, of distances and risks, as expectations and power. All of which are subject to growth, evolution and regression. This is especially true of relationships: public officials move in and out of power, departments adopt new policies and citizens move in while older long-time citizens move on—making many civic relationships transitory. For instance, P10 in city council describes the role of temporal distance in (re)producing social distance by way of the cycles in people’s availability for participation, *“you get particularly volunteer leaders... [where] there may be other stuff going on in their lives, and so they’re checking in and they’re checking out of the opportunities for the trust.”* The flow of time and people and contexts combine to (re)produce distance in relationships between public officials and citizens making trust difficult to hold in place.

All of the elements of the trust ecology—when aligned through trust work create a state of trust but retaining it depends on sustaining engagement. P28 infrastructure development in describes the dynamic nature of the ecology, *“You got to work your way through it to create that environment, and it’s never static... Just because you had a good experience last month, makes no sense to assume they’re going to have that same experience next month... we’re going to keep nurturing that conversation and that relationship, so that it forges into something lasting.”* Sustaining engagement is necessitated by the growth and flows of distances. P28 also points to how sustaining engagement eventually “forges into something lasting” this something is institutional trust. While more difficult to build, trust in this form is ultimately more durable over temporal distance in comparison to the mortal limits on interpersonal trust.

Sustaining participation is of course time and labor intensive especially given the preference in much of trust work for face-to-face interactions. P19 in economic development speculates on the use of virtual meetings to overcome this challenge, *“could we use technology to meet instead? What if we’re able to have that same meeting, cut down your travel time, cut down the cost for food, things of that nature, get cut straight to the chase.”* The paradox here is that communication technology is essentially a means to overcome distances—spatial, social and temporal. Moreover, in the face of limited staff and budgets—technology could improve both trust work and participation by allowing more opportunities for interaction in a more efficient manner which would lead to greater sustainability. However, the paradox lies in how trust as we have shown requires time and therefore efficiency as value is almost diametrically opposed to the needs of trust. In this way, trust work is more akin to what Gordon describes as meaningful inefficiency [27].

DISCUSSION

Trust as a mechanism for action may seem out of place in our current knowledge society that is fact-based and filled with

rational actors. This should make such a pre-modern concept of trust irrelevant. Trust, however, is still quite relevant, if not more so than ever [17,3,63,65]. In digital civics, designing for trust and designing for knowledge, as two related yet opposing mechanisms for cooperation in citizen participation, entail different things. Trust, as a mechanism for getting work done or facilitating engagement is different than providing knowledge or facts about the work. It also different than making work more efficient. Trust invites subjectivity, affect, and relationships that can be deemed unnecessary in knowledge. But it precisely in this subjectivity that the work of civic engagement occurs, and so it is in understanding and supporting trust that must guide computing interventions into civic encounters.

The Ecology of Trust: People, Practices and Systems

Our findings add to the growing emphasis on relationships in civic participation [30,57,66]. The crisis in confidence we described in early in this paper will not be solved by increasing efficiency of institutions or improving the expertise of public officials—not alone at least. This is because “confidence” is in fact subjective—it is a belief that is driven by positive expectations. These expectations are not only based on performance or competence, but on goodwill. All of which points to the role of trust that develops through relationships where expectations are formed and maintained. By breaking down the common singular view of civic relationships into both of its underlying forms—interpersonal and institutional—the interactions between people (public officials and citizens), practices (trust work and participation), and systems (institutions and technology) becomes clear. A good example of this was when institutional trust was weak, trust work would emphasize public officials interacting through interpersonal trust. Later, when some trust was in place, systems began to help prove trustworthiness by allowing presence to be maintained which grew institutional trust. While we emphasize the interpersonal-to-institutional, the reverse is also possible; however, given the current landscape of institutional distrust, the flow of trust will likely often be the former. For this reason, the role of people, in this case public officials, which is typically ignored or undermined in system design, warrants greater consideration.

Ultimately, designing for trust needs to distinguish between how to support both forms of relationships as the needs for each are not only distinct but in fact may conflict as we have shown. Moreover, as Volda recently has argued: even if design can align values that support both forms of relationships, the logic in how work is carried out can still cause conflict [72]. The focus on practices and distances in this paper adds another dimension to how, when, and why logics and values may conflict. Finally, taken together, people, practices and systems leads us to suggest an ecological perspective of trust. Taking an ecological view brings together all the elements of trust (people, practices, relationships, systems, risk, expectations and process) whereas currently digital civics tends to consider each in a piecemeal manner as we discussed earlier. In this way, the trust ecology is analogous to the product

ecology: “each instance of [trust] has its own ecology; the factors in the ecology are adaptive” [21]. That being said, not every element must be considered in every study or design intervention. There are good methodological reasons for narrow focuses. In fact, even this study featured a narrow focus as we only considered one half of the equation—public officials—while omitting citizens. This of course was an intentional omission motivated to provide empirical balance to the dearth of research on public official’s perspectives towards trust. The larger point is a need for to develop a design framework that acknowledges the other elements, even when not addressing them directly.

Removing Barriers, Creating Distance

Design in the trust ecology must contend with distance as we have shown throughout this paper; however, this must be done with care to avoid the trap of inadvertently opening up new distances in the process. This trap is typified in how e-government systems and the larger frame of digital democracy are typically valued in ICT’s ability to overcome the “limits of time, space and other physical conditions” [28]. The value proposition here is in removing the barriers presented by the distances of time and space. Our lens of distance problematizes this perspective as spending time in proximity are the building blocks of trust. This begs the questions: in designing civic systems that can automate and streamline processes, we may remove barriers but are we also creating distance? If points of contact are removed, how does the nature of the relationship between citizens and public officials change?

Successfully mediating distances through design interventions requires engagement with the elements of trust we have covered in this study—expectations and risk and trust as a process. Taken together, these elements show that trust is a process of forming positive expectations by overcoming risk presented by distances. Moreover, as prior literature and our findings have shown, these distances are associative; therefore, efforts to mediate any single distance should consider the implications for the others. This was clear in how the practice of *meeting people where they are* needed to traverse spatial-physical distance to address social distance. We also saw how *setting* and *managing expectations* presupposes traversing distance as knowledge. In *community education*, social distance helped to close distance as knowledge. By considering these interplays, design can avoid the trap of removing barriers and creating distance.

Ultimately, our main goal was to inform the design of digital civics which focuses on “new configurations of government and citizenry one that is relational rather than transactional” [71]. To our knowledge, the role of trust in these configurations has not been directly addressed. Thus, the elements of our framework offer specific areas to consider in design: Which features and interfaces mediate practices that are conducive to trust? What are the relevant interpersonal and institutional variables that should be represented?

For process and risk, there are several existing HCI design methodologies that are promising. Notions of infrastructuring and attachments seem appropriate to trust as a process for articulating and supporting ongoing relationship building and contending with re-configurations through issue formation [15]. Designing for planned obsolescence is another promising approach—as trust will inevitably need to be repaired throughout the process [33]. Finally, to manage risk, adversarial design provides a view that embraces conflict as a productive resource for governance and collective action [17].

Finally, a key component of designing for trust will be working with (and within) municipal entities to lay out the elements of specific trust ecologies—design based ethnographic methods seem well suited here. To this end, there is an opportunity to bridge HCI’s design acumen with the rich literatures in public administration to inform future work (e.g., [10,45,54]). Moreover, while such partnerships are not new to HCI (e.g., [16,36,72]), attention has not been directed to the point we have advanced in this paper: how computing might support trust through (and with) citizen participation. In the end, the findings we present here should be taken as an important but incremental step toward a larger trajectory within HCI concerned with the social and political impacts of the systems we build.

CONCLUSION

Public officials view trust as essential to enable citizen participation in local government. This was made clear by how many aspects of the work performed by public officials (how a service is provided or a planning process arranged) can be constrained, limited, or enhanced depending on the level of trust (or distrust). For this reason, *trust work* often comes to be its own distinct mode of work entirely. Trust occurs through both interpersonal and institutional relationships that rely on different characteristics of trust such as transparency, honesty, and predictability.

Across the eight salient practices of *trust work* we found, there was a unifying goal to traverse various manifestations of distance: distance in social familiarity, distance in domain knowledge, distance in decision making-power, distance in temporal length, distance in physical proximity and distance in hypothetical uncertainty. These distances combine to produce risk and uncertainty in citizen participation efforts. Ideally, these distances could be eliminated but more often they can only be reduced temporarily thus leaving risk in place. This is where trust comes into play—as trust is a mechanism allowing for action in the face of risk. Technology and design will have a role to play in “Going the Distance” but to do so we need to understand how trust develops within the relationships, risks and expectations that characterize citizen participation.

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