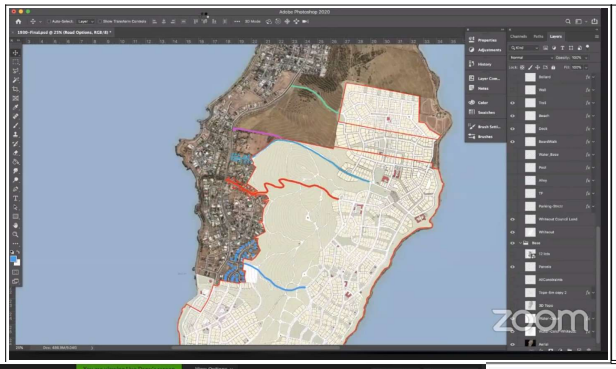
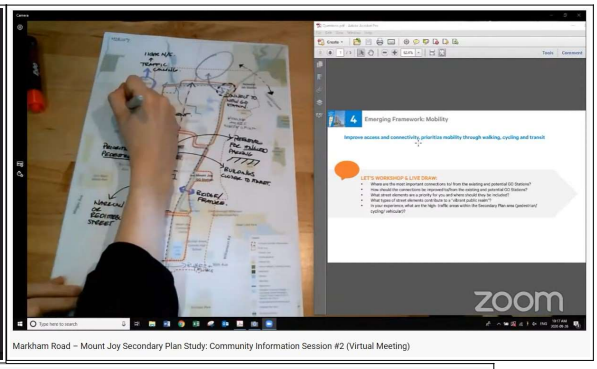
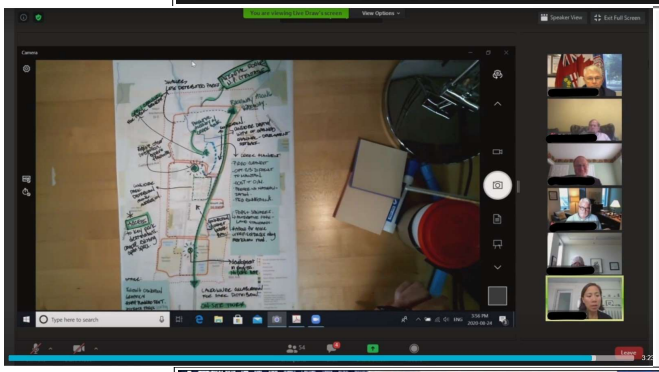
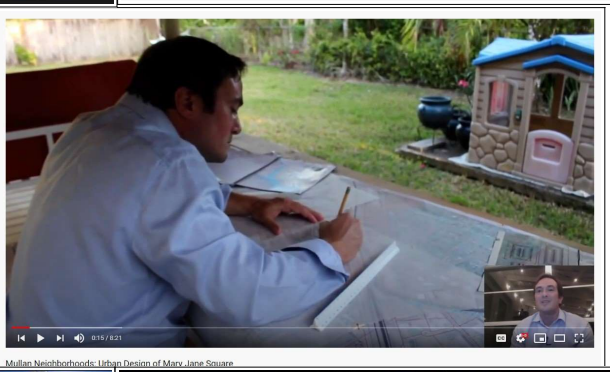
EXPLORING DIGITAL PLACES OF PRACTICE:

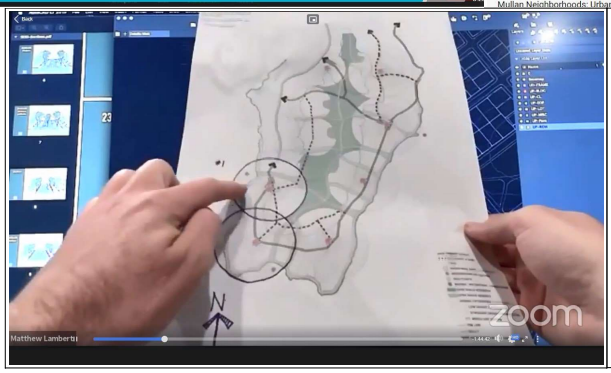
VIRTUALIZATION, TRANSFER AND TRANSLATION OF THE DESIGN CHARRETTE

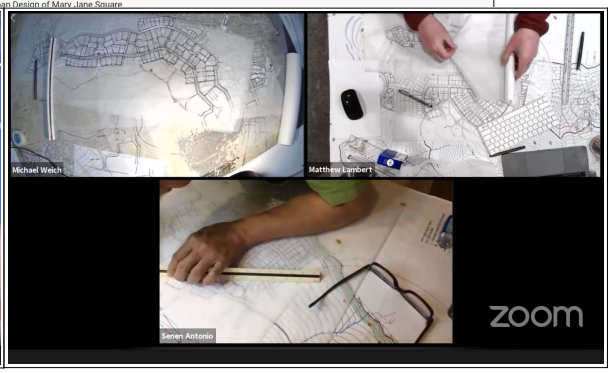












ERASMUS MUNDUS MASTER OF URBAN STUDIES [4CITIES]
THESIS BY: CLAIRE GRIFFITH
SUPERVISOR: UNIV.-PROF. MAG. DR. ALOIS HUMER
2ND READER: PROF. ROSA DE LA FUENTE
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Abstract

Robert Beauregard's (2013) concept of Places of Practice highlights how the Places, the keyboards, cubicles, meeting rooms, and community halls *where* planning happens shape *what* happens. This paper asserts that Beauregard's (2013) concept must be expanded to include what I call *Digital* Places of Practice in order to capture the virtualization induced by the COVID-19 Pandemic. This paper examines the digital transfer and translation of the Design Charrette, a form of co-design community engagement which melds thinking spatially with seeing visually. Using research approaches that foreground practitioners and their practices, methodologies that examine the entanglement of humans and objects, and methods that blend interviews with analysis of Digital Participatory Platforms, I argue that participation in urban planning is being redefined as it is no longer spatially or temporally bound. Other factors now shape who participates, when, how, in what and why. The emerging Digital Places are familiar and foreign, interactive and formal, ephemeral and everlasting. Participants can be synchronous or asynchronous which shapes how they engage with each other and with the design process. Using the metaphor of construction, I argue that practitioners are builders: they construct Digital Participatory Platforms which house co-design processes. They also frame doors and windows into the design process: which device a participant uses determines whether they can enter through the door or are merely observing through a window. We are in the beginning stages of virtualization: I argue that as we explore Digital Places of Practice further, practitioners must strive to equalize access to planning processes between digital devices and across the digital divide. Community engagement is in dire need of transformation: I hope contained within the tumult of the COVID-19 Pandemic some seeds of change were planted.

Keywords: Digital Transfer, Digital Translation, Digital Transformation, Virtual Design Charrette, Digital Places of Practice, Synchronous, Asynchronous

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Zusammenfassung

Robert Beauregards (2013) Konzept der Praxisorte zeigt auf, wie die Orte, die Tastaturen, Kabinen, Besprechungsräume und Gemeindesäle, in denen Planung stattfindet, das Geschehen prägen. In dieser Masterarbeit wird behauptet, dass das Konzept von Beauregard (2013) um das erweitert werden muss, was ich als digitale Orte der Praxis bezeichne, um die durch die COVID-19-Pandemie ausgelöste Virtualisierung zu erfassen. Diese akademische Arbeit untersucht den digitalen Transfer und die Übersetzung der Charrette-Verfahren, einer Form der kollektiven Partizipation, die räumliches Denken mit visuellem Sehen verbindet. Unter Verwendung von Forschungsansätzen, die Praktiker sowie Praktikerinnen und ihre Praktiken in den Vordergrund stellen, von Methoden, die die Verflechtung von Menschen und Objekten untersuchen, und von Methoden, die Interviews mit der Analyse digitaler Beteiligungsplattformen verbinden, argumentiere ich, dass die Beteiligung an der Stadtplanung neu definiert wird, da sie nicht mehr räumlich oder zeitlich gebunden ist. Andere

Faktoren bestimmen nun, wer, wann, wie, woran und warum teilnimmt. Die entstehenden digitalen Orte sind vertraut und fremd, interaktiv und formal, flüchtig und dauerhaft. Die Teilnehmer können synchron oder asynchron sein, was die Art und Weise beeinflusst, wie sie miteinander und mit dem Designprozess umgehen. In Anlehnung an die Metapher des Bauens behaupte ich, dass Praktiker sowie Praktikerinnen Bauherren sind: Sie konstruieren digitale partizipative Plattformen, die Co-Design-Prozesse ermöglichen. Sie rahmen auch Türen und Fenster in den Designprozess ein: Welches Gerät ein Teilnehmer benutzt, bestimmt, ob er durch die Tür eintreten kann oder nur durch ein Fenster beobachtet. Wir befinden uns in der Anfangsphase der Virtualisierung: Ich behaupte, dass Praktiker sowie Praktikerinnen bei der weiteren Erforschung digitaler Orte der Praxis danach streben müssen, den Zugang zu Planungsprozessen zwischen digitalen Spheren und über die digitale Kluft hinweg anzugleichen. Das Engagement der Gemeinschaft bedarf dringend der Transformation: Ich hoffe, dass in den Unruhen der COVID-19-Pandemie einige Samen des Wandels gepflanzt wurden.

Schlüsselwörter: Digitaler Transfer, Digitale Übersetzung, Digitale Transformation, Virtuelle Design Charrette, Digitale Orte der Praxis, Synchron, Asynchron

Cover image sources (Skylands/ DPZ Co Design(2020 10 November); City of Markham (2020 26 September); City of Markham (2020 24 August); Dover Kohl (2020, 25 March); Skylands/DPZ Co Design (2020 10 November) and Skylands/DPZ Co Design (2020 04 November). All images used with permission.

Beauregard, R. (2013). The neglected places of practice. *Planning Theory & Practice*, *14*(1), 8–19. https://doi.org/10.1080/14649357.2012.744460

Acknowledgments

To all of the practitioners who shared their experience, time and expertise with me. Thank you. I left each conversation buoyed by your words of encouragement, glowing from your interest in my research, and awed by your willingness to share your successes and challenges with me, openly and honestly. I hope I have done justice to your work.

Alois, thank you for trusting me and my inductive approach.

I am indebted for the generous support I received to attend the 2020 North American Virtual Conference from the International Association for Public Participation. It was a perfect environment for my fledgling research ideas and questions to grow.

My fellow 4Citizens: 2020 has not been easy for any of us. Thank you for the care, compassion, and commiseration as we transferred, translated and transformed ourselves online. You were the initial inspiration for this research.

Julia, Mili, Inés, Vivi, Sarah, Belen, Lea, and Maru, my urban.femina sisters: You nurture me. You inspire me. You challenge me.

To my 4Cities families: Cendre & Maggie; Tim, Aileen, Daniel & Frederick; Christian & Luka; and Juan, Carmen, María, Edu, Michael, Florian & Daniele. My homes away from home.

Lastly, to Zeko. Thanks Babe.

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Chapter 1 Introduction

Image 1: Narrating the Design Process (00:00:16)
Used with permission from Dover Kohl & Partners (2020 25 March)

1.1 Locating Places of Practice

Place, unsurprisingly, appeared frequently in my research on public participation in urban planning: occurring 196 times in my annotated bibliography. Yet, argues Professor Robert Beauregard (2013), too often planning literature foregrounds Place as the direct object of planning (the place "being planned") or Place as the context. He suggests that the physical places where planning activities play out; the keyboards, cubicles, meeting rooms, or community halls, are important yet often

overlooked Places of Practice.[1] These Places[2] are not merely backdrops: they structure and are shaped by the planning activities as they unfold. One planning process will occur in many different Places: practitioners[3] play active and passive roles directing planning processes through a constellation of Places.

Places have different characteristics: they can be formal or informal, transparent or opaque, public or private, welcoming or alienating. Similarly, “different kinds of talk” (e.g. technical, emotional, formal, social) occurs in different types of Places (Beauregard, 2013, p. 15). Therefore, “where planning happens affects what is deliberated, who is involved, and the publicity afforded to the deliberations” (Beauregard, 2013, p. 10), because of the ways in which specific Places are embedded into collective and individual emotional, political and social landscapes.

As communicative planning theorists Judith Innes and David Booher (2004) note, authentic dialogue also requires specific conditions: characteristics such as location, accessibility or timing can welcome or repel participants, amplifying some voices and quieting others. In addition, different places have different types of rules which govern how and between whom exchanges occur (Innes & Booher, 2004). Thus different Places of Practice are conducive to different types of interactions, with different power dynamics between participants (Beauregard, 2013).

Places of Practice provides a missing window for interrogating why, as Innes and Booher (2004) write, often public participation simply “does not work” (p. 419). The actions practitioners take in these Places have real consequences; they “materialize existing power dynamics and ideologies” through their work (Zanotto, 2019, p. 44). Attention to Places of Practice provides profound insights into the meaningful micropolitics of planning (Beauregard, 2013, p. 17). In 2013, when Beauregard wrote his text, technologies, such as email, were integral to planning practice, however in this thesis I explore how the concept of Places of Practice applies in our rapidly digitizing world. I seek to understand what practitioners are learning about the new Digital Places they find themselves in. These Places are simultaneously shaped by physical and digital dimensions. Digitally produced information is still somewhere (Afzalan et al., 2017). It transcends place but is not dis-Placed. I examine how practitioners are reflecting upon and learning about new dimensions

1 A quick note about Place and Space. Place and Space are two significant concepts in geography. For consistency, I follow Beauregard’s lead and use the language of Places of Practice rather than Spaces of Practice. Beauregard (2013) writes “unlike space, places exist because people and things occupy them, give them shared meanings, and situate them in collective memory” (p. 16)

2 I capitalize Places when referring to Beauregard’s Places of Practice

3 I intentionally use the word practitioner rather than planner throughout this text as practitioner highlights the behavior of planners, their "daily routines and practices” rather than a professional title (Othengrafen & Levin-Keitel, 2019, p. 111)

of Places of Practice in their work designing, implementing and conducting co-design community engagements online during the COVID-19 Pandemic.

1.2 Times of Inquiry

The COVID-19 Pandemic has, at least temporarily, dis-placed planning practices, the habitual and the report-worthy alike. Although the timing and extent varied across contexts, the change was dramatic.[4] For myself and my fellow 4Citizens, we "went online" between a Tuesday and Wednesday, the 10th and 11th of March 2020. "Going online" un-placed almost everything in our lives, and re-placed somewhere: in Zoom breakout rooms and shared Google Drive folders, in Teams chats and Slack channels. Spatially, we felt tethered, yet so many aspects of our lives, professional and personal, were in motion.

Much of the literature written since the Pandemic on digital tools and practices has stemmed from the fields of education and management which examine how in-person processes are being changed through *digitization*, *digitalization* and *digital transformation*. These three terms lack clear boundaries (Mergel et al., 2019; Reis et al., 2018). I define the terms as:

> **Digital Transfer**: the introduction of technology to replicate in-person practices or processes. The emphasis is on transferring processes 1:1 between in-person and virtual spaces. This is also referred to as *digitization.*
>
> **Digital Translation**: the introduction of technology which changes the underlying practice or process. The emphasis is on modifying the practice through the incorporation of technology. This is also referred to as *digitalization.*
>
> **Digital Transformation**: the introduction of technology which results in cultural, organizational or relational changes. The emphasis is on how technology changes systems or structures.
>
> (Based upon Gabryelczyk, 2020; Mergel et al., 2019; Schneider & Kokshagina, 2021)

Virtual is defined as "being on or simulated on a computer" (Merriam-Webster, n.d.): Transfer, Translation and Transformation describe the process and affect of virtualization. The cumulative processes of transfer and translation can result in transformation, necessitating new decision-making structures and procedures (Mergel et al., 2019; Potts, 2020; Schneider & Kokshagina, 2021). Yet,

4 For a powerful visual, see the Financial Times visualization of the Oxford University Stringency Index data (FT Visual & Data Journalism Team, 2021)

aligning old institutions and new methods can be challenging or threatening (J. Evans-Cowley & Hollander, 2010; Mugge et al., 2020) and does not always result in transformation (Pittaway & Montazemi, 2020).

Information and Communications Technology (ICT), per se, is not something new for the planning profession: within the past thirty years numerous Planning Support Systems[5] (PSS) have been integrated into planning, from email to google street view to AutoCADD. PSS applied to community engagement are labeled Digital Participatory Platforms (DPPs): "a specific type of civic technology explicitly built for participatory, engagement and collaboration purposes that allow for user generated content and include a range of functionalities" beyond those offered by social networking sites (Falco & Kleinhans, 2018b, p. 55). As illustrated in Figure 1, some DPPs facilitate one-way transfer of information (monologues), others bi-directional flow (to and from participants), while others allow for dynamic generation and exchange between users. This is elaborated further in Chapter 3. Integral to most DPPs is access to a device and to the internet (Falco & Kleinhans, 2018b; Potts, 2020).

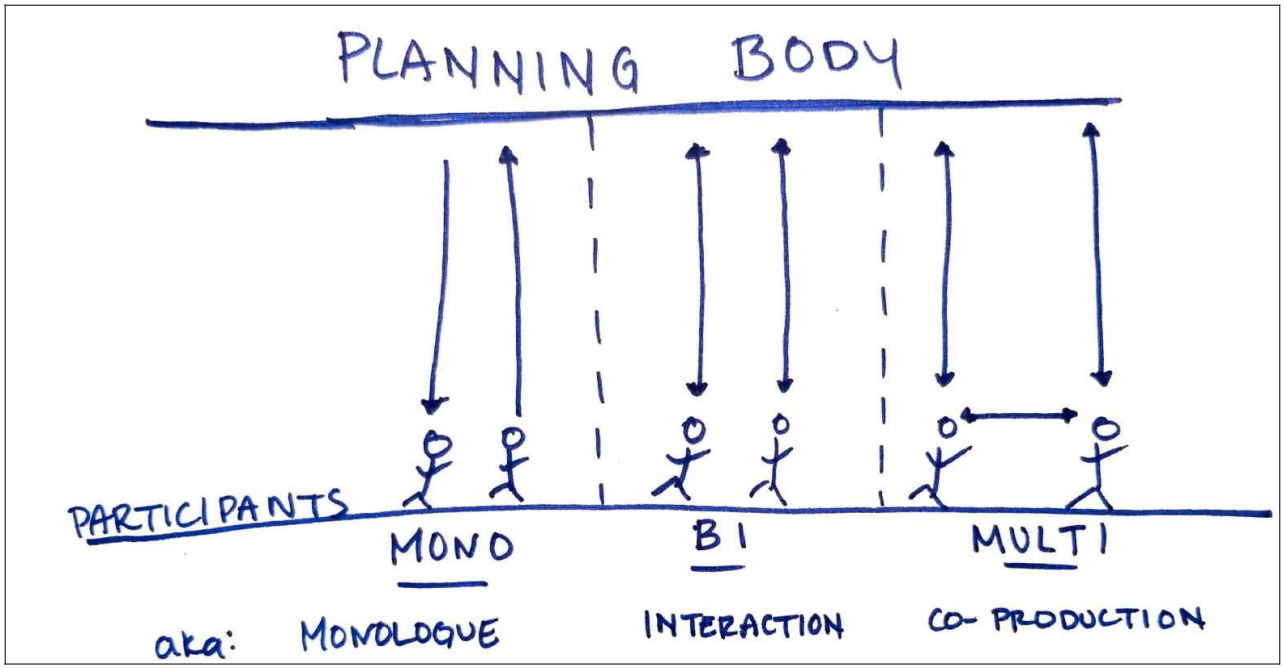


Figure 1 Typology of DPPs

Drawn by author, based upon Falco & Kleinhans, 2018b,

Building from Beauregard's (2013) insights on the different characteristics of Places of Practice, I explore how or if specific DPPs create distinct virtual environments and allow for information to flow in different directions.

5 I refer to Planning Support Systems always as a plural, thus the abbreviation PPS also plural.

ICTs are evolving, rapidly. Ruth Potts (2020) argues that technological revolutions (e.g. the desktop computer, the internet, cell phones with GPS) allow for new conceptualizations of what planning is, why we do it, and how it is done. Globalization, neoliberalism and redefinition of the role of the State and the shift from government to governance act in consort with technology to shape planning paradigms (Anttiroiko, 2012). As illustrated in Figure 2, Web 1.0 is characterized by static content and mono-directional information flows. Web 2.0 allows for user-generated content which flows between participants bi- and multi-directional ways. Web 3.0 is built around artificial intelligence, and is beyond the scope of this research.

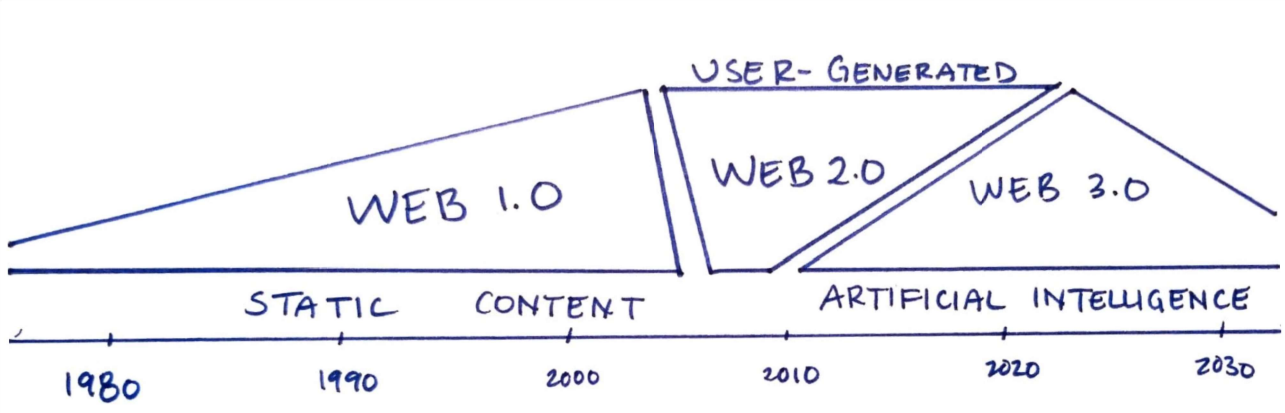


Figure 2: Evolution of ICTs
(Based upon (Fredericks & Foth, 2013; McNutt, 2014; Pánek, 2016; Potts, 2020)

Potts argues that Web 2.0 and the introduction of mobile technologies since the 2000s have "empowered stakeholders to interact and engage with planners and planning issues more than before" and forced planners to "reframe their epistemic understandings of stakeholder engagement and other core planning activities" (Potts, 2020, p. 279). Not all are so optimistic about the transformative potential of ICTs: "[ICTs] don't change cultures as they will be integrated into the existing culture of the organization" (Fredericks & Foth, 2013, p. 252). Kathleen McNutt (2014) observes that public administrators have generally adopted digital technology to increase efficiency (ie transfer), but not to disrupt forms of public engagement (ie translate).

The transition between Web 1.0 and 2.0 is neither smooth, linear nor rapid. There is often a lag between changes in technology and changes in practices (Fredericks & Foth, 2013; Potts, 2020) as "technology implementation takes time and has to overcome a diversity of bottlenecks and barriers, such as resistance to change and working habits that have been in place for years" (Pelzer et al., 2015, p. 640). Planning bodies may have specific policies or cultures which govern ICT use at

the macro scale, yet at the micro scale, planners must match configurations of tools with their specific projects, selecting appropriate DPPs.

Potts' article was published in March 2020, she could have not foreseen how PPS would become essential, virtually overnight as the Pandemic limited access to physical Places of Practice, precipitating rapid PPS implementation into all facets of planning from equity to cybersecurity to waste disposal (American Planning Association, n.d.; United Nations Division for Public Institutions and Digital Government, 2020).

While the impacts of the pandemic (at all scales) vary widely across contexts, planning practitioners face similar challenges stemming from virtualization: What tools exist? What tools do I have access to (e.g. a license for)? What tools do I know how to use? What tools do the people I am trying to engage use? and How do we do this online? The Pandemic has upended the metaphorical and literal "toolbox" that practitioners rely upon. It is unclear what the long-term effects will be, however geographer Honey-Rosés and colleagues (2020) note that "these moments re-define what is acceptable or radical...creat[ing] opportunities to carry out endeavors previously thought impossible but now are feasible or necessary. When in the midst of this change, which lessons from the past can we still grab onto and what previous understanding must we discard?" (p. 3). Guided by their words, this Thesis examines how planning practitioners are adapting, adopting and reflecting upon their practices in response to the Pandemic.

1.3 Approaching Opportunity with Care

Before turning to my research question, it is important to pause and reflect upon what it means to do research within the context of a global Pandemic. Honey-Rosés and his colleagues (2020) caution that we, researchers, must use the word opportunity delicately: in looking for opportunities, we must remain mindful that the pandemic has also caused immense uncertainty, fear and suffering. According to the World Health Organization, 4.4 million people have died from COVID-19 globally as of August 2021 (World Health Organization, 2021). Any discussion of "opportunities" cannot be disentangled from the complex emotional anguish of these times.

At the same time, the pandemic has allowed practitioners to interrogate the processes that we have taken for granted, questioning the structure (and appropriateness) of forums like public hearings (Interviewee 17) which are a strongly critiqued mainstay of public engagement in the US (Innes & Booher, 2004).

I, too, have tried to tread care-fully, to approach this research with both “humility and boldness” (Honey-Rosés et al., 2020, p. 13), with compassion and flexibility. I hope this is reflected in my approach, my methods, my writing, and my conclusions.

I am entangled in and with my research. Thus, at times, I choose to speak in the first person. I use my bodily experience as part of my research collection (see Chapters 4 and 6), therefore, it is crucial that I interrogate how my lenses filter my research.

I am a native- English speaker;

*I am t*ech-literate and digitally wired;

I am White, female, middle-class. An American. Cisgender;

I am detached from the outcome of these projects, I am not living in the places I study;

I am privileged to be doing this research in the context of a graduate program in Urban Studies.

1.4 Research Questions

In conceptualizing Places of Practice, Beauregard (2013) describes both virtual and material Places, however due to the Pandemic, many more aspects of our lives have moved online. Thus, I seek to transfer, and maybe translate, Beauregard’s concept of Places of Practice into the virtual world we now inhabit. To do this, I focus on a specific form of community engagement called the Design Charrette: it will be described in detail in Chapter 2.

I ask:

> How are practitioners reflecting on their processes of transfer and translation as they virtualize the Design Charrette? How do their reflections shed light on (new) Places of Practice?

and,

> What are virtual Places of Practice like?

1.5 What You Will Find in This Thesis

"Researchers have a responsibility to take the space and time they are afforded by the academy and help evaluate practice—the impact of planners, plans, and processes. Although there is certainly a place for higher-level theoretical discussions about planners and planning, here I refer to the creation of practical knowledge about the impacts of what planners are doing and insights into how they might improve on their practice. Researchers then need to make this research accessible to practitioners"

Carolyn Loh (2017, p. 24)

This thesis is the result of an iterative and responsive research process: my research questions, methods and direction have changed through doing research. In Chapter 2, I introduce the Design Charrette, which provides the frame for my inquiry. In Chapter 3, I elaborate how my research topic, question and methods were strongly influenced by a branch of communicative planning theory called the Practice Movement whose writings directed my gaze to what practitioners do, and how they reflect upon their learning process, using, as Carolyn Loh (2017) writes, "the space and time afforded" to me to evaluate practice. Following Practice Movement scholar Vanessa Watson (2002), who observes that "the outcomes of this [practice movement writings] are sometimes difficult to recognize as theory: those writing within the practice movement do not necessarily produce generalizable truths or theories about planning" (p. 179), I do not seek to identify "best practices." Instead, I explore the variegated ways that this process is unfolding (Pascal et al., 2011). My objective is to document the experience of practitioners (Watson, 2002), to reflect upon these narratives, and to examine the products of their virtualization efforts. Each interviewee, each virtual charrette provides a window into how processes of digital transfer, translation and transformation can unfold.

I am researching the *process* of virtualizing Places of Practice rather than the specific cases themselves, although Appendix I and II provides a summary and details about each of the projects. I elaborate further on my methodology and research design in Chapter 4.

Chapter 5 is organized around excerpts and explications of the 25 interviews I conducted (see Appendix III), as well as my reflections navigating the DPPs of each of the 10 virtual charrettes I examined. Chapter 6 concludes the Thesis with a discussion of my analysis and suggests limitations and recommendations for future study. Many Chapters and Sub-Chapters begin with quotations from the interviews or key texts, followed by explication.

While I have chosen to frame my inquiry around the Design Charrette, the COVID-19 pandemic has thrown all of us into new digital places of living, working and being. I believe the insights gained from looking at transfer and translation and the resulting new geographies of Places of Practice will resonate well beyond the context of the design charrette and community engagement. In this thesis, I hope you find a small reflection of your truth over the past 17 months.

Chapter 2 The Design Charrette

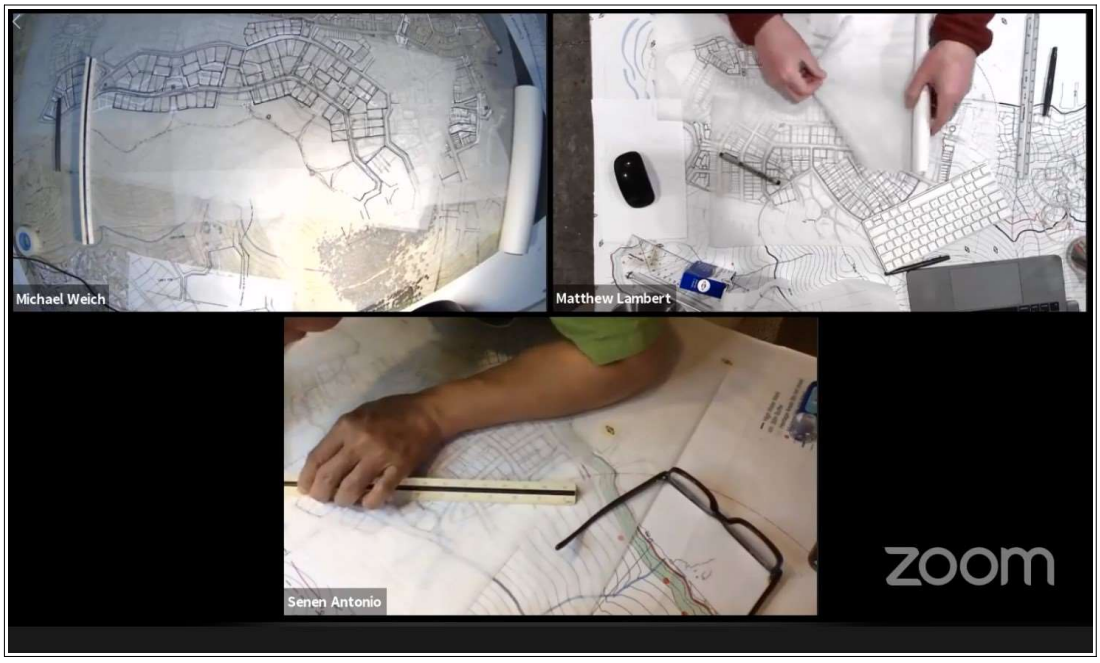


Image 2: Live Cast Design Session (00:14:50)
Used with permission from Skylands (2020, 4 November)

"The design team would be charrette-ing on site"

Interviewee 20

In most contexts, charrette (*n*) describes a form of community engagement that uses co-design to develop a Master Plan. However, one practitioner used charrette (*v*), emphasizing that the charrette is an action performed with others. As a verb, the emphasis is on both the designer and the participants, rather than the space. I use charrette as both a noun and a verb.

Chapter 2 delves into the context of my research: the pre-Pandemic, pre-virtualization charrette.

2.1 Guiding Metaphors for Approaching the Charrette

I translate two of Patrick Condon's (2008) nine rules for a successful charrette into metaphors, which help knit together theory and practice throughout this Thesis.

2.1.1 Layering

> *"Every every pen mark, every digital or hand drawn mark, layers an idea upon something that exists, that was built by others, that may have good or bad [characteristics]. We may be able to enhance, to rebuild, to demolish and rebuild, who knows? But we're layering"*
>
> Interviewee 24

Tracing Paper is essential at a Charrette. It is layered over a plot of the site: design professionals and community members draw upon it. Each layer provides starting point for a design conversation. Yet, unlike a blank canvas, the opacity of the paper allows for other information to remain visible. The act of layering implies combining different sources of information.

Layering also provides a metaphorical way for understanding how tactile tools and digital tools interface. Practitioners are placing digital tools on top of their physical charrette practices. In some instances these digital layers look like a top-mounted camera placed over a designer's desk which allows viewers to watch them draw. In other instances, the layer itself is digital: a participants on a Zoom call annotating a shared screen. In this thesis, I examine the different types of technological tools that practitioners are adding to the charrette. In my own attempt to play with these methods, this thesis includes my hand drawn visuals.

Lastly, layering is one way that James Mahoney and Kathleen Thelen (2009) theorize that institutions change. Layering, in this context, occurs when new rules are added on top of existing rules, "thereby changing the ways in which the original rule[s] structure behavior" (Mahoney & Thelen, 2009, p. 16). Public engagement is a legally mandated part of the planning process: the Pandemic has not changed this. However, new regulations around public gathering have added new regulatory layers to engagement.

2.1.2 Moving In, Out, Across

A successful Charrette produces a plan where all of the components (land use, transportation, utilities, economics, housing etc.) work together. The charrette facilitator must navigate between

scales, directing the attention to details, then zooming out to think structurally, and moving across from issue to issue to arrive at a plan that works holistically (Condon, 2008). The process is not linear or sequential: Charretting dances in, out, and across.

My research captures this rhythm.

2.2 What is a Design Charrette?

“The whole point of the charrette is it's fast paced [and you] get all the stakeholders in the same room”

Interviewee 19

“Sustainable communities cannot be designed using the same methods that produced unsustainable ones. Whatever method we use must be inclusive, synthetic, and capable of tolerating the unavoidable ambiguities that are the defining quality of any complex system. Inhabited landscapes—cities, in other words—are among the most complex systems imaginable. The charrette method … operates not on proofs, but on consensus, and it depends on holistic thinking first and linear methodologies second. It moves in the right direction, from the whole of the city to the parts necessary to build it, not the other way around”

Patrick Condon (2008, p. 123)

"When an inclusive set of citizens can engage in authentic dialogue where all are equally empowered and informed and where they listen and are heard respectfully and when they are working on a task of interest to all, following their own agendas, everyone is changed. They learn new ideas and they often come to recognize that others' views are legitimate"

Innes & Booher (2004, p. 429)

Although Innes and Booher (2004) were not describing a Design Charrette, they could have been: the Design Charrette (hereafter the charrette) is form of participatory community engagement during which a design team works with a diverse range of stakeholders to develop a “complete and feasible plan” over which all participants feel “mutual authorship” (Lennertz, 2003, p. 4). The charrette process “creates space for community members to work along side decision makers and experts in solving big, practical problems...engag[ing with] complex problems in a more complete way” (Madill et al., 2018, pp. 10–11). This approach differs from many traditional public engagement processes because the “participants are engaged in the co-creation of the proposal as

opposed to simply reacting to a plan or a proposal" that has already been prepared (Madill et al., 2018, p. 18). The charrette forum allows for professional and non-professional knowledges to meet (Bamberg, 2013).

Consensus is at the heart of the charrette process (Condon, 2008) and is also a central component of communicative planning theory, which will be discussed further in Chapter 3. Consensus allows participants to see how "all participants' interests are interconnected and come to see the problem as a joint one in which each has a stake" (Innes & Booher, 1999, p. 416). I describe participants in a charrette as the **Charrette Facilitator** who leads the **Design Team,** an interdisciplinary team who conducts the charrette and produces the final Plan, and the **Community Team**, which can include community experts (those who will be directly impacted by the project or who have intimate knowledge of the site), process experts (those with official decision making power) and technical experts (Condon, 2008; Lennertz, 2003; Madill et al., 2018; Ryan et al., 2008; Walters, 2007). The Community Team may not arrive feeling that they are "a team." They bring different objectives, non-negotiables, visions, values and logics. The Design Team must help the Community Team navigate their differences, identify points of commonality, and reach consensus on a vision. Ideally, anyone impacted by the project participates.

Participatory processes can be spread over months or years, however a charrette typically is an intense four to seven days of talking, doodling and drawing (Condon, 2008) where on-the-spot drawing is a central communication tool. Design, often the Design Team sketching out ideas in real time while participants talk, makes the design process transparent and legible, contributes to a shared "spatial language," allows for instantaneous feedback (or clarification) between designers and participants, and builds ownership of both process and outcomes (Pelzer et al., 2015, p. 647). The charrette is organized around a series of feedback loops: during each loop the design team synthesizes what they have heard into visuals which are presented back to the participants in public interactive meetings or open houses. These visuals provide the starting point for the next round co-design. The iterative, visual process helps foster a holistic planning approach (Condon, 2008; Lennertz, 2003; Walters, 2007).

The charrette is strongly associated with New Urbanism which emerged in the United States in the late 1980s. New Urbanists are committed to designing human-scaled, walkable and accessible places. New Urbanist approaches are often paired with form-based code reforms (Congress for the New Urbanism, 1996; Walters, 2007). Practitioners who use charrettes frequently adopt New Urbanist design values.

Motivated by strong desire to build better, more human-scaled cities (and to address the myriad of problems associated with top-down rational planning), practitioners who use charrettes

are also driven to produce plans that are consistent with their design values and “above all else, practicable” (Walters, 2007, p. 166). As National Charrette Institute co-founder Bill Lennertz (2003) notes “plans that sit on the shelf contribute only to citizen apathy” (p. 6). The implementation potential of a Plan rests (among other things) on how well it integrates into the existing policy landscape, therefore an essential charrette workshop task is communicate the parameters within which the design process unfolds (Condon, 2008).

Therefore, the charrette is an inclusive and participatory engagement process which is frequently used for developing Master Plans that reflect specific design principles. As a living practice rather than theory, charrette practices varies between practitioners.

2.3 What Happens at a Charrette?

Although charrettes often occur over several consecutive days, a charrette is typically not several days of all-day meetings. The National Charrette Institute, which offers a certification for charrette facilitators, suggests that a typical Charrette workshop schedule consists of large public **workshops** at the beginning, middle and end; stakeholder and technical **meetings**; and **open design studio** (where anyone can drop in to speak with a member of the facilitation design team, ask questions, propose ideas) and/or an **open house**, where designs are hung and community members can mill about and talk with the design team. At each of the public meetings, the design team presents what they have heard (or seen) thus far. Typically, workshops and meetings are interactive, hands-on, and involve many large format maps, rolls of tracing paper, post-its, stickers, and markers. Participants typically drop in during a charrette, therefore participation varies from workshop to workshop, meeting to meeting, day to day.

Several months of work is done to prepare for a charrette, and after it is over, the Design Team spends several months synthesizing the charrette into a plan delivered to the project client.

2.4 Charrettes and Accessibility

Even though most practitioners argue that anyone who “might have an opinion or be affected by the plan should be involved” (Walters, 2007, p. 167), there are still significant barriers to participation. Firstly, “the word *[charrette]* is not accessible” (Interviewee 2). The term is archaic, purportedly a reference to architecture students in the Ecole de Beaux Arts frantically making last minute changes to their designs (Interviewee 2, Interviewee 25, Condon, 2008; Walters, 2007).

Like any community engagement, structural and systemic elements make charrettes inaccessible for certain communities or groups. Variables such as time of meetings or their location, how they are advertised, and who is “invited” shape accessibility. For example, it can be difficult for caregivers or people working multiple jobs or those without access to a car or who have lost trust in planning processes to show up. As Ryan et al. note, charrettes are frequently attended by a small group of “civically obsessed citizens” who may not reflect the community as a whole (2008, p. 518).

Zooming out, many scholars question the appropriateness of consensus processes, especially in the face of structural inequality, as “what is good for the whole is not necessarily good for marginalized groups, and consensus-oriented approaches can perversely add to the burdens that marginalized groups already face" (Blue et al., 2019, p. 367 see also Bacqué & Gauthier, 2017; Rosol et al., 2019). Consensus will be examined further in Chapter 3. Thus, I begin from the premise that Charrettes are imperfect forms of community engagement.

2.5 Defining Elements of the Charrette Method

Charrettes are a form of participatory design, where “people who are outside of the [design] profession are given the opportunity to participate in design processes" (Gün et al., 2020, p. 191). However, there are several characteristics of the charrette that differentiate it from other participatory processes, of which I highlight **Time**, **Tracing Paper**, **Trust and Transparency,** and **Transformation through Iteration**. Each of these elements overlap and reinforce each other. This section concludes with a discussion of the role of **Technology** in the pre-pandemic Charrette.

2.5.1 Time

During a charrette, the design process is compressed into an “absurdly short” week of synchronous, in-person meetings, workshops and “open studio” time (Condon, 2008, p. 1). The Design Team works for months preparing for (and synthesizing from) the charrette week. According Lennertz (2003) “the time compression facilitates creative problem solving by accelerating decision making and reducing unconstructive negotiation tactics. It encourages people to abandon their usual working patterns and ‘think outside the box’” (p. 5). Permission to “think outside the box” is fostered through framing the design charrette as a team activity:

> “everyone on the [community] team is a designer, including those without design training or experience. Design charrettes make citizens with a stake in their community (*stakeholders* is the inelegant but descriptive term) members of th[is] team. Their own empathy, understanding, and compassion fuel the creative collaborative process and allow the group to transcend the status quo."
>
> (Condon, 2008, p. 13)

Rather than reacting to existing proposals, the design team begins with the question “what do we want?” which allows for differing visions and value systems to be articulated and discussed (Kwartler, 2012). Compressing all of this activity into such a short period also means that the charrette feels fast-paced and sometimes chaotic.

2.5.2 Tracing Paper

During a Charrette, participants engage in the design process by either drawing out their ideas on tracing paper, or allowing the design team to serve as their “drawing hand” (Interviewee 5, Interviewee 19) or “co-design artist” (Al-Kodmany, 2000). Sketching visualizes ideas and situates them spatially in relation with each other. This “provides participants with an entry into the design process, it promotes dialogue and it provides accurate design data afterward" (Al-Kodmany, 2000, p. 222). Visualization is also a powerful communication tool: it allows participants to test concepts, to see and to “understand the physical implications of policies and ideas – what they might look like on the ground” (Walters, 2007, p. 79). Through drawing, the design and community teams alike can answer questions or provide immediate clarification on the spot. Similar to other consensus processes, the charrette is designed to help participants “learn how all participants' interests are interconnected and come to see the problem as a joint one in which each has a stake" (Innes & Booher, 1999, p. 416). Drawing helps achieve this.

2.5.3 Trust and Transparency

For a charrette to succeed, the design team must create an environment where trust can be built between all. A sense of shared purpose within the Community Team is essential for a successful process, and participants must trust the design team and the charrette process. Complex problems and contradicting visions will not be resolved by proofs or logic, “but by empathy, intuition, understanding and compassion” (Condon, 2008, p. 12). Dedicating time to talking (both technical and social talk) allows for participants to understand and develop respect for the different logics other stakeholders bring to the process.

As Tait (2011) observes, “issues surrounding trust in planning manifest themselves in interpersonal relations but emanate from deeper institutional issues” (p. 158). Therefore, it is also important that participants trust in the charrette process. One way this layer of trust is built is through allowing participants to “see the design process in action,” through watching designers draw, and to “interject and to give daily, even hourly feedback on the ideas taking shape - a process that actively helps the design team” (Walters, 2007, p. 170). This type of trust is built through making the design process accessible and transparent: even if participants are not fully satisfied by the outcome, they feel involved in how decisions were made.

2.5.4 Transformation Through Iteration

> *“Design facilitation is different from dialogue facilitation. It's done with talk and a pencil: "We could do this or we could do that" (facilitator draws). "It could go here or go there" (marks the page). "It can be this high or this wide" (quickly generates an axonometric). "Where do you think it should go?" (hands the pencil to a stakeholder). The skilled design facilitator is constantly listening to comments and using the pencil like a divining rod, pulling out of the blank sheet the image of what the words spoken by others might suggest"*
>
> Patrick Condon (2008, pp. 101–102)

Feedback loops, where ideas are presented, reviewed, revised and re-presented are common elements of community engagement. In a charrette, these feedback loops are compressed into 24-36 hour cycles, rather than spreading them out over weeks or months. During a charrette feedback loop, the design team synthesizes the ideas generated in the charrette into more “formal” drawings. As this process often happens “in the public eye” and using tracing paper as described above, the design team can quickly correct course if their drawings are inconsistent with the evolving consensus (Lennertz, 2003).

2.5.5 Technology

> *“So the charrette movement... began in a completely physical environment. Everything, everybody was in the same space at the same time. Obviously, people came and went, which was one of the reasons that it took several days”*
>
> Interviewee 24

> *“[Charrettes] were always in-person, very interactive, focused on a very specific issue that required participation and problem solving right there and then...Other types of consultation events...would have some component online... but not a design charrette”*

Interviewee 10

The role of technology in charrettes has changed over time. As one interviewee recounted “years ago, we didn’t even bring computers into the charrette...and all of a sudden we had this thing called email. It was astonishing” (Interviewee 24). Another chuckled while remembering rushing to develop negatives for their existing conditions presentation, or make transparencies for overhead projectors. Overhead projectors and printing photos are no longer part of the charrette process: they have been replaced by PowerPoint and .jpgs. Some practitioners are more high-tech, using 3Ds as part of their visualizations, others do not. Before the Pandemic, technology always played a supporting role at charrettes.

2.6 Conclusion

The charrette is a highly-produced form of community engagement where the design team play crucial roles framing the process, managing group dynamics, building trust, making the design process transparent and arriving at consensus. Charrettes are fast paced and organized around a series of feedback loops. Visualizing design ideas is an important component of the consensus-seeking process: it is intensive, interactive, and in-person. However, in the spring of 2020, many design facilitators were prompted to transfer this process online. How is the virtualization of the charrette process resulting in new approaches, typologies and methods of charrette practices? How is the introduction of digital tools allowing practitioners to bend the charrette into new shapes?

Chapter 3 Between Practice and Theory

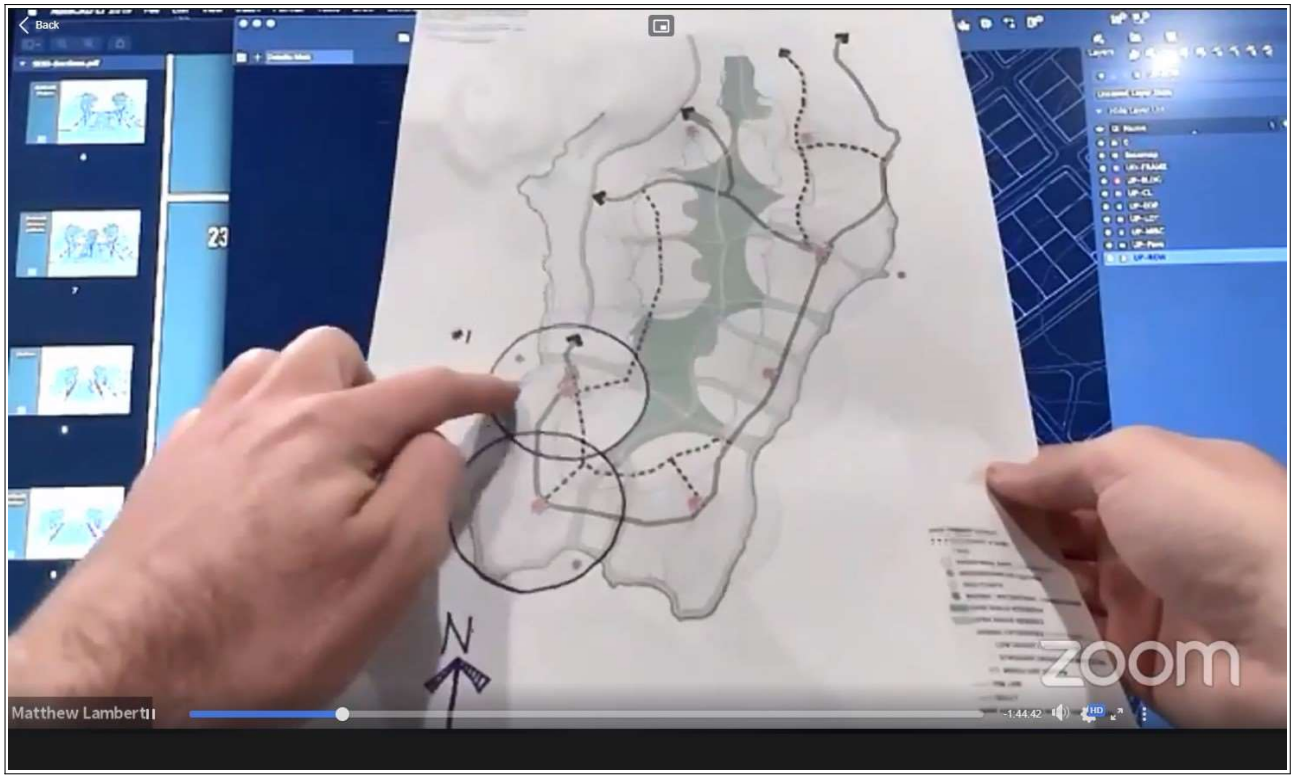


Image 3: Layering Digital and Physical Design (00:25:33)
Used with permission from Skylands/DPZ CoDesign (2020 10 November)

Chapter 3 situates this research within a broader planning conversation of theory, practice and interrogates my place as a student-researcher. First, I examine a collection of writings broadly labeled the Practice Movement. These scholars had a profound impact on many dimensions of my research and inspired me to look beyond planning theory, but not ignore it all together. As there are far more comprehensive accounts of the various strands which make up the “communicative turn” in planning theory, my objective is to briefly touch on communicative planning theory and unpack consensus before turning to look more closely at community engagement. Chapter 3 concludes with an examination of the literature on Information and Communication Technology and Planning

Support Systems which will be relevant for my research. This is a vast body of literature: my discussion will be tactical and brief.

3.1 The Practice Movement

> *"Judith Innes (1995), in her oft-quoted attempt to define practice movement writings as a new planning paradigm, describes the "new type of planning theorist" as those who "take practice as the raw material of their inquiry." As opposed to their armchair-theorizing predecessors, they ground their theorizing on a "richly interpretative study of practice" in an attempt to understand both what planners do and to reflect critically on that practice"*
>
> Vanessa Watson (2002, p. 179 quoting Innes (1995, p. 183))

The Practice Movement is a loosely defined collection of writings by prominent planning academics who are trying to bridge the gap between planning theory and practice by foregrounding what planners actually do, rather than what the *should* or *could* do. In her text “Do we learn from planning practice?” Vanessa Watson (2002) argues that over the course of the 1970s, many prominent planning theorists began to turn their attention away from “armchair theorizing” to examining what practitioners do and why. Watson describes this re-orientation as “the Practice Movement.” Practice Movement writings are distinctive from mainstream planning theory because they “focus on planning as an activity and on the actual practices of planners as they undertake [their] work” (Watson, 2002, p. 179) with the objective of understanding aspects of the planning practice often overlooked in planning theory. As Siemiatycki (2012) notes, many planning academics are themselves also practitioners and “it is clear that insights and reflections from these experiences inform their research. At the same time, the empirical foundation of these studies tends to be social science methods in which the researcher is independent from the subjects" (Siemiatycki, 2012, p. 149) creating dissonance. These methods produce academic writings are often too theoretical, and “of limited relevance to the profession” (Loh, 2017, p. 25).

Practice Movement writings foreground the voices of the practitioners themselves, through in-depth interviews with individual planners presented as first-person narratives or elaborated case studies. Watson observes “the outcomes of this work are sometimes difficult to recognize as theory: those writing within the practice movement do not necessarily produce generalizable truths or theories about planning” (Watson, 2002, p. 179). Instead, context-based accounts of what planners *do* can bridge the gap between planning theory and practice. Focusing on practice, Watson (2014) argues, can help academics transcend the broader theoretical debates about power or discourse, noting “if practice writing is to achieve the pedagogic purposes….then it is particularly important,

first, that the pedagogical value of telling planning stories is recognized, and, second, that these stories be told in a way that maximizes their contribution to learning and hence to a practical and useful planning theory" (p. 181). Practice Movement texts emphasize how practice is a learning process, often referencing Donald Schön's concept of reflection-in-action (1991).

Although the label "Practice Movement" is not widely used (it is absent from planning theory tombs such as Hillier and Healey's *Critical Essays in Planning Theory* (2008), nor does it have a Wikipedia page), Watson's text has resonance. It has been cited 63 times on the Scopus[6] database (putting the paper in the 92 percentile), with a field-weighted citation impact of 3.03.[7] Watson's text led me to Carolyn Loh (2017) and Professor Tuna Tasan-Kok (2016) writings research on planning practice. As Loh (2017) notes, "the most logical place to begin for researchers interested in learning from and learning for planners is with the planners themselves" (p. 26), and to look not only at what planners do, but what they create. As quoted in the opening of Chapter 1.5, Loh (2017) argues that academics have responsibility to ensure that their works, our works, contribute to practice and learning.

I, too, am walking between the worlds of academia and practice: these three women scholars emboldened me to use my position as a student-researcher-aspiring practitioner to look fully and deeply how practitioners reflect upon their work without preoccupying myself on how my research fits into the broader ecosystem of planning theory, or wondering if contribution to the field will be "theoretical enough." In this way, these writings on the Practice Movement provide the theoretical lens through which I approach research, they inform my research questions, my methodology and how I choose to synthesize these stories of virtualization. With this said, I must briefly touch on theory.

3.2 Communicative Planning

"Consensus building should help a community to learn and be creative. To do this it must challenge accepted knowledge. It must experiment, take risks, and make mistakes from which it learns. It must engage and empower all those with interests and relevant knowledge. It must ensure that information is shared and trusted by all, not only for fairness and to assure information is high quality and relevant, but also so that individuals can act on it. It must build trust, along with understanding of the shared context. It should produce change"

6 As of 18 August 2021.

7 According to Scopus, this measure how well cited a document is compared to similar texts. Any value greater than 1.00 means that the document's citations are above average. A field-weighted average of 3.03 means that the paper is 303% more cited than other similar papers.

Innes & Booher (1999, p. 419)

Practice Movement writings emerge from, co-evolve with, and respond to a broader body of communicative planning theory texts: many prominent planning theorists such as Judith Innes or John Forester are also cited by Watson (2002) as “Practice Movement” writers. I cannot do justice to the richness nor complexity of the theoretical debates within the past fifty years of planning, instead, I focus on how communicative planning theorists understand public participation. Communicative planning theory argues that the power of planning is derived from communicative practices: many scholars draw upon Habermas’ writings on communicative action theory. Critiques of communicative planning argue that discursive practices ignore questions of power, instead turning to Foucault for philosophical grounding (Hillier & Healey, 2008; Wallin & Horelli, 2012).

For communicative planners, engagement is a central tenant of what planning means. As planning theorist John Forester notes, "to plan... is to communicate, argue, debate, and engage in discourse for the purpose of 'organizing attention to the possibilities for action.’ In communicative planning, therefore, without the involvement of concerned actors, planning cannot proceed" (Lane, 2005, p. 297 quoting Forester 1989). Thus, participation provides planning processes with legitimacy and ownership (Evans-Cowley & Hollander, 2010; Kleinhans et al., 2015). The meeting of various actors and their knowledges in collaborative and consensus-oriented places creates network power (Booher & Innes, 2002). Innes and Booher (1999) posit that inclusive groups mediated through dialogue can arrive at consensus, and that discovering shared interdependence strengthens network power. As a method of community engagement, the charrette embodies many of the principles of consensus-oriented communicative planning—and thus is open to similar critiques about how power is overlooked within these spaces. Already empowered groups can “capture” participatory spaces, using them to further entrench existing inequalities (Rosen & Painter, 2019). While this issue is not the focus of my research, it is important hold both network power and entrenchment of elites in mind while examining charrettes.

3.3 Community Engagement

“It is time to face facts we know, but prefer to ignore. Legally required methods of public participation in government decision making in the US—public hearings, review and comment procedures in particular—do not work. They do not achieve genuine participation in planning or other decisions; they do not satisfy members of the public that they are being heard; they seldom can be said to improve the decisions that agencies and public officials make; and they do not

incorporate a broad spectrum of the public. Worse yet, these methods often antagonize the members of the public who do try to work with them. The methods often pit citizens against each other, as they feel compelled to speak of the issues in polarizing terms to get their points across"

Innes & Booher (2004, p. 419)

In her seminal text "*The Ladder of Citizen Participation*," Sherry Arnstein argues that participation is an essential component of planning, yet she noted that "there are significant gradations of citizen participation"(Arnstein, 1969, p. 217).[8] She argues that the power to affect outcomes should be redistributed to those who are impacted by the outcomes (Arnstein 1969). Her typology of engagement ranges from low-redistribution (Manipulation or Therapy) to high-redistribution (Delegated Power and Citizen Control). As Innes and Booher (2004) strongly put, participation is often ineffective in sharing power, or achieving representative participation.

Building on Arnstein, Innes and Booher (2004) highlight that participation also serves a range of purposes, as illustrated in Figure 3. The "purpose" of an engagement depends on many factors, including the practitioners who design and implement it. Its effectiveness is also shaped by where and how the process unfolds. The purpose of an engagement and how power is shared between participants is entangled.

Community engagement occurs in a variety of places: public hearing rooms, community halls, outside grocery stores (Beauregard, 2013). Planners create or select places for participation to occur: different places are conducive to different degrees of citizen control. While participation is a central component of planning processes (and often legally mandated), as Innes and Booher (2004) bluntly put, "participation… [often] does not work" (p. 419). Participants rarely reflect the actual demographics and diversity of a community (Kleinhans et al., 2015; Labosier, 2020) and can reify and legitimize existing power inequalities (Blue et al., 2019; Rosol et al., 2019).

8 Since Arnstein wrote this text, the term citizen participation has been generally replaced with community engagement, as citizen denotes legal status (Slotterback & Lauria, 2019).

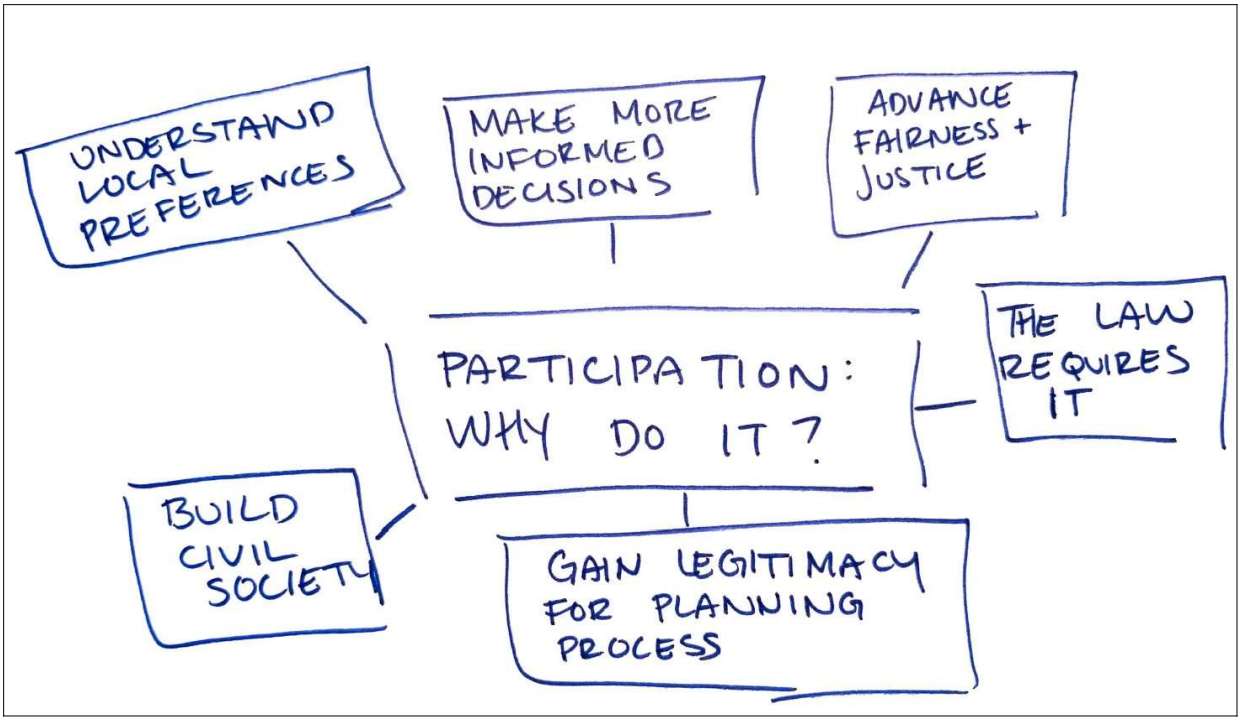


Figure 3: Why do Participation?
(Based on Innes & Booher, 2004, p. 424)

Fifty years after Arnstein's seminal text was published, geographers Gwendolyn Blue, Marit Rosol and Victoria Fast (2019) bring Arnstein in dialogue with Nancy Fraser's Model of Justice. They argue that planners determine how power is distributed within a community engagement process and with whom it is distributed. They write, "participatory processes are not neutral. They embody normative assumptions about intervention, involvement, and social change that frame interaction. The categories in which participation unfolds (public/private, reasonable/irrational, legitimate/illegitimate, fact/value, and so forth) are also sites of power and struggle" (Blue et al., 2019, p. 367). They also argue that while the procedures that govern engagement are important, procedure

> ...should not overshadow or replace consideration of other dimensions of justice such as how issues are framed (and by whom), who participates (and how), what types of feedback is collected, and how that information is reported. Planners have direct control over some elements of participatory engagement, such as the ways in which issues are framed for public consideration.
>
> (Blue et al., 2019, p. 373)

Planners create and "hold spaces of power" for community members, while simultaneously interrogating how accessible those spaces are, and for whom (Rosen & Painter, 2019, p. 336). This

approach places much more responsibility on the practitioner to share power equitably within engagement.

Just as "the community" is not a unitary actor with a single agenda or objective, planners do not have one vision of what it means to plan: this diversity stems from differing values, routines, and self-perceptions (Othengrafen & Levin-Keitel, 2019, p. 121). I turn to four explanations of planner behavior to contextualize my research on planner practices: planning as a habitual practice, planning as detachment, planning as constrained, and planning as boundary pushing.

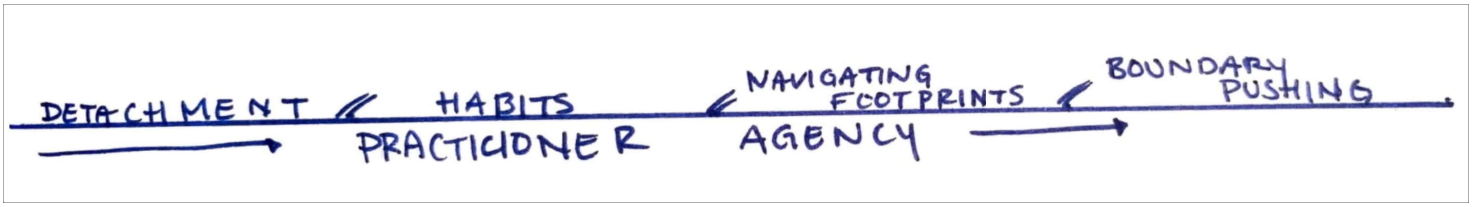


Figure 4: Understanding Practitioner Behaviors

Juliana Zanotto (2019) highlights how practitioners, faced with incongruence between their values and actual work tasks become *detached*. In her research on planners who build gated communities in Brazil, practitioners described their work as a technical service comprised of discrete tasks and organized by market logic. These behaviors allow the planner to distance themselves from the neoliberal implications of their work (Zanotto, 2019), and to disengage from "feelings of uneasiness" and the emotional paradoxes of planning (Lyles & Swearingen White, 2019, p. 295).

Geoffery Binder and Jennifer Boldero (2012) argue that planning is a *habitual practice*, full of routine responses and "standardized work practices deployed for known outcomes" (p. 178) which are informed by prior experience, professional judgment and "best practices" in the field. Habits reflect cultural norms and are contextually embedded. Changing habits is often met with resistance (Siemiatycki, 2012), as they also have path-dependency (Binder & Boldero, 2012). Habits are often invisible to the people who perform them until they are disrupted. Habits change most effectively when the context in which they occur changes (Binder & Boldero, 2012; Mergel et al., 2019). As mentioned in Chapter 1, the global COVID-19 pandemic has disrupted many of our professional and personal habits and the context we perform them in.

Peter Phibbs (2016) argues that planners work within "political footprints" (Hurley et al., 2016, p. 464). However, notes Enza Lissandrello (2017), the cultural, political and social

apparatuses that planners are embedded within bound their behavior, but do not control it. There are, she writes “nuanced and individual ways of doing planning” even within the context of an organization or institution (Lissandrello, 2017, p. 287).

Emphasizing planner agency, Miriam Solis (2020) depicts planners as “visionaries who can mobilize resources to reach social justice goals” (p. 299). As such, they must “be creative within the boundaries of bureaucracy if they are to bypass its challenges; that they need to take proactive roles in using planning as a political tool...and that they need to create room for maneuver and learn" (Tasan-Kok et al., 2016, p. 624). Such a perspective emphasizes practitioners as *boundary pushers* who use experience, coping mechanisms and activism to circumnavigate bureaucratic limitations.

Planners’ perceptions of their role (as technocrats or change makers) or of participation (as informing or co-creating outcomes or as legally mandated or advancing justice) shapes how they approach integrating technology in their engagement process.

3.4 Technology

> *"In tandem with globalization, digital technologies are fostering new terrains, possibilities, and challenges for participation at global, national, and regional scales. Despite the opportunities provided by digital technologies for greater participation, persistent social divides remain. Digital technologies not only reinforce pre-existing inequalities within countries, regions, and municipalities but they also produce new forms of inequality and differentiation"*
>
> Blue, Rosol & Fast (2019, p. 368)

As hinted at in Chapter 1, there are two evolving and conflicting narratives about Information and Communication Technologies (ICTs): are they technocratic or democratizing tools? (Afzalan & Muller, 2018; Anttiroiko, 2012; Gabryelczyk, 2020; Pánek, 2016; Potts, 2020). As Potts (2020) cautions “digitization has largely not revolutionized planning practice, and arguably has perpetuated traditional methodologies on new devices" (p. 283), yet online tools can provide communities with “the tools to climb up Arnstein’s (1969) ladder of citizen participation” (Pánek, 2016, p. 302). The difference lies in how these tools are used. To delve into this debate, Chapter 3.4 first examines “the updates” focusing on changes in Digital Participation Platforms (DPPs) before outlining a framework for understanding access to digital platforms and tools (Falco & Kleinhans, 2018b). Moving in, the chapter concludes with an examination of DPPs: where does information come from and where does it go? How do we engage and what are the limitations?

3.4.1 Information

A core objective of the charrette is to elicit the information needed to create a successful plan through a collaborative process of information and perspective sharing. Thus, it is important to interrogate how information flows along and through DPPs, and how this may differ from in-person information flows.

As illustrated in Figure 2 in Chapter 1, ICTs have gone through two major “updates” and are on the cusp of a third (McNutt, 2014; Potts, 2020). Research and practice are racing to keep up with these changes (Kleinhans et al., 2015). Under Web 1.0, the “broadcast paradigm,” DPPs had limited interactive capacity and were primarily used to communicate from planning bodies to “the people” through static portals such as websites that were controlled by planning bodies. Web 2.0 is “fundamentally different” from Web 1.0 as it enabled planners to receive (or purchase) data from the community (McNutt, 2014, p. 52 see also Ertiö, 2015). Users use a device to access, generate and/or share information on a platform. Platforms can be augmented by tools or portals such as surveys, discussion forums, design simulation, voting, or interactive maps (Falco & Kleinhans, 2018b; Gün et al., 2020). Each platform has different capabilities, are optimized for specific types of devices (mobile, tablet, personal computer), and are structured to elicit different kinds of information (Afzalan et al., 2017; Bamberg, 2013; Ertiö, 2015; Falco & Kleinhans, 2018a, 2018b; Gün et al., 2020; Pelzer et al., 2015). The platform and the device are independent yet interconnected elements of the digital experience. Some processes allow anonymous engagement, other require that participants share personal data (e.g. postal code) to participate (Afzalan & Muller, 2018).

User generated or volunteered data, be it pothole identification or participatory budgeting, flows from the user to the platform and is shaped by the technical structure of the platform and the design process contained on that platform. As Gün et al. (2020) found, while planners may aspire to design co-production process, often the digital processes they actually create solicit feedback, identify problems and provide geolocated annotation. Multi-directional processes are more complex to design and require more skill for participants to access.

The information generated on DPPs must be synthesized by planners and integrated back into the decision-making process (Bamberg, 2013), which again depends on how practitioners view their role and the purpose of participation. As Falco & Kleinhans (2018b) argue, “DPPs should be perceived as instruments to enable public sector institutions and citizens to make better use of each other's assets and resources, for the sake of better 'offline' outcomes and improved efficiency, but not for the sake of technology itself" (p. 65). How planners view their role, as technocrat or

boundary-pusher, as information giver or information receiver, impacts how they will elicit, synthesize and integrate this information. As one interviewee noted, “the people who did live events, they either listen genuinely and incorporated input or they didn’t” (Interviewee 5).

3.4.2 Time and Space

Most in-person community engagements are synchronous and location specific: participants need to be in the same place at a specific time to participate, thus access is limited by physical and temporal variables. DPPs can allow participants to engage asynchronously, on their own time as well as synchronously. By shifting time and space, “the Web provides new tools for harnessing collective intellect among a population in ways face-to-face planning meetings cannot” (Anttiroiko, 2012, p. 26). Digital engagement potentially allows participants to “transcend spatial boundaries of the past” (Evans-Cowley & Hollander, 2010, pp. 398–399) by responding *in situ*, “at a time and place relevant to each personally" (Ertiö, 2015, p. 307). This brings participation out of meeting rooms and into everyday life spaces (Wallin & Horelli, 2012, p. 9). In Figure 6, these two types of Places are compared.

Asynchronous Participatory Places are...	Synchronous Participatory Places are...
Flexible Task-Oriented Time to Think/Process/Respond Deeper engagement with Content Fewer resources (travel, time) More participant autonomy	Discussion-oriented Instantaneous Feedback Verbal and Non-Verbal Cues (body language tone, expressions) More time spent in bi-lateral exchange (with others in passive roles) Social

Figure 5: Elements of Synchronous and Asynchronous Experience
Based on Watts (2016) and den Otter (2009)

Zhang et al.’s (2020) research on discussion thread posts highlights that although asynchronous engagement does not happen at the same time, these engagements are not “out of time”: sequence, latency (the lag time between posts) and frequency of posts matter for the character of the asynchronous exchange. They write, “if participants want their views to be replied to by others, they should not only conduct their online behavior based on their own preferences, but also need to consider the ever-changing contextual norms and others' preferences in a specific time scene" (Zhang et al., 2020, p. 1500). Thus, DPPs allow for both synchronous and asynchronous participation processes however both, in different ways, are shaped by time and place.

3.4.3 Accessibility

Human and non-human elements (natural, material and technological) are entangled (Beauregard & Lieto, 2017; Wallin & Horelli, 2012). Human actors are embedded in specific cultures which inform and shape their relationship with non-human actants, including DPPs (Afzalan et al., 2017; Falco & Kleinhans, 2018a; Fountain, 2001). DPP-actants hold latent potential, however "harnessing the potential power of social media is more than simply creating a Facebook page or uploading content to YouTube;" these resources must be designed well, and updated frequently (McNutt, 2014, p. 59). Practitioners construct a platform which houses a design process. Participants access the platform and the process via a device.

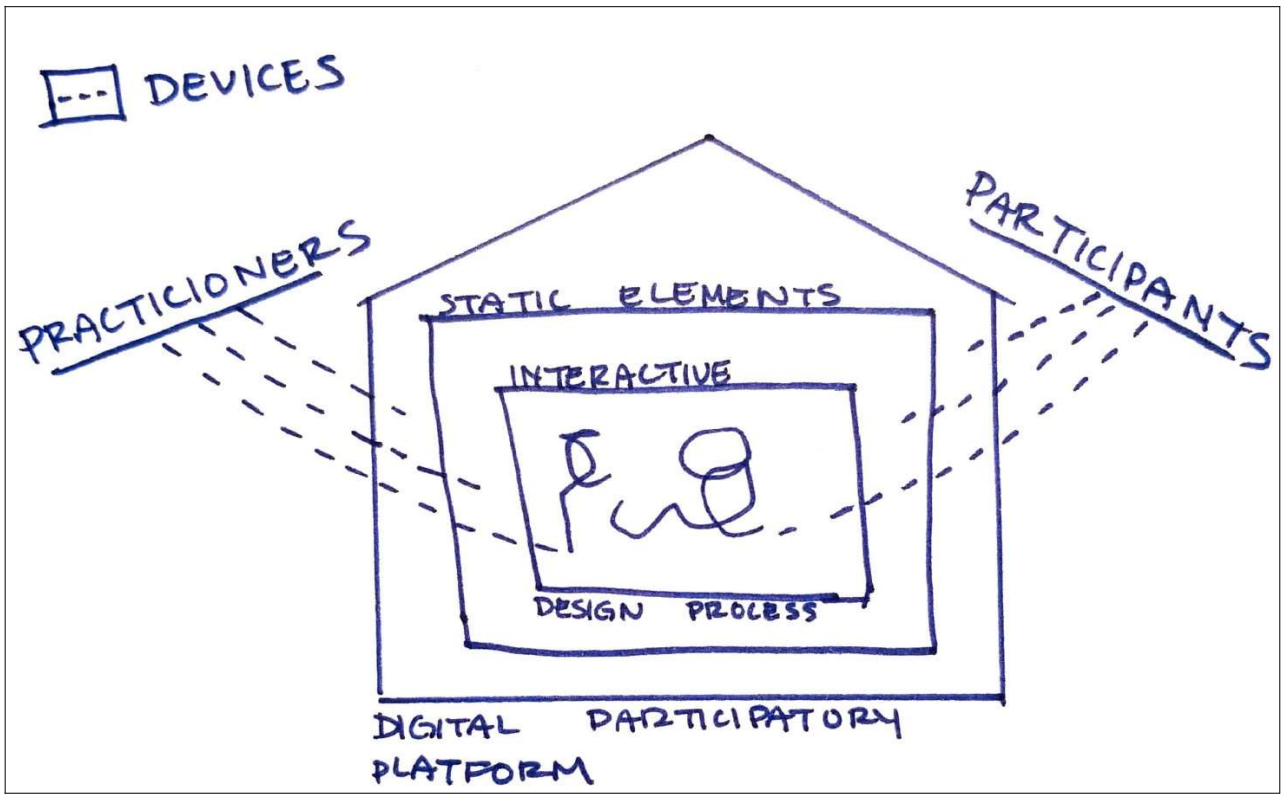


Figure 6: Accessing DPPs via Devices

When examining DPPs, the practitioner, participant, platform, process, and device constitute different actants: all need attention, especially when examining the accessibility. Layering Kaufman et al (2004) Motility Framework on Fountain's (2001) Enactment Framework, to access a DPP a participant needs:

- An internet-connected device

- Knowledge to use the device and platform
- Belief that their participation matters[9]

A similar framework can be applied to how practitioners access DPPs: planners must have access (licenses, hardware or software), they must know how to use it (time, staff capacity, data), and they must believe that digital tools are appropriate for this context (Kahila-Tani et al., 2016; Pelzer et al., 2015). Practitioners, like participants, may approach new technology with skepticism (Pelzer et al., 2015; Slotterback, 2011).

The digital divide, which refers to the unequal distribution of access to IT infrastructure, devices, differing degrees of digital literacy and uneven rates of technology adaptation across age, class, race and other socio-demographic variables and across space, is the opposite of access. In addition to class and race, age is often an important dimension of accessibility (Afzalan & Muller, 2018; Ertiö, 2015; J. Evans-Cowley & Hollander, 2010; Gün et al., 2020; Kleinhans et al., 2015; Potts, 2020).

Representativeness is a key concern when evaluating participation. In their research on digital v. paper geo-questionnaires, Czepkiewicz et al (2017) find significant differences in demographics (especially age) and spatial distribution of response rates to digitally distributed vs. mailed questionnaires. Specifically, they find digital distribution problematic for reaching socially and digitally marginalized populations, resulting in data with representational bias. This is a major caveat for digital-only engagement (Czepkiewicz et al., 2017). However, it is often difficult to assess representativeness online, as personal data is often not collected from participants in DPPs, as such questions themselves introduce barriers to participation (Piatkowski et al., 2017).

Many scholars are concerned about how virtualization can exacerbate existing social and spatial inequalities, as these tools leave “little room for the technologically illiterate, the poor and, in general, those who are marginalized from the smart city discourse" (Rosol et al., 2019, p. 3 quoting Vanolo 2014 p. 893). DPPs are comprised of tools and processes: they themselves are not “transformative” or “democratizing” or “collaborative.” They can be used in technocratic ways that do not support the ethos of collaborative planning (Anttiroiko, 2012; Potts, 2020). Their effectiveness is entangled with the capacity, views and values of their human actants: planners must *desire* to share power, and then they need to know *how* to use the DPP to share power (Evans-Cowley & Hollander, 2010; Gün et al., 2020).

9 Returning to the previous discussion of citizen engagement, how participation is framed and who it is for factors into this third dimension of accessibility. Kaufmann et al (2004) term the three levels: access, competence and appropriation.

Many scholars raise concerns about the neoliberal dangers of DPPs noting the trade-offs between real-time data and surveillance and critiquing the reduction of people to digital sensors (Ertiö, 2015; Rosol et al., 2019), question the ownership of data (Falco & Kleinhans, 2018b; Innes & Booher, 2004), and decry “the reduction of cities into widgets that fail to acknowledge the diversity and uniqueness of different localities, cities, and regions” (Potts, 2020, p. 284).

3.5 Conclusion

There are conflicting narratives about the potential of technology to transform planning and public participation, even within the communicative planning ethos. Evaluation of public participation often focuses on the human actants: the planners and the participants. While understanding, as Practice Movement scholars argue, what planners do and why is important, Fountain’s (2001) Enactment Framework suggests that non-human actants are also key characters in these narratives. Thus, in Chapter 4, I chart my approach to research that embraced entanglement of human and non-human actants.

Chapter 4 Conducting Research

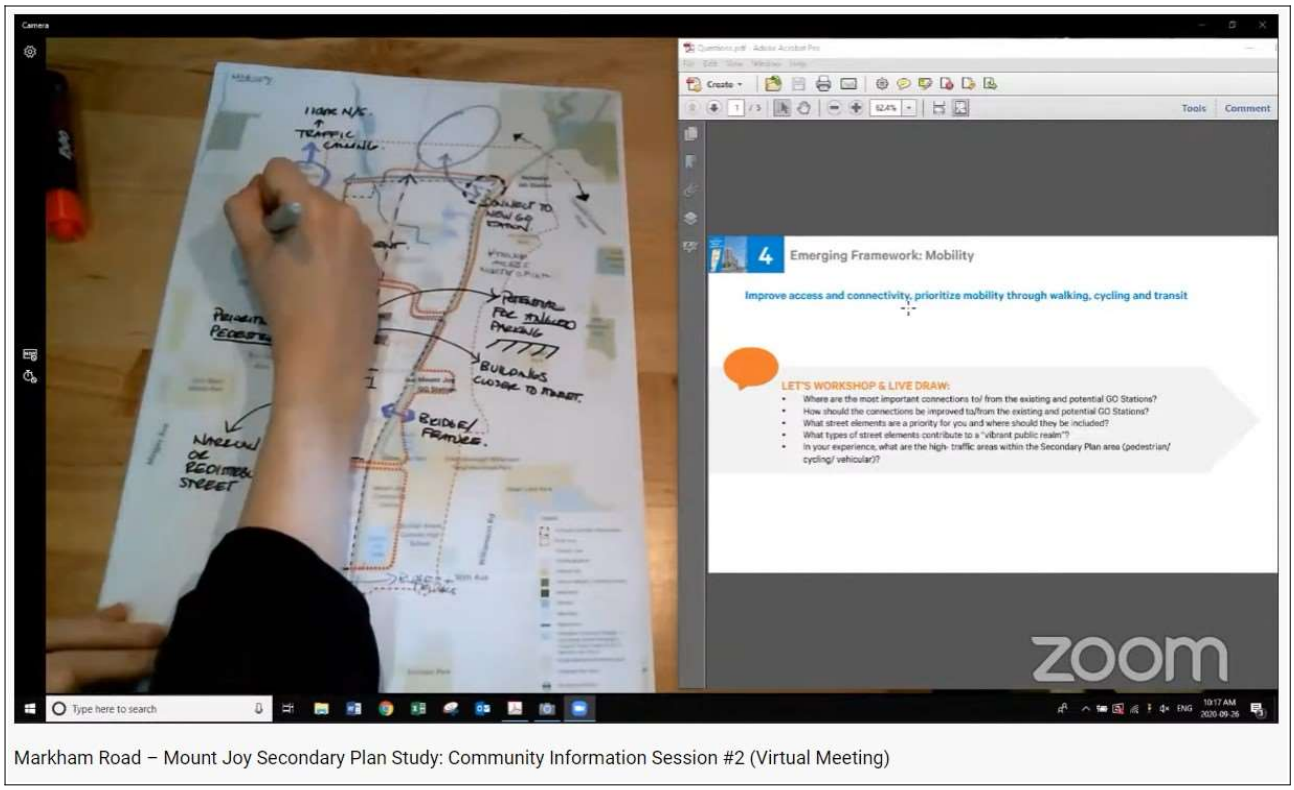


Image 4: Live Draw (01:04:49)
Used with permission from the City of Markham (2020 26 September)

My approach to research, unintentionally, reflects the charrette principle of moving in, out, and across and layering. Like a charrette, these movements were iterative, intersecting and fluid. As inductive research, I trusted that the process of inquiry would lead me to interesting questions, insights and observations.

In Chapter 4, I explain this process. As described in Chapter 3, I was influenced by the Practice Movement, especially Vanessa Watson and Carolyn Loh, to adopt methods that would direct my gaze to practices. I also draw heavily on Robert Beauregard and Laura Lieto's (2017)

object-oriented case methodology. First, I discuss methodology, then research design. I constantly layered new ideas and insights over my existing frameworks.

4.1 Methodology

> *"People do not act alone, but rather in networks, comprised of other humans, their human associations, and nonhuman objects, and with cities and regions comprised of multiple assemblages. Action is thus a matter of collaboration such that planners join forces with highway off-ramps, annual reports, and seasonal flooding*
>
> …
>
> *because nonhuman things (electrical transformers, ferry boats, underground streams, and pigeons) are active and consequential, and collaborate with planners, we propose a case methodology that acknowledges these entanglements and dependencies"*
>
> Robert Beaureard & Laura Lieto (2017, p. 157)

Vanessa Watson (2002) strongly advocates for Practice Movement texts to provide context bound accounts of planning activity, which I interpreted as a comparative case study (Creswell, 2006). This was my initial methodological frame. I identified cases of virtual design charrettes, interviewed practitioners about their processes of transfer and translation with the goal of comparing cases. However, as I progressed, I realized I was missing two things: attention to the experience of the practitioner, and the relationship between people and technology.

One of the last papers I read was a phenomenological study on virtual teams and trust (Turesky et al., 2020). Their approach shifted my gaze from from *the cases* to *what the cases say* about the process and experience of transfer and translation. Yet, diving into literature on phenomenology (Creswell, 2006; Groenewald, 2004; Horrigan-Kelly et al., 2016; Hycner, 1985; Marton, 1981; Pascal et al., 2011; Turesky et al., 2020) and phenomenography (Feldon & Tofel-Grehl, 2018; Hajar, 2020; Marton, 1981, 1986) I realized that these too, did not quite fit—especially at this stage in my research. Instead, from these approaches I borrow their focus on how individuals make meaning from their experience transferring and translating charrette practices.

I also wanted a research approach that would direct my attention to the Digital Participatory Platforms themselves. For this, I drew upon the object-oriented case methodology outlined by Beauregard & Lieto (2017). This framework emphasizes that objects are integral to what people do and thus also need to be examined, and that action is distributed between both human and non-human actants and flows sequentially. This approach, they write "is meant to enable planners to understand the choices that might exist and which might be available to them...Knowing this, those

reading the research can think through the options while developing an appreciation for the complexity and fluidity of the world" (Beauregard & Lieto, 2017, pp. 160–161). Their object-oriented methodology is reflected in my analysis of the DPPs themselves, and how they appear in the interviews, as well as in the conclusions of my research.

4.2 Research Design

My research design is not easily organized into discrete or sequential phases. Instead, it consisted of three interwoven threads: ten semi-structured interviews with practitioners who had experience conducting (in-person) design charrettes, or doing equitable community engagement; 16 semi-structured interviews with virtual charrette facilitators; and structured analysis of the charrette's Digital Participatory Platforms. This design and process was influenced by Magnusson & Marecek (2015), Ward (2014), Saldaña (2011), and Creswell's (2006) texts on research design and interviewing. Ward's (2014) text especially allowed me to see that each research and researcher needs to find the right approach. Following each of my threads brought me closer to finding the right process for this research.

4.2.1 Contextual Interviews

I conducted 10 semi-structured interviews with practitioners who could help me understand the charrette practice and equity in engagement but who were not necessarily conducting virtual charrettes themselves. I approached three of the interviewees after seeing them speak in online webinars or conferences, another was an author of one of the texts I read on the charrette method. Initially, I was looking for cases in Scotland, as the charrette is a cornerstone of community engagement there, therefore three additional interviewees were from the Scottish context. I also interviewed a US.-based practitioner whose firm conducts a similar type of community engagement to a design charrette but does not use the term "charrette." Lastly, I interviewed a member of the Board of the International Association of Public Participation whose private practice centers on equity and engagement. These interviews were conducted across the duration of my data collection. All of these interviews were semi-structured, and began with a standard base set of questions that was adapted based upon the experience and expertise of the interviewee. The standard interview questions are included in Appendix IV. All interviewees (Contextual and Virtual Charrette Practtioner) were provided with my research proposal and an interview consent form prior to the interview. I also received verbal consent to record the interview.

4.2.2 The Cases

As I was moving in on the design charrette method and equitable engagement practices, I was simultaneously searching for traces of digital design charrettes. I began with a webinar, “Charrettes Go Virtual: Missoula, Montana” (2020) organized by the National Charrette Institute, Form Based Code Institute and Smart Growth America. Over the summer and fall of 2020, I searched for virtual charrettes using the keywords “digital charrette,” “digital design charrette,” “virtual charrette,” “virtual design charrette” on the Google search engine, YouTube, on the social networking site Facebook, and the online event registration platform Eventbrite.

I identified virtual design charrette projects as well as consultant firms who had conducted virtual design charrettes. I excluded projects that were not specifically related to planning and design or were not community engagement. Of the 29 projects or firms identified, I interviewed 16 practitioners who had designed and facilitated 10 virtual charrettes. For 4 projects, I interviewed multiple members of the charrette facilitation team in joint and individual interviews. Some interviewees were member of consultant teams hired to conduct the charrette, others were public sector employees whose department was conducting the charrette, others were employees of private development companies (See Appendix III). Where an interviewee had worked on multiple virtual charrettes, I requested that we speak about one project. As described by Allan Cochrane (2014) in his chapter on Interviewing, I approached the interviews as a space of co-creating knowledge and meaning. All but one of the virtual charrettes included in this study were held in the United States or Canada and all were delivered in English. Each interview began from a standard set of interview questions (See Appendix V). All interviews were transcribed using an artificial intelligence program. I then re-listened to each interview at x.75 speed to correct the AI-generated transcript. Transcripts were then shared with the interviewee. Drawing upon Creswell (2006) and Ward (2014), and Magnusson & Marecek (2015) I used one code (Digital Places of Practice) to identify relevant passages from each interview, and then drew themes from these excerpts.

4.2.3 The Practitioners, The DPPs and The Participants

Although Beauregard and Lieto (2017) described the entanglement of practitioners and non-human actants, I apply their framework to practitioners and participants alike. Therefore, my research design needed to touch, in turn, the reflections of the practitioner, the experience of the participant and the Digital Participatory Platform itself. As contacting participants in the 10 virtual charrettes posed significant logistical barriers and raised representational concerns, I use my bodily experience

of the DPPs as a very loose proxy for the participant experience (See Chapter 1.3 for discussion of my positionality as a researcher).

For each of the virtual charrette cases, the research process followed a similar pattern, illustrated in Figure 8.

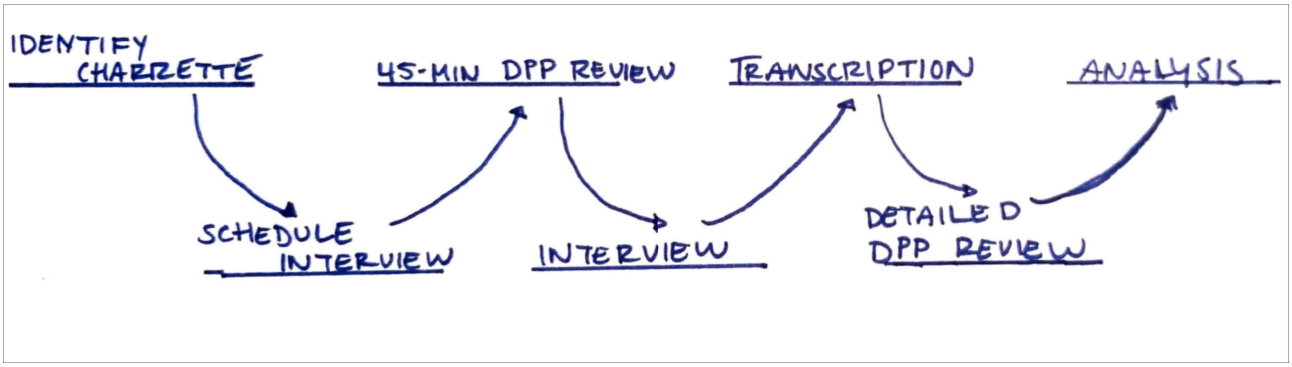


Figure 7: Research Process

Shifting focus between practitioner and DPP allowed me to excavate layers of meaning and to approach the DPPs from the perspective of both practitioner and non-practitioner. After the interview was transcribed, I returned to the project website, this time performing a thorough analysis of all aspects of the DPP, focusing on:

- the project website
- the description of the charrette schedule
- any recordings posted to the project website. These included videos made by the design team meant to be viewed asynchronously and recordings of live synchronous events
    - any interactive tools used
    - the number of views (synchronous and asynchronous)
    - the length of the recording
- any other interactive elements (surveys, interactive maps, activities)

This data was compiled into Appendix II. For any recordings posted to the project website, I watched the recording, taking note of tools, and how (and between whom) conversation flowed. For each of the elements, I categorized its interactiveness based upon the typology described in Figure 9 (Chapter 5.1.3) from the perspective of an attendee and a viewer.

Project websites are changeable texts: they are most useful for practitioners and participants if they are updated regularly throughout the project life cycle. This makes them fickle sources for researchers, as I could not always access the version of the website that a participant in the virtual charrette would have experienced. In such cases, I used the Wayback Machine, an initiative of the Internet Archive, to review archived versions of the project website as a (poor) proxy. I selected the version of the project website closest to the date of the charrette event as my reference point, however these archived versions of the website were not always comprehensive and did not include interactive elements (such as embedded interactive maps, or surveys). As the significance of these websites as sources only emerged through the process of doing research, I did not develop a system for downloading or capturing a version of a website to analyze: this is certainly a limitation of my approach and conclusions.

After all the interviews had been transcribed, I initially themed the interviews based upon questions from the literature review, however beginning the explication phase allowed me to see that my coding method was ineffective. I then re-themed the interviews using just one concept "Digital Places of Practice." To this, I flagged any description of the virtual charrette, the tools, the process, or practitioners' reflections on what they had learned. This initial concept led to a smaller body of texts, from which I drew themes, presented in Chapter 5.

4.3 Conclusion

My research sits somewhere near a case study (Creswell, 2006; Saldaña, 2011; Ward, 2014) which examines the experience of the practitioners involved in ten separate virtual design charrettes with a blend of an object-oriented approach (Beauregard & Lieto, 2017) and semi-structured interviews. The DPPs and interviews, when examined together, shed light on a collection of connected practices, something more than the sum of the individual cases. As a researcher, my objective is to ask, listen, look, and reflect in ways that contribute to the community of practice.

Chapter 5 Excerpts and Explications

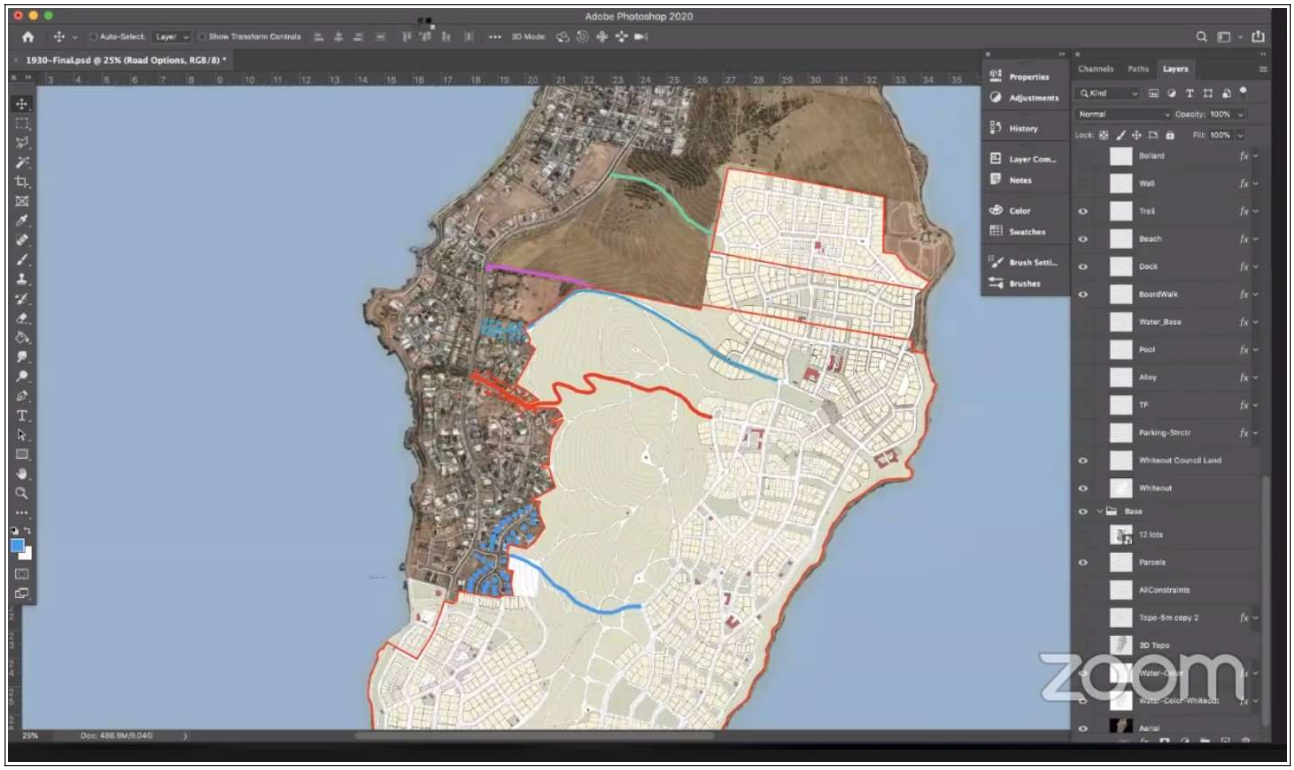


Image 5: Open Studio/ Live Cast (01:03:39)
Used with permission from Skylands/DPZ CoDesign (2020 10 November).

Before delving into the analysis of the interviews and DPPs, it is important to note that my goal is not to tell the story of each charrette, although those stories are fascinating. Instead, I use stories of virtualization to illuminate how Beauregard's (2013) concept of Places of Practice can be adapted for the present moment. I interrogate the different textures and qualities of the Places where virtual charrettes occur, as well as the process of learning about how to create (and work) online.[10]

This Chapter begins with a quick summary of the ten virtual charrettes, and an analysis of the DPPs themselves, thus beginning with the second Research Question: "What are virtual Places of Practice like?" With this context about the charrettes and DPPs, I return to the first Research

10 When referencing Places of Practice, I capitalize Place.

Question: “How are practitioners reflecting on their processes of transfer and translation as they virtualize the Design Charrette? How do their reflections shed light on (new) Places of Practice?”

5.1 The Charrettes

The ten charrettes studied here are diverse, embodying different engagement approaches, schedules, tools, contexts and definitions of the charrette itself. They range from the scale of a library to a neighborhood Master Plan; they cover new build developments and adaptive reuse.[11] Some projects lasted 10 days, others just one meeting.[12] I analyze the projects based upon several questions: Does the design activity occur synchronously or asynchronously? Which design spaces are public and which are private? What tools were being used and how does information flow? How are recordings used? Who is participating? Each question is addressed in turn.

5.1.1 Synchronous and Asynchronous

Some virtual charrettes used synchronous spaces, others allowed participants to engage on their own time. As illustrated in Figure 5, these spaces have different characteristics and capabilities, and constitute two different design environments. This research included eight **Synchronous Charrettes**, when participants, designers and technical experts primarily gathered at the same time in an online room to charrette, and two **Asynchronous Charrettes**, when participants did not need to gather at the same time to participate. Synchronous Charrettes often include asynchronous activities or elements (e.g. a project website): these terms distinguish between how the majority of design work occurred. Two Charrettes included (synchronous) virtual and in-person (outdoor) design events. Hybrid and Asynchronous Charrettes are distinctive design spaces that have only emerged through virtualization.

Most Synchronous design activities occurred during Zoom meetings and some were also live-streamed on Facebook or YouTube, allowing participants to use the platform they were most comfortable with. For facilitators, integrating multiple platforms was more complex as they needed to facilitate one design process spread across different “rooms.”

In Synchronous Charrettes, most of the project meetings were recorded and posted to the project website or a YouTube or Vimeo Channel. This allowed participants who were unable to

11 Appendix II consists of a project fact sheet for each project.

12 Not all of the Charrettes examined would meet the definition of the Design Charrette outlined by the National Charrette Institute or by Patrick Condon (2008) or David Walters (2007) in their books on the Design Charrette. I chose to focus on projects that practitioners called charrettes, rather than asses the charrette-fullness of the projects.

attend the meeting to watch a recording. Through recordings of project meetings, Synchronous design activities could also be experienced asynchronously. I return to this dualism in Chapter 6.

The two Asynchronous Charrettes were not anchored in synchronous meetings places. Instead, in one case, participants completed a self-directed “design workshop.” In the other case, the consultant team posted twenty-six short videos (average length 7 minutes) to the project website over the course of a week, and asked viewers to provide input via surveys or interactive online maps. In the videos, designers presented technical information (e.g. Utilities) and also summarized what they had heard to date from participants. At several points throughout the week, the design team hosted an “Open House” where participants could speak synchronously with members of the design team via Zoom (unfortunately, these synchronous events were not recorded). These were the only synchronous public events during this charrette.

5.1.2 Public and Private Places

All charrettes, in-person and virtual, need public and private spaces, thus some activities were open to the public, others were for specific stakeholders, and others for just the design team (Interviewee 24). Additionally, these activities, as summarized in Figure 9, can be divided into synchronous or asynchronous activity types. All charrettes included some synchronous and asynchronous activities, in both public and private spaces.

	Public Spaces	Private Spaces
Synchronous Activities	Live Draw Public Meeting (including livestreamed on Facebook and public TV) Open Studio Existing Conditions Video Live Design	Stakeholder Meetings Focus Group Meetings Virtual Bus Tour Tools that were screenshared during a meeting but that participants could not directly manipulate or access Meetings with Client/City Design team meetings
Asynchronous Activities	Project Website Interactive Feedback Map Informational Video Survey Interactive digital whiteboard Digital Walking Tour (+ visual preference Survey) Recordings of Public Meetings Download, mark up and mail back a map of the site	Meeting Recordings not publicly available

	Daily Video Updates	

Figure 8: Public and Private Design Spaces

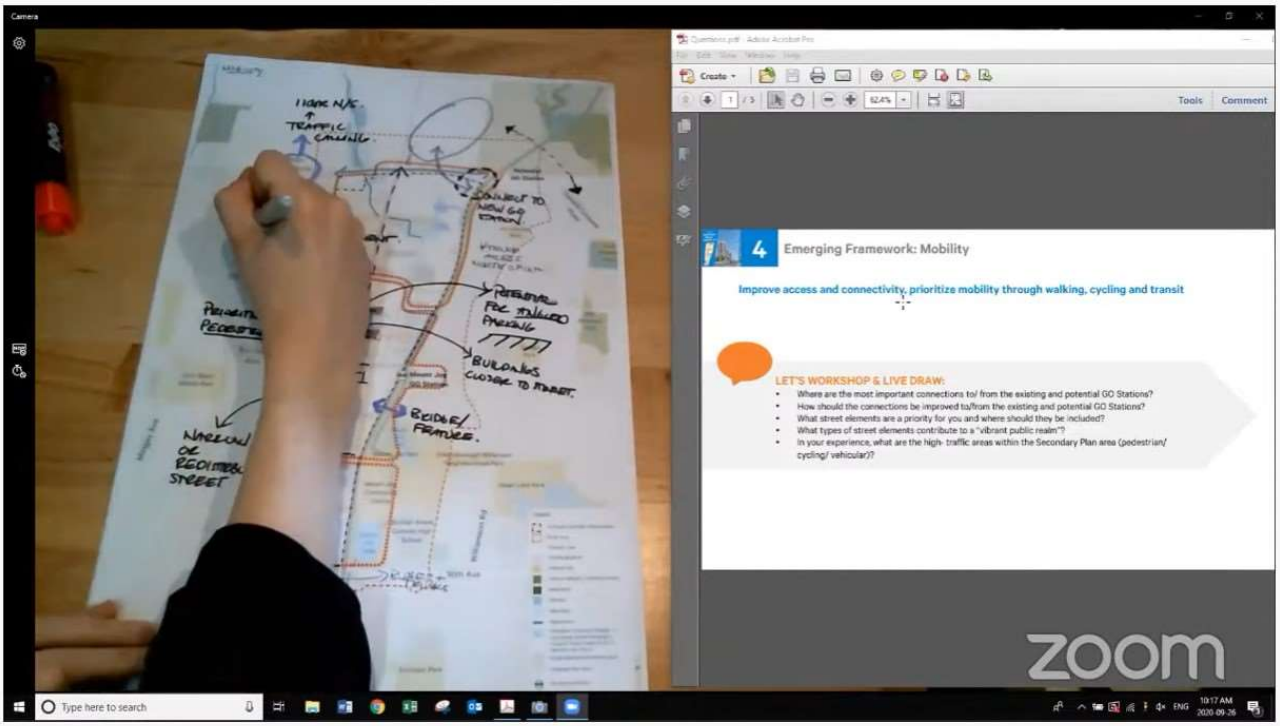
As will be discussed in Chapter 5.2, practitioners worried that private online places would undermine overall trust in the process.

5.1.3 Tools and Flows of Information

During synchronous meetings, the facilitation team used a variety of tools to engage participants which ranged from mono-directional to multi-directional. Most meetings were held on Zoom. Beyond talking and text chats, Zoom also has an annotate function where participants can draw on a shared whiteboard, or designers could share their screen, allowing designers to bring any software or design program into the charrette. Some projects also used other digital tools such as IdeaFlip, Miro or JamBoard. These three tools all provide designers with a whiteboard canvas where they can add text/images. Participants can add sticky-notes, dots, comments, or drawings on the shared board. During the study period, these tools evolved rapidly. I was especially interested in how participants could interact with the design process.

Online, participants could interact with designers while they drew in three different ways:

- **Live Draw**: designer drawing while a meeting is occurring. Live Draw reflects back to the participants what the designers are hearing, spatially locating ideas. Live Draw also allows for miscommunication to be addressed immediately, so that everyone is literally and figuratively “on the same page.” (Image 6)
- **Virtual Open House**: designers share their work in an informal setting. (Image 7)
- **Live Cast** or **Open Studio**: a live-stream of a member of the design team working, often at their desk. Viewers could drop in and ask questions or share ideas. (Image 8 and 9)



Markham Road – Mount Joy Secondary Plan Study: Community Information Session #2 (Virtual Meeting)

Image 6: Live Draw (01:04:49)

Used with permission from the City of Markham (2020, 26 September)

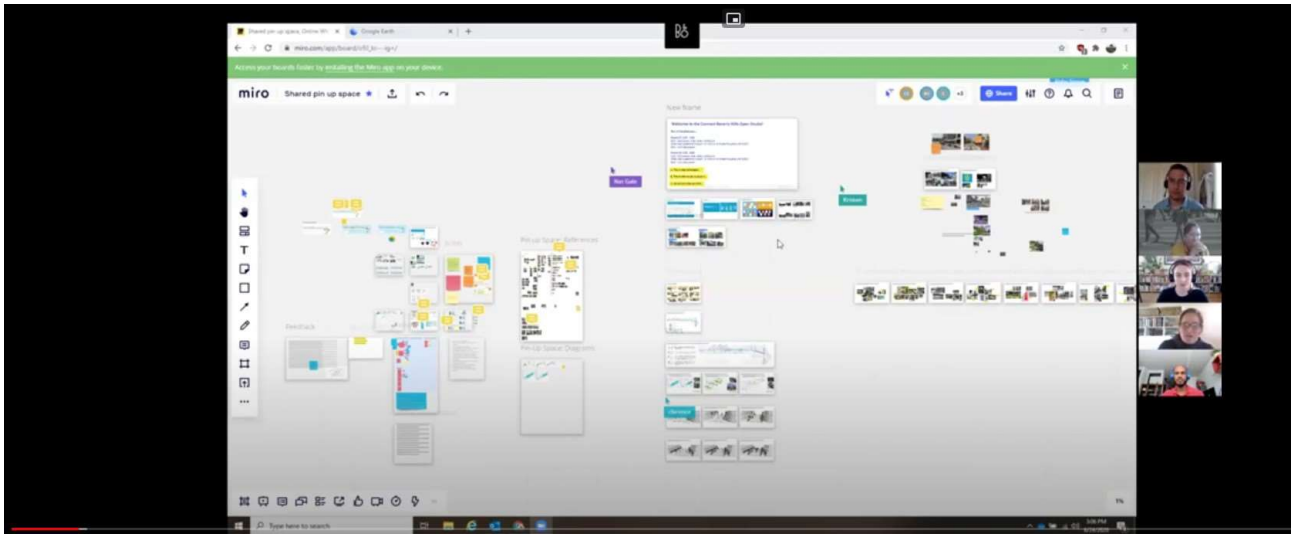


Image 7: Virtual Open House (00:05:25)

Used with permission from the Project Client (Toole Design Group 2020, 25 June)

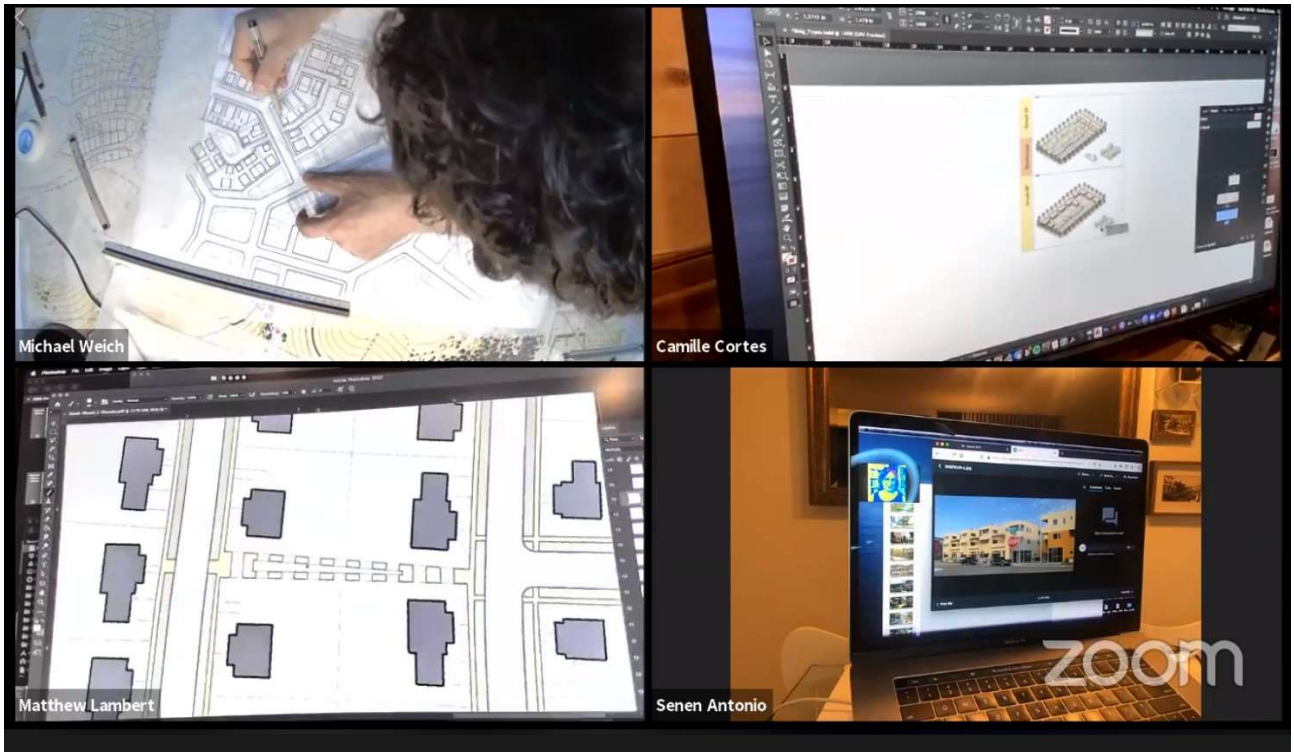


Image 8: Open Studio/ Live Cast (01:51:55)
Used with permission from Skylands/DPZ CoDesign (2020 10 November)

Image 9: Live Cast (00:03:57)
Used with permission from Skylands (2020 10 November)

5.1.4 Recordings

Using the classification from Chapter 3, tools in virtual charrettes facilitated mono-, bi-, and multi-directional flows of information between participants, however recordings add an additional layer. Designers can “play with time” as illustrated in Image 1, where a designer narrates a video of him working earlier in the day, and also allows for new categorizations of participants:

- **Attendee**: synchronous participant
- **Viewer**: asynchronous participant

I analyzed the recordings on the DPPs from the perspective of attendee and viewer. In both instances, I asked the questions, “What can they do? How can they interact with the design process?” To answer this, I watched all recordings posted to each project website (compiled in Appendix II). I coded each entry based upon how information flowed between participants using cues (see Figure 9). Each meeting received only one label.

Cue	Categorization
Just the facilitation team talking	Mono-Directional
Q&A session Link to survey	Bi-Directional
Breakout rooms Open dialogue between participants beyond a Q&A Interactive tools (e.g Miro, JamBoard, Idea Flip) Live Draw	Multi-Directional
Open Studio Live Cast	Multi-Directional/ Live Cast

Figure 9: Cues for Categorizing DPPs

I coded recordings of synchronous meetings from the perspective of a synchronous and asynchronous participant. The results of this are discussed in Chapter 6.

5.1.5 Unpacking Participants, Attendees and Viewers

Practitioners did not always know who was participating in a virtual charrette. Often attendees did not need to provide any information to join a Zoom meeting, and viewers could also watch a recording anonymously. Facilitators may have had more granular data (e.g. using IP addresses to track participants across events), however the most consistent data available to me was the number

of times a recording had been viewed.[13] My data is incomplete: it says little about the representativeness of attendees and viewers alike.

Some recordings were viewed over 1100 times, others less than 15. For each project, the average number of views ranged from 21 to 290. The number of viewers is, of course, dependent on many variables, including the project scale or profile, however, this range suggests that some projects were successful in attracting large numbers of viewers and others were not. One project posted their recordings to Vimeo and Facebook—the recordings on Facebook were viewed much more frequently (up to 300 Facebook views for each Vimeo view), suggesting that the platform and how the platform is networked, impacts the visibility of project recordings, although this warrants further study.

5.2 Talking about Places of Practice

What follows next is a series of excerpts from the interviews organized around nine themes ranging from technology to facilitation. Some of the themes echo the elements of the Design Charrette discussed in Chapter 2.5. Inspired by Hamid Shirvani's (1985) text "Insiders' Views on Planning Practice," and in line with interpretive research, each theme begins with a selection of excerpts from the interviews, followed by my explication. The interviews were transcribed as spoken, and the excerpts have been edited for clarity (Magnusson & Marecek, 2015).

5.2.1 Replicating on the Fly

[*Contextual note*: I began each interview by asking for the story of the charrette, the initial plan and how (and when) the design team changed course. As they recounted their virtualization process, I also asked if there were specific elements that they wanted to make sure were retained or aspects of the in-person charrette that they wanted to change. Their responses are reflected here.]

"W*e were really looking to recreate those conversations that the community has with each other. We can hear feedback from one person individually all day, but they [participants] don't have that chance to talk to each other, and learn from each other, and go back and forth, maybe on just an iterative process and coming to an idea or a solution, or even just having two opposing viewpoints that they need to talk through and understand that people have different viewpoints from themselves"*

13 If the facilitators used a Zoom Meeting, I could see the number of attendees in the recording; if it was a Zoom Webinar I could not.

Interviewee 17

“We did a lot of similar things as you would do in an in-person charrette. We just offered those opportunities virtually and had, you know the one-on-one meetings where we'd have people coming into the studio and meeting at the site”

Interviewee 15

“We did not anticipate we'll be doing things virtually, obviously. So we didn't scope that, we didn't plan for it. We didn't budget in a fee for it. So part of the whole virtual nature is then an adaption”

Interviewee 20

“A lot of it we were learning on the fly, trying to figure out how can we do it? How can we push it? How can we try and make it as engaging as possible?”

Interviewee 9

Nearly all the interviewees used the language of replication to describe the virtualization process, aligning with Digital Transfer described in Chapter 1 and planning as a habitual practice. For example, the in-person charrette schedule was often retained online. Yet, the narratives of replication and transfer also contained stories of learning, not just applying prior knowledge, skills or habits in a comparable context. Within virtualization, many variables remained constant (e.g. project scope, budget, objectives) while new aspects, like the number of corporate Zoom licenses or software updates, were introduced. Practitioners “learned on the fly” about how to navigate between the different layers: their habits, contextual or project constraints, the client’s needs, the project context and technology.

5.2.2 DPPs Before and After

“[Before the pandemic] when people went online our only presence was a website imploring them to come to the charrette [meeting]”

Interviewee 5

“I’ve never seen a virtual design charrette in my career...I've seen websites that document some of the journey. But I've actually never seen a real design charrette...using virtual technology”

Interviewee 9

“There's no corporate standard or anything [saying] you must use this [tool], and this is the three hour training you have to do in order to use it. There's nothing like that”

Interviewee 16

“So there was a lot of quick thinking and learning, quite frankly, because this was a brand new

technology for all of us. This is the first time that my team had actually delivered a virtual design charrette. We were all learning really, really quickly about "How does this work? What do you need to do?"

Interviewee 9

"If it's not easy to use, if it's not intuitive, if it's not interesting, people are just going to tune out. They're going to give it 30 seconds, and they're going to be gone forever"

Interviewee 23

"Next time around [I] might suggest a platform that someone had used before. It was new to all of us [on the design team]. And it was a real logistic challenge... Because there wasn't anyone on the team who [was] familiar with all those tools"

Interviewee 23

"One of the biggest things that I would look into more is mobile friendliness. A lot of our users... [are] just using their cell phones. And when I tried [the DPP]... it's not quite mobile friendly"

Interviewee 22

Prior to the pandemic, design charrettes did not include a strong online presence, thus practitioners needed to learn not only how to create a website, but how to "operationalize" the charrette online. Many of the practitioners had been planning for decades: they brought a wealth of expertise in charrette-ing, however they needed to learn how to adapt this knowledge to new tools, processes and places. As one interviewee noted, there was often not a lot of guidance about how to approach virtual engagement, nor, notes another, were projects equipped with the appropriate resources for conducting virtual engagement. Practitioners needed to learn about what appeared to be subtle differences, like the distinction between a Zoom Webinar and a Zoom Meeting[14] which have an immense impact on the ability of participants to actively charrette. Creating a virtual charrette required different tools and skill sets, and raised new questions for practitioners about how to best do their job.

During the pandemic, project websites quickly emerged as essential, although two projects did not use them. In some ways, the pre-pandemic practice of setting up a design studio in the community was transferred onto the website as they became the "places" designers and participants went to meet and where the design process unfolded. However, a website and an office are two

14 In a Zoom Webinar, an attendee is a view-only participant who can interact with the host or Panelist via the Q&A chat. In a Zoom Meeting, the Host can allow Attendees to share their own video and audio (*Zoom Events Roles and Permissions*, n.d.).

distinct spaces. Both can help make the design process more accessible to the public, however it's much harder to just walk by a website (or a Zoom meeting) and wander in.

In looking at Digital Participatory Platforms, I focused on the project Website as the base DPP: they shared information, were linked to other sources of information (e.g. past planning processes, news articles) and housed the tools and spaces for engaging. Some DPPs were a branch of the larger City or Planning Department's website, others stand-alone sites. Some teams brought in IT specialists, however many built their websites and charrette tools in-house which taxed precious (human) resources.

5.2.3 New Geographies of Places of Practice

"[The design team's] houses were just not set up to make stuff, to draw plans and renderings"

Interviewee 5

"[Google] street view is not the same as immersing yourself in a place"

Interviewee 24

"You gain a greater feel for a place for literally being there, and being with the people. And so some of that has been missing"

Interviewee 20

"Sometimes an idea will be carried forth much longer than you anticipated. Or all of a sudden, two [designers] who should have been collaborating were not, and there's something that doesn't align. Yeah, that happens more often. Because when I'm Zooming with my team [I] say, "Okay, let [M] let me see your drawings here." "Let me see yours, [G]," "let me see yours." Whereas in a physical space, we're all together, we're all talking at the same time"

Interviewee 19

Virtualization took the charrette into new geographies. Some of these places were physical spaces, and others were virtual places that had different configurations or rules that practitioners and participants needed to navigate. Virtualization also increased physical distance between participants, designers, and the place receiving planning. This impacted not only designers' and community members' knowledge of the physical characteristics of the place, but their ability to build relationships in and outside of the design space. On the upside, barring poor internet connectivity, no one needed to commute to a virtual charrette, removing the spatial barrier to participation. For

one design team, they conducted a charrette in Tasmania, Australia from their homes and offices in the United States.[15] In other cases, hard to reach communities, such as Indigenous communities, distance landowners were able to join virtual charrettes without needing to travel.

Virtualization also brought the charrette from a community meeting into the virtual public meetings of a Subcommittee of the Planning Commission. This place was much more formal, with rules around agenda items, decision making, and speaking, and clearly constituted a different environment to charrette in. In this place, conversation was dominated by Subcommittee members, with members of the public taking less active roles.

Virtualization also brought the charrette literally into the homes of designers and participants, the intimacy of these places is discussed in Chapter 6 and accessibility is discussed further in Chapter 5.2.9. Designers and participants did not necessarily have the equipment (e.g a plotter, a computer) to charrette from home as they would in-person. For participants, the type of device they participated from impacted their ability to charrette, as anyone who have tried to read presentation slides on a mobile can attest to. It was more difficult for designers to coordinate on shared drawings from afar, resulting in more miscommunication and slower design processes.

5.2.4 From Open House to Guided Tour

"People react really well to seeing something visual. If we just say, we're going to develop mixed use housing on the site, 10 people will have 10 totally different images. And so it was really important for people to see visually how tall it was, how big it was, how did it feel, and [for designers to] receive their feedback"

Interviewee 18

"The lack of human connection [is hard]. We can't overestimate that. It's very important. Being able to sit down and look at someone in the face and really be there, engage with them and make them understand that we are listening to them"

Interviewee 19

"At the end of the day, it's not just seeking information from people, it really should be a two-way dialogue. And because of the way we have to structure these events, it can sometimes feel a little bit more top down"

Interviewee 10

15 Unpacking this could be the topic of another thesis.

"It happens a little more linearly when you're doing it via Zoom. Whereas if you're in a room with a lot of people, you could be having a design session going on [in one part of a room and] a presentation somewhere else and people can go back and forth more easily"

Interviewee 19

"You could get people to focus more easily because you're typically showing one drawing on a screen as opposed to [in] a room … [where] everybody's eyes are all over the place. [Online] you're focused on that one drawing, we can really get people to focus on the details of it. So you can you control that conversation more easily, you can explain it in a more logical sequence. And then it becomes sometimes easier bites for people to be able to chew on, to understand and assess"

Interviewee 19

"Talking to a neighbor beside a drawing on a wall, that informal explaining and discussion hasn't happened. Being online carries a sense of formality"

Interviewee 20

As discussed in Chapter 2, the design process is literally made visible on Tracing Paper. Tracing Paper is used to layer pieces of information and ideas on a large scale map of the project site. While virtual charrettes may not use Tracing Paper per se, I wanted to understand how the design process was made visible online through focusing on Live Draw, Open Houses and Live Cast (See Chapter 5.1 and Images 6, 7, 8, 9).

Numerous practitioners described Live Draw, a designer sketching in the course of a meeting as a "way to show we are listening," highlighting how Live Draw builds trust. While such language could be understood as performative ("we need to show that we are listening"), virtualization stripped away many of the other interpersonal, non-verbal ways of demonstrating listening (e.g. body language, eye contact, tone), thus increasing the importance of other ways of demonstrating listening, such as Live Draw.

The Virtual Open House proved a challenging format for practitioners: on the one hand, it allowed for more guided, in-depth discussion of a specific aspect of the design. On the other hand, participants lost autonomy to navigate the Open House at their own pace or engage in informal discussion with designers or other participants. Everyone moved in the same sequence, at the same pace, and was engaged in one conversation. These virtual spaces functioned more like "guided tours" than "open houses."

Many in-person charrettes have "open studio" hours where participants can come chat with a designer about an idea: in most virtual charrettes this idea was transferred into a Zoom meeting showing a Live Cast of a designer working where participants could "drop in." These spaces felt

incredibly intimate: literally looking over the designer's shoulder while they work without them knowing you are there (See Images 8, 9). Viewers could ask questions (and some did) however most of the recordings show designers silently working or talking among themselves. Many of these conversations were related to the design, but others were more informal.

Virtual charrettes are more structured, organized, and linear than their in-person counterparts. This change in structure represents an aspect of the charrette that was translated through virtualization. More focused (shorter) online conversations replaced longer in-person sessions. It has been hard to figure out how to transcend the webinar-mentality of online places where participants assume more passive roles, and create places or processes that enable informal conversation to happen. These conversations may only be tangentially related to the planning task at hand, but are essential for building trust and connection between participants, and with the process.

5.2.5 Time

"I just announced in an email to the client and to the team... 'look we're gonna do this but it's going to be virtual and this is going to be the first virtual charette'...So the subconsultants...said "we've never made films before, so we don't have to do that, we're not going to do that, we're not allowed to do that."[and others said] 'no you can't do virtual charrette...and if [you do]...you can't call it a charette. You can call it workshop, you can call it a Webex but you can't call it a charrette'... I think everybody said no at first. Even the team [said] "what we do is we go to places and we make stuff" and...even they said "No, we can't do it," but everybody's great and professional and we worked through one item after another, real fast, and then we put it on"

Interviewee 5

"Zoom is a family name now"

Interviewee 17

"We probably would have brought in a technical consultant from the very beginning [if we knew this would be virtual]"

Interviewee 20

"*Our charrettes have gotten longer. It just takes longer to explain things…So the charrette is fast paced, and it's moving very fast. And one of the good things [about virtual] is that there is a pause in the middle. When we do post drawings [for public feedback], we don't have the luxury to do days on end when we're traveling somewhere [for an in-person charrette], right? Because each day is costly to our client... But we can [take more time] when we're doing this virtually"*

Interviewee 19

"We try to deliver [information] when everyone is together… [the client is worried] if we don't give the information to everyone at the same time, not everyone will have the same understanding of it"

Interviewee 17

"We've struggled to schedule meetings too, because we can't have anything happening at the same time. And now that everything is digital...It's hard to conduct all of this business online...when people can participate"

Interviewee 17

"[Before COVID] the presentation that [the consultant] did at the group event for the charrette was like... a three hour thing. And their presentation was probably a half hour to 45 minutes. [For the online charrette] we said 'No way! Not online, that's never gonna work. Your presentations going to be 20 minutes or less, we are going to lose people and we don't want to lose them.' So I think their presentation was probably around 10 or 15 minutes, then they went into the small groups. But overall, the active participation was about an hour and a half versus a three hour event. So I guess, it's shorter, because it's harder to keep people engaged"

Interviewee 15

"We couldn't expect people to just stare at their screen for eight hours, right?"

Interviewee 18

In the interviews, practitioners described navigating a variety of dimensions of Time, which I discuss in turn.

Time: When in the Pandemic did this happen? Norms, regulations, comfort with technology and its availability changed over the course of the Pandemic, and as practitioners learned "to charrette online." The earliest charrette studied was in March 2020, the latest concluded in January 2021: much changed over these months, including Zoom, which released 175 updates between 16 April 2020 and 21 August 2021 (*Zoom Releases By Date – Zoom Help Center*, n.d.). Charrettes which occurred early in the Pandemic faced resistance from every side, but as the Pandemic progressed we (as practitioners and participants) became accustomed to doing things online.

Time: How long will this take? As none of the practitioners had done a virtual charrette before the Pandemic, many shared their frustration with not knowing how long basic processes would take. The websites, texts, resources, videos, surveys and interactive activities that made the virtual charrette possible needed to be created from scratch, often by people without expertise in digital engagement. Practitioners drew upon their pre-pandemic knowledge, however their past experiences did not always provide clear directions for how to charrette online. In an industry mostly based upon hourly rates, the budget and project scope came up frequently: barring

negotiating a new contract or budget, practitioners needed to get creative within the contractual or organizational structures they were operating in for their charrette to proceed.

Time: How should we structure our time together? Many practitioners still opted to conduct the virtual charrette over a series of consecutive days. However, with the barrier of travel removed, this allowed some teams to spread out the feedback loops, giving more time for the community to review, reflect and contribute to design ideas. In one case, a survey was kept live for several months to allow more participants to respond. This elongated structure drifts away from the charrette principles outlined in Chapter 2, opening the question where to draw the boundaries between "charrette" and "workshop."

Time: Should we do this synchronously? In general, in-person charrettes are synchronous: the whole purpose is to bring stakeholders together, sit them around a table, and get them to talk and draw. Virtualization allowed charrettes to blend asynchronous and synchronous processes, prompting some practitioners to ask, "do we *really* need to do this 'in the same room' or 'at the same time'?" yet not all decision-makers were ready to embrace asynchronous processes, arguing that synchronous spaces were more trustworthy.

Time: When should we meet? When will people show up? Although practitioners no longer needed to reserve meeting rooms, scheduling synchronous meetings still proved challenging as it depended on variables like the number of corporate Zoom licenses, or scheduling around other public meetings. Practitioners tried to balance these constraints with anticipating when people would actually show up, as attendance (discussed further in Chapter 5.2) was a persistent challenge.

Time: How long will they pay attention online? While there were some 3+ hr virtual meetings, asynchronous videos averaged 7 minutes in length, and synchronous meeting averaged 110 minutes (See Appendix II). This reflects a conscious decision to try and keep participants engaged and avoid Zoom fatigue.

5.2.6 Facilitation

"I can see you, but your eyes are in shadow...I can't see a really clear facial expression. It doesn't matter in this [interview], but in a charrette, when you're having intimate conversations about the future of a community, then [you need] the micro expressions. You get a level of understanding [from] that. And, you know, on Zoom, if you've got 50 or even 10 images on your screen, they're just masks really...you lose a level of intimate contact and intimate learning"

Interviewee 24

"It is really easy for people to get disconnected when you're looking at a two dimensional screen in front of you and trying to read it and understand it and feel part of [it]"

Interviewee 9

"Keeping up to the technology [and updates]...that wouldn't have even come into our consciousness [before the Pandemic]"

Interviewee 9

"You can only have one person talking or it becomes just a muffle"

Interviewee 9

"It's hard to speak to the screen. It's hard to see the expression on people's faces, it's hard to see if you're boring them or making them angry or if you're making them happy, or they're cheering for you, or whatever. You really can't..see their faces. And there's too many people, so you can't be scanning the room...it['s] difficult to have that one-on-one, more intimate interaction with people"

Interviewee 19

"Even how we structured the website, we wanted to make sure it was smartphone adaptable, to not just [for the] computer"

Interviewee 20

"So we erred on the side of simplicity… Even though the technology may have had more ability, that ability is not usable by everybody"

Interviewee 20

Practitioners' reflections on their experience as an online facilitator mirrored their observations of the online process as a whole: the quality and characteristics of dialogue online is different, and thus, facilitating online is different. There are many layers which shape online exchanges, including technological, social and contextual variables, such as

- Technological variables:
    - the version of the Zoom Desktop client or Mobile app[16]
    - if the event is a Zoom webinar or Zoom meeting[17]
    - the number of participants visible on one screen at a time
    - the number of people that can talk at once (typically only one)
    - if users need to register in order to view or use an interactive tool

16 Functions available on one version of Zoom may not be available on an earlier version
17 This determines if participants can mute/unmute themselves

- Social variables:
    - if participants can/choose to turn on their webcamera. Even with webcameras on, it is difficult to read emotions, energy-levels or other non-verbal cues
    - if a participant likes to talk, or feels intimidated by speaking up
    - how loud a participant's voice is
    - if a participant is mono- or multi-tasking
    - a participant knowledge of technology (including their device)
- Contextual variables:
    - internet speed
    - the device a participant is using
    - the physical space a participant joins from (e.g. one with lots of ambient noise or disruptions)

These new variables changed how practitioners facilitated: many mentioned having a team helping run a Zoom meeting, with different designers managing the chats, keeping track of who was speaking (and who wasn't), even offering to jump into a breakout room to chat one-on-one with a participant who needed additional attention. The tools which create these digital Places were evolving rapidly which posed opportunities and challenges. Variables such as software updates or connectivity problems could derail an entire event. Thus, many practitioners erred on the side of simplicity. If interactive tools, such as Jamboard, Miro or IdeaFlip, were used, designers shared *their* screens rather than having participants interact directly, removing the participant one step further from the design process.

5.2.7 Types of Talk Online

"It seemed like we [were] able to get down into the nitty-gritty of the [site] grounds during the in-person charrette because we were there, and we were visualizing what was in front of us, and what could be in front of us. During the virtual charrettes, it's a little bit more abstract, maybe"

Interviewee 11

"So I think a big part that's missing when you're on this stale call, and maybe you want to talk to someone, but it's weird to talk over other people. That's a big thing that's missing. Our team misses

[the] socialization of our job [and] just meeting new people and like checking in on what projects are going on"

Interviewee 16

"I think we that [break out rooms] really helped us get a lot of feedback from people who wouldn't participate in the larger charrette. It is one of the challenges. We have a lot of very engaged people, but some really like to talk. So [breakout rooms] give some other people who are a little more reserved, a big opportunity to speak up"

Interviewee 17

Beauregard (2013) argues that different types of Places allow for different types of talk: practitioners struggled to match the type of environment they wanted to create online (and the types of talk they wanted to foster) with the digital tools at hand. These tools allow for more linear, detail-oriented conversations with less participant autonomy. It is difficult to have multiple things happening at once without using multiple places (ie breakout rooms).

Many mentioned that there was something missing from their virtual discussions: something happens "on the edges" of the charrette that is organic, often nearly invisible, and essential. In-person charrettes are social spaces. Relationships and trust are built through informal talk, often about things not related to the charrette itself. This talk feeds the charrette. Digital spaces are often designed (and conceived of) as functional rather than social spaces. In-person, pauses such as coffee breaks are often only tangentially related to caffeine—these pauses create opportunities for informal chit-chat. Online, we crave breaks from the screen, such breaks often do not foster connection. Connection between participants is important for carrying the group through the charrette process successfully.

5.2.8 Showing Up: Practitioners

"It's [more] difficult to break that level of distrust...that people have about the whole planning process which they feel they have been so ill-served by in the past. That's just harder [with] the lack of human connection. We can't overestimate that. It's very important [to be able to] sit down and look at someone in the face and really be there and engage with them and make them understand that we are listening"

Interviewee 19

"Before the pandemic, we were starting to really begin to deal with issues of equity, and public participation... There was a big push to do more listening, and less preaching, which is hard for planners, because you know, we're all trained to do things a certain way. And we all think we have the answers and we want to put forward some answers...People have really called on us to

acknowledge the racial inequities that exist [and] that planners have contributed to for the past 50 years, and to really make safe spaces for people to be able to engage with us. So we're beginning to really try to figure out ways in which we can adapt our charrettes...to be a little more fluid, [maybe] we need to take longer than expected, we need to break our charrette into a series of smaller workshop where there's a longer time period under which people can review plans"

Interviewee 19

"So I think there's skepticism and a lack of confidence about [online] 'Oh, you're just doing it digitally, because you can manipulate the data.' There's a lot of people who still think that and don't trust that process.…There's a chance that we could get a lot more feedback [online] than we would normally. And there's still people who will question the process and question the results if it doesn't match up with their expectations. So I think that's one big challenge"

Interviewee 23

"So, in some cases, the projects have been paused...but we still do check in to make sure folks are okay. Even though it might be digital, those human touch points [communicate] 'I'm here, I'm still here. We hadn't gone anywhere. We understand the conditions [of the Pandemic], but you know, we're still invested' [in the community]"

Interviewee 8

"If you were in one breakout room, we were worried that people might think they were missing something else elsewhere"

Interviewee 20

In examining narratives about "showing up," two types of stories emerged. The first examined how practitioners were trying to be present in the communities they were helping design and the second discussed who was participating. Showing up in community encourages showing up at the charrette: these two processes feed each other. In this way, Sections 8 and 9 are interlocking—it was difficult to know how to disentangle them. I have chosen to frame them as Practitioners "showing up" and Participants "showing up."

Before the Pandemic, showing up in community was a way for practitioners to build trust and rapport with community members, before, during and after the charrette. Since 2017, there has been increased discussion of equity within the planning profession (Interviewees 1, 2, 3, 4, 8, and 19), although there is much work yet to do. Unfortunately, especially in the United States, structural and institutional racism has eroded trust between BIPOC communities and planning. One way that practitioners try to counteract this is through showing up in the community. As discussed earlier, it is much harder for practitioners to feel like they are "showing up" in community while charretting online. Beyond the difficulty of getting to know a place physically via Google Streetview, it is

difficult to build connection with community members and to counteract the legacies of top-down, parachute-in-then-leave planning when you cannot literally show up “on their turf.” Instead, many practitioners focused on staying in touch with key community liaisons, checking in even if projects were slowed or put on hold. Practitioners worried that the lack of physical presence in the community would weaken trust in and ownership over the charrette process and outcomes, and that participants would be more distrustful of online engagement. Thus, it was even more important to demonstrate that the design team was listening, not just drawing.

5.2.9 Showing Up: Participants

“It's always been a problem. The people that show up to meetings make the decisions. And you have to have the time to do that, and the education to know what these meetings are, and the people who have the time and education are the elected officials. [In in-person charrettes] the inequities were great... I'm just not sure this problem has been exacerbated by going virtual. I think virtual has actually been more democratizing because people know how to click on YouTube, they know how to click on a link, everybody's got a smartphone. I know that might not be the case, but it feels like you don't need a lot of technical knowledge to participate virtually and people are [participating]. But nevertheless, I don't know that things are worse in this new world, but things were never that great anyway”

Interviewee 5

“What I find most challenging is that we did not do a pre-registration for meetings, because when you do pre-registration, it can easily be a turn-off for people [to participate]... So we did not do that. But by not doing [it], you also don't know who actually joined”

Interviewee 9

“With digital meetings, we really only hear from people who intend on being at these meetings”

Interviewee 17

“There are people you usually don't get [to] your meeting in a high school gymnasium, so the potential to reach people [online] is just so much greater. [Online] we saw a lot of [parents]. Kids are a big factor which keeps people from participating locally in meetings...One of the underrepresented groups in these meetings is usually the moderate middle, the busy working people who are not retirees or just zealots [for] government affairs, [but] the average person. So our ability to talk to the average person has been increased”

Interviewee 5

“[It’s] a wealthy community, and it's not that they wouldn't have access to technology...there's [a] barrier to learning it”

Interviewee 17

"I still think that there was a [digital] divide.... not being comfortable with the online [process and tools]. And then the other issue is could [they] even get online?"

Interviewee 18

"Another reason I would say not to worry is that we've been doing both our Council Meetings and our Planning and Zoning Commission Meetings virtually since what either late March or early April [2020]. And we continue to see a fairly good level of participation [in] public meetings, maybe slightly less than in person. But people are still able to watch it on TV, they can call in"

Interviewee 15

"I feel like our in-person charrettes were attended by more [site] users and our virtual charrettes were attended by more stakeholders, such as local government officials, and nonprofit organizations"

Interviewee 11

"What we heard from our [project site] managers was that we were going to miss out on certain populations that don't have access to technology to participate in a virtual charrette... And so with that in mind, we decided to do a virtual charette as well as in-person charrette"

Interviewee 11

"Hopefully, the meeting recordings help. You can [view it] after...but I don't know that that's much easier for someone who has barriers with technology in general"

Interviewee 17

"Virtual charrettes exclude certain population [the] folks who don't have the technology to participate...You potentially lose folks by using a virtual format but you also gain participation at the same time"

Interviewee 11

As discussed in Chapter 3, representativeness, not just quantity, is an important benchmark for evaluating participation. However representative participation is challenging to achieve in-person and is even more complicated online. There are several dimensions to participation: how practitioners tried to get participants "in the door," how practitioners know who is participating, and how access to technology shapes participation.

Practitioners were uncertain if participants should be asked to register for online synchronous events: many were concerned that registration would impose an unnecessary barrier to access. Thus, many projects asked for limited amounts of personal information about participants (if

any). This makes it incredibly difficult to assess how representative the participants were, or answer the question “who have we not heard from yet?” Furthermore, data about participants in virtual charrette can also look different (e.g. IP addresses), and lends itself to different types of analysis. When we discussed participation, we discussed numeric data (total number of unique website visits) or anecdotal data (although practitioners may have had more specific data than what is shared publicly). Most reported a perceived change in participants, especially increased participation by middle-aged, working people, and less engagement with older residents. The fact that digital engagement was effective in reaching some hard-to-reach communities (e.g. working parents or those for whom in-person engagement is geographically inaccessible) made it complicated for practitioners to evaluate accessibility online, as some communities became easier to reach, and others more inaccessible.

I also asked practitioners directly about how the digital divide impacted their charrette. Three primary themes emerged: minimization of the divide, acknowledgment but uncertainty how to handle it, and direct action to counteract it. Many practitioners oscillated between minimization and uncertainty.

Narratives that appeared to minimize the impact of the digital divide stressed that new communities that were being reached, that the client was not concerned about it, that there is public wifi at facilities like libraries, that nearly everyone has a smartphone and is “online” already, and that there were other ways of participating in the process (e.g. through the audio only call in option, or being able to watch the recording of the meeting later). Many also referenced how other engagements, especially public meetings or hearings, were successfully being conducted online as evidence that “online” was no longer a problem in their community.

Another set of narratives reflect how practitioners see and grapple with the digital divide. Although an uncomfortable topic, most practitioners acknowledged that the digital divide was real and reflected upon their role in exacerbating or circumnavigating the divide. I synthesize these reflections as questions:

- Who is showing up here? Who is not?
- Does physical access to technology equate with knowing how or feeling comfortable using it?
- Does providing an audio-only access to a visual design process make sense?
- Is our platform mobile friendly? Is our process mobile friendly?

- What assumptions did we make while designing this DPP about what devices people would use to access it? What devices are people actually using?
- Does providing a recording of a meeting increase accessibility? What does a recording provide access to?

These reflections evidence how practitioners are experiencing different aspects or dimensions of the divide that stretch beyond the binary of “do you have access to technology? (y/n).” In this context, the practitioner plays a key role in the micro-topographies of the digital divide.

The two projects that designed a hybrid model confronted concerns about the digital divide head on: they adapted their virtual charrette approach with hard-to-reach participants in mind. In both cases, the physical scale of the projects supported a hybrid format, both were charrettes for areas <5 ha. In one case, the design team did a charrette-walk of the site, and in the other they used mixed methods (door-do-door survey, permanent informational display on site and outdoor event).

5.3 Conclusion

As illustrated in Chapter 5, each practitioner took their own path for creating a virtual charrette. Some charrettes more closely followed the synchronous model, where others fully embraced the asynchronous, and others strove to balance the digital and physical. Each of the virtual charrettes examined holds both elements of transfer and translation. Echoing Binder and Boldero’s (2012) writings on habit, many practitioners desired to transfer their in-person charrette habits online. Yet, even aspiring for Transfer, they simultaneously described processes of Translation, as they ascribed new functions to existing digital tools (e.g. websites) or toyed with the charrette sequence (e.g. spreading the charrette over more days) or puzzled over the texture of charrette activities (e.g. more structured interactions) or learned about new technology (e.g. Zoom participant vs attendee). In this way, transfer, translation and transformation are themselves part of an iterative cycle. Translation occurred as existing knowledge or practices were overlaid on new tools, new digital places, and new devices. Translation continues as practitioners reflect upon their process and apply their learning to other projects. It remains to be seen how Transfer and Translation will contribute to Transformation of charrettes and community engagement.

Chapter 6 Discussion

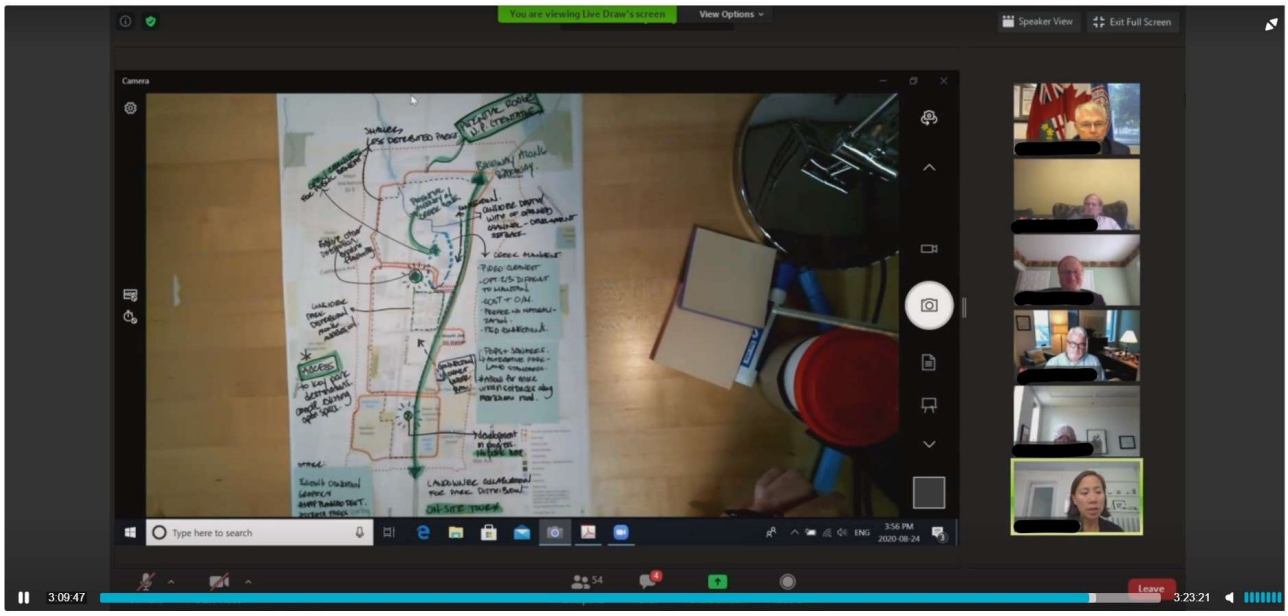


Image 10: Digital and Physical Places of Practice (03:09:47)
Used with permission from City of Markham (2020 24 August)

As this thesis has shown, Beauregard's (2013) concept of Places of Practice is still a relevant frame for understanding what practitioners do and why. However, we can not simply transfer it into Planning 2.0: it must be translated. The processes of virtualization described here have illuminated new uniquely digital dimensions of Places of Practice, what I term Digital Places of Practice. These Digital Places are shaped by technological factors such as your "role" in the meeting (are you a participant? an attendee? a host?) or your internet speed. Based upon the excerpts and explications outlined in Chapter 5, I argue that there are several aspects of the Digital Places of Practice that warrant closer attention for researchers and practitioners alike: the first is the connection between processes, platforms and devices, the second is the dimension of time and lastly is attention to our often overlooked experiences of these Places. Then, I discuss the limitations of my work, paired with recommendations for further research.

6.1 Digital Places of Practice

It was only after all the interviews were recorded and transcribed that I revisited the text on Places of Practice (Beauregard, 2013). Beyond looking at processes of transfer and translation, Beauregard reminded me to pause and examine the interviews as commentary on the new, digital dimensions of Places of Practice that have emerged with the COVID-19 Pandemic. Like the Places of Practice described by Beauregard (2013), these Digital Places have different characteristics, degrees of formality, opacity, and interactiveness. Some of these Places are familiar (and perhaps too familiar), some Places are new. Some of these Places are private, others live-streamed on Facebook or public access TV. Some Places feel formal, structured, or emotionless, others allow for personal exchanges. Some Places are ephemeral, others posted to YouTube for posterity. Different kinds of talk happen in different kinds of Places.

While these Digital Places may feel esoteric, I argue that they too are differentiated spaces worthy of analysis. They have different characteristics and capabilities and allow for different types of talk. Not all Digital Places of Practice are easy to find or access. Their textures are derived from the underlying technology and its capabilities, but are also shaped by how they are constructed, and how well we know how to navigate them. Different Digital Places are conducive to specific types of exchanges or interactions between different types of users. Digital Places of Practice can be communal and social spaces; they can also hold emotions, yet they can also feel formal or distanced. Some require technical skills, special software, or registration to enter, others, only basic digital literacy. Practitioners are in the midst of exploring these Digital Places and understanding the capacities, limitations and the implications of using one tool over another. Practitioners are also learning to adapt their in-person work flows to new digital and physical places.

6.1.1 Practitioners as Builders and Devices as Doors

Practitioners make a web of decisions as they transfer and translate their practices online. Some decisions are weighed and deliberated, others guided by habits or intuition. Some were the result of collective processes, others made by individuals. As illustrated in Chapter 5, details that may seem minute, e.g if you are using Zoom Version 5.2.1 or 5.1.1, can be significant. I argue that practitioners do not just frame issues or engagement strategies as they make these decisions, instead I see their role as carpenters of Places of Practice. Some construct well, others poorly. I was shocked that two of the projects had no project website or webpage. It was nearly impossible to find out information about the projects without directly contacting project staff. For other projects,

information was spread across pages or nested in dropdown menus. Poor DPP design or mobile-unfriendly displays can turn off interested participants instantaneously. Using the metaphor of Moving In, Out, and Across, it is important that practitioners shift their focus from the details of what they have constructed to the holistic experience of that Place from the perspective of a participant.

The charrette is an inherently visual process, thus different devices allow for different experiences of the design process. Participants *could* phone into a meeting if they did not have access to the internet, or *could* log on via their mobile if they did not have access to a computer but their experience and ability to contribute to the design conversation is radically different depending on their device. Most of the virtual charrette were, implicitly or explicitly, designed to be accessed via the door the practitioner uses: a computer (often with multiple monitors). Not all project websites were mobile-friendly and none of the processes were audio-only friendly.

Returning to the visualization from Chapter 1 of DPPs and design processes (Figure 6), I argue that this image is a 2D rendition of a 3D experience, better depicted as Figure 10. As carpenters, practitioners construct doors (or windows) into the design process. Which entrance a participant uses shapes their experience and ability to charrette: an audio-only participant in a visual design process has an utterly different experience from someone using a laptop with external monitor. Unless the design process is constructed to allow for both types of participants to engage fully, to charrette fully, participants experience a hierarchy of devices in virtual engagements.

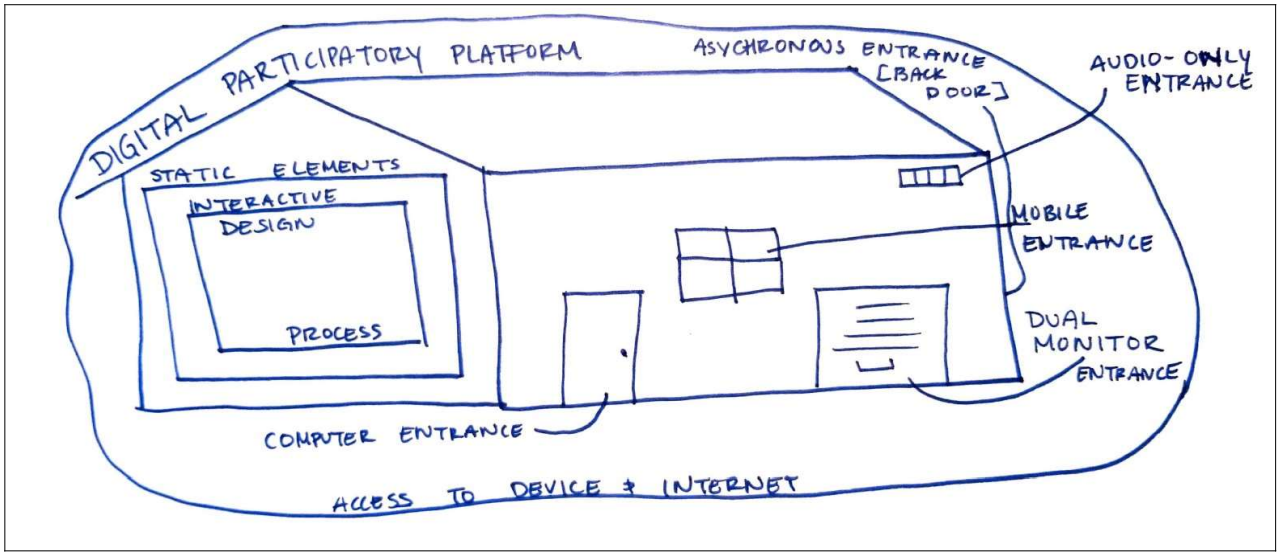


Figure 10: Devices and Platforms; Doors and Windows

Participants who accessed the room via doors other than a laptop were at a disadvantage. Mobile-friendliness is an important step for expanding accessibility of virtual charrettes. However, a mobile-friendly website does not necessarily equate with a mobile-friendly design process. This is the next step of translating the charrette ethos into Digital Places of Practice.

6.1.2 (A)Synchronous?

As described in Chapter 5, one major area of translation was how or if recording synchronous events increased accessibility. As discussed in Chapters 1 and 3, asynchronous participation could represent a huge step forward for overcoming spatial barriers to participation. However, I argue that while a synchronous virtual meeting and a recording of that meeting look identical, they are two utterly different Places with very different characteristics.

Synchronous participants and asynchronous viewers had vastly different charrette experiences. Synchronous participants experienced breakout rooms, or were able to interact with Live Draw or JamBoard or Miro boards. In contrast, the vast majority of asynchronous participants experienced a Mono-directional flow of information with few opportunities to charrette. In the analysis of all of the virtual charrette activities described in Chapter 5.1, I classified each activity as live draw, mono-, bi-, or multi-directional, and examined all project recordings from the perspective of a participant and asynchronous viewer. Synchronous events spanned the spectrum of interactiveness, as illustrated in Figure X. The vast majority of asynchronous experiences were mono-directional, the eight bi-directional asynchronous activities directed the viewer to fill out a survey.

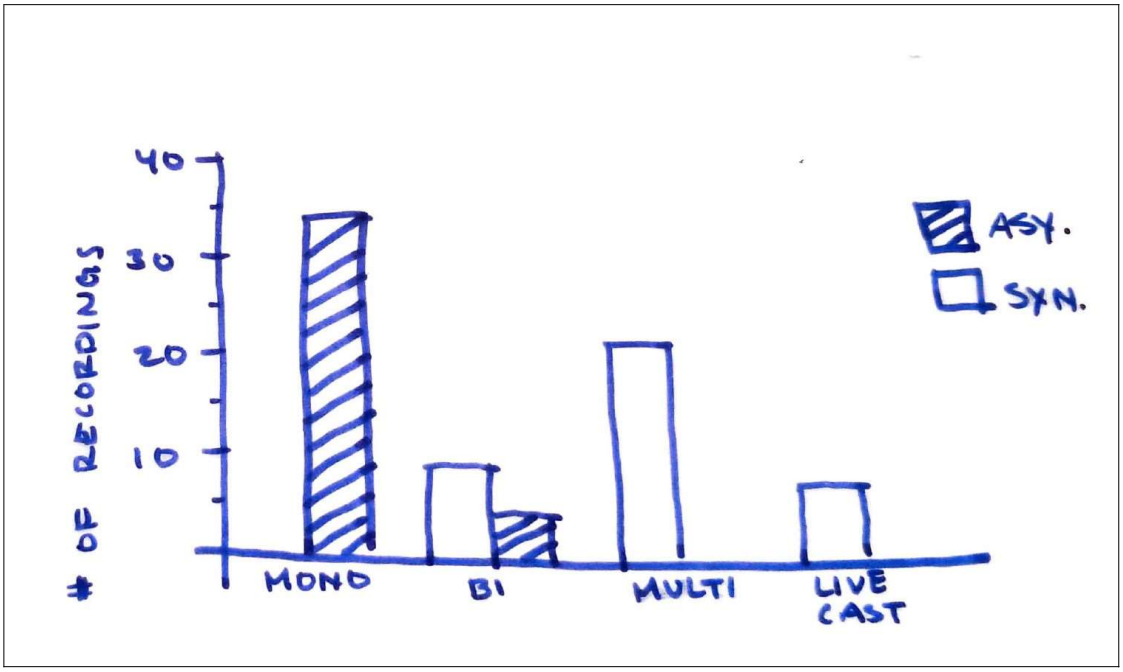


Figure 11: Comparing Synchronous and Asynchronous Experiences
Drawn by the author, using tracing paper over a computer-generated graph

Synchronous virtual places can facilitate multi-directional exchange between participants. While this exchange may look and feel different than what would occur in an in-person charrette, practitioners strove to translate the dynamism of an in-person charrette to the virtual. However, designing a dynamic or collaborative process in a synchronous virtual place does not necessitate that the dynamism is transferred into the asynchronous experience. It is actually translated, but much is lost in translation unless these recordings are paired with other asynchronous tools. In order for both the synchronous and asynchronous experience to embody the collaborative charrette spirit, more attention needs to be paid to the slippage between the synchronous and asynchronous experience. In the current formulation, the vast majority of virtual synchronous charrettes continue to privilege the voices and perspectives of participants who are able to show up, at least digitally and temporally, in synchronous Digital Places of Practice.

We should also pause to reflect on the purpose of providing a recording of a synchronous meeting. Returning to the Ladder of Citizen Engagement (Arnstein, 1969), recordings of synchronous meetings (without additional asynchronous-specific ways of engaging) are great tools to inform but very poor tools for partnership: we should not present these recordings as something more collaborative than they are. Doing so runs the risk of contributing to, rather than reducing the top down, rationalist planning approaches which is antithetical to the charrette.

6.1.3 Experiencing Digital Places

While our collective experience of Digital Places is often of the virtual "room," Digital Places consist of a multitude of physical places. To illustrate, I conducted the interviews for this thesis on Zoom, yet we (the interviewer and interviewee) were both someplace: I was in a kitchen in Budapest, an AirBnB in Prague, a living room in Copenhagen, and a closet in Madrid (the only quiet room with internet connection in my flat). The characteristics of these physical places (the lighting, noise level, internet speed, and privacy) shaped our shared experience.

Virtualization also brought the design process into new physical spaces, including designers' and participants' homes. I watched 4476 minutes of project videos as part of this research. As my attention was less on the design outcomes, I was able to notice things in the background, literally. While many designers used a digital background when presenting on Zoom, these videos provided windows into countless lifeworlds: kitchens, backyards, living rooms, home offices, paintings, pets, plants. I was especially moved by the Live Stream work sessions, often hours of watching a designer's cursor navigate InDesign menus, or pen on paper. I watched almost 14 hours of Live Cast from the 10 virtual charrettes, as well as Live Cast from another virtual charrette conducted by one of my interviewees but not included in my cases (I examined their team's first virtual charrette). Although I was watching Live Casts asynchronously (after they had been recorded) it still felt incredibly intimate to look over someone's shoulder while they worked. Sometimes, a participant would drop by with a question or another designer would join them and they would chit chat, but mostly it was silent work. Although there was not a lot of "action" in these videos, five of the six Live Cast recordings analyzed were seen over 100 times.[18]

Although recordings were often used as a record of previous activities, some practitioners played with and disrupted temporal linearity. In one case, when a synchronous meeting broke into breakout rooms for discussion and Live Draw, each of the breakout rooms was recorded. On the project website, the recording of this meeting spliced together and sped up the recordings from the breakout rooms into a few minutes of frantic drawing. Speeding up and integrating multiple recordings into one "window" allowed the asynchronous viewer to see a little more of what happened in each room, even if they could not participate actively themselves. In another instance, a designer played a video of his hands drawing while he was giving a presentation (Image 1), illustrating how Digital Places of Practice can morph the physical boundaries we are accustomed to, if practitioners choose to.

18 These videos are posted to the project Facebook Page, it was unclear how long a viewer needed to watch a Facebook video before Facebook would count it as "a view."

6.2 Blind Spots and Vistas

I will be the first to acknowledge that while my research process led me to many vistas, there are also considerable limitations to my research. Within the charrettes I examined, I also uncovered blind spots which warrant further reflection by academics and practitioners alike.

The voices of participants were absent in my research: I felt this acutely. While my experience of these Digital Places is interesting, it is a very poor proxy for that of actual participants. Placing their perspectives in dialogue with practitioners would have added layer of richness to my analysis and allowed me to interrogate other dimensions of Digital Places of Practice. Furthermore, synchronous and asynchronous participation raises new questions about how we define what a "participant" even is.

- Further research on Digital Places of Practice, especially co-design community engagement, that also capture participant views is needed. This could be achieved through a Participatory Action Research approach.

Another major limitation of my research was that my analysis of the DPPs was based primarily upon recordings of virtual events and not all activities were recorded. Frequently it was the Open Houses or Live Cast design sessions—the interactive pieces where design happens—that were not recorded. These sessions left holes in my analysis.

- Another fruitful approach to this research would have been looking even closer at the daily practices of practitioners working and planning online and to delve even further into the complexities of working in Digital Places of Practice.

I grappled with equity throughout my research: as a researcher, I realized that I was only seeing the charrettes that *were* transferred and translated online. There may have been many projects that were put on hold because of concerns about access, accessibility and the digital divide. Therefore, because they existed, the ten charrettes analyzed here all embodied a belief that they could transcend the digital divide enough to move forward, even during a global Pandemic.

- Other research could look at design charrettes during this same period that did not virtualize, and interrogate why and what the implications of that decision have been.

As practitioners and academics, we are stuck between wanting to protect privacy and obtaining representative participation. These goals are in tension with each other. Practitioners shared that they were worried about constructing new barriers to participation and wanted to protect participant privacy, however the lack of data about who participated in the virtual charrettes

screamed at me, especially as the planning profession has inflicted so much harm on disadvantaged communities in the last 70 years in the US. Equity is a trending buzzword within the planning community I belong to, however this research illustrates that we are struggling to operationalize equity in Digital Places.

- Additional research could focus specifically on how practitioners are navigating the tension between privacy and representative participation in virtual engagement.

Many of the practitioners wanted to Transfer their community outreach strategy from physical to digital without interrogating where or how outreach habits need to be Translated in order to be appropriate for physical and Digital Places. As discussed in Chapter 1, public participation is already fraught with problems: as Gabryelczyk (2020) writes, "Let's not digitize the clutter!" (p. 308). Let’s let go of some of our old habits and leave them behind.

Practitioners described accessing a charrette via a link as “easier.” As charrettes try to share the power to design between “professionals” and “lay people” it is especially important that practitioners reflect upon and are cognizant of the multiple dimensions of accessibility beyond “clicking on a link and then you’re in.” We need to deconstruct our perception of accessibility more carefully.

- The accessibility framework outlined in Chapter 3 could be a useful starting point for future research on how practitioners perceive accessibility and try to construct accessible processes.

6.3 Conclusions

In this thesis, I illustrate how design charrettes have undergone processes of Transfer and Translation as they are virtualized. I use Places of Practice (Beauregard, 2013) to frame my inquiry into overlooked aspects and spaces of the design charrette. This lens directed me towards research approaches that foreground practitioners and their practices, methodologies that examine the entanglement of humans and objects, and methods that blended interviews with analysis of Digital Participatory Platforms. By focusing on a process where visuals are an important part of the design conversation, I share how practitioners are walking between digital and material realms. Aided by technology, participation in urban planning is being redefined as it is no longer spatially or temporally bound. However, other factors now shape who participates, when, how, in what and why. As practitioners explore the emerging Digital Places, I see hints of habits, detachment, political

footprints and boundary pushing. Furthermore, I add that practitioners are also builders: they construct these platforms and they frame doors and windows into the design process. Which door a participant enters through, or which window they look through depends on how the process is constructed and on the device they use. We, participants in and conveners of virtual, hybrid, and in-person spaces need to reflect not only upon the *capacities* of digital tools, but also the *experience* of the Places we create. Design charrettes are profound community engagement processes because they meld thinking spatially with thinking visually. Through this thesis, I suggest that we also can benefit from integrating metaphor into our reflective practices.

Although this research examines a niche form of community engagement, I hope my words resonate beyond charrette practitioners. We are all wondering how the Pandemic will transfer, translate and maybe transform many aspects of our lives, both professional and personal. Community engagement is in dire need of transformation: I hope contained within the tumult of the COVID-19 Pandemic some seeds of change were planted.

References

Afzalan, N., & Muller, B. (2018). Online Participatory Technologies: Opportunities and Challenges for Enriching Participatory Planning. *Journal of the American Planning Association*, *84*(2), 162–177. https://doi.org/10.1080/01944363.2018.1434010

Afzalan, N., Sanchez, T. W., & Evans-Cowley, J. (2017). Creating smarter cities: Considerations for selecting online participatory tools. *Cities*, *67*, 21–30. https://doi.org/10.1016/j.cities.2017.04.002

Al-Kodmany, K. (2000). Public Participation: Technology and Democracy. *Journal of Architectural Education*, *53*(4), 220–228. https://doi.org/10.1162/104648800564635

American Planning Association. (n.d.). *COVID-19 Resources*. https://www.planning.org/resources/covid-19/

Anttiroiko, A.-V. (2012). Urban Planning 2.0: *International Journal of E-Planning Research*, *1*(1), 16–30. https://doi.org/10.4018/ijepr.2012010103

Arnstein, S. R. (1969). A Ladder Of Citizen Participation. *Journal of the American Institute of Planners*, *35*(4), 216–224. https://doi.org/10.1080/01944366908977225

Bacqué, M.-H., & Gauthier, M. (2017). Participation, Urban Planning, and Urban Studies. In C. Silver, R. Freestone, & C. Demazière (Eds.), *Dialogues in Urban and Regional Planning 6* (1st ed., pp. 49–79). Routledge. https://doi.org/10.4324/9781315628127-4

Bamberg, J. (2013). Engaging the public with online discussion and spatial annotations: The generation and transformation of public knowledge. *Planning Theory & Practice*, *14*(1), 39–56. https://doi.org/10.1080/14649357.2012.738306

Beauregard, R. (2013). The neglected places of practice. *Planning Theory & Practice*, *14*(1), 8–19. https://doi.org/10.1080/14649357.2012.744460

Beauregard, R., & Lieto, L. (2017). Towards an Object-Oriented Case Methodology for Planners. In T. W. Sanchez (Ed.), *Planning Knowledge and Research* (1st ed., pp. 153–166). Routledge. https://doi.org/10.4324/9781315308715-10

Binder, G., & Boldero, J. M. (2012). Planning for Change: The Roles of Habitual Practice and Habitus in Planning Practice. *Urban Policy and Research*, *30*(2), 175–188. https://doi.org/10.1080/08111146.2012.672059

Blue, G., Rosol, M., & Fast, V. (2019). Justice as Parity of Participation: Enhancing Arnstein's Ladder Through Fraser's Justice Framework. *Journal of the American Planning Association*, *85*(3), 363–376. https://doi.org/10.1080/01944363.2019.1619476

Booher, D. E., & Innes, J. E. (2002). Network Power in Collaborative Planning. *Journal of Planning Education and Research*, *21*(3), 221–236. https://doi.org/10.1177/0739456X0202100301

Cochrane, A. (2014). Chapter 4: Interviews. In K. Ward, *Researching the City*. SAGE Publications, Ltd. https://doi.org/10.4135/9781526401885

Condon, P. M. (2008). *Design charrettes for sustainable communities*. Island Press.

Congress for the New Urbanism. (1996). *The Charter of the New Urbanism*. https://www.cnu.org/who-we-are/charter-new-urbanism

Creswell, J. W. (2006). *Qualitative inquiry & research design: Choosing among five approaches* (Second Edition). SAGE.

Czepkiewicz, M., Jankowski, P., & Młodkowski, M. (2017). Geo-questionnaires in urban planning: Recruitment methods, participant engagement, and data quality. *Cartography and Geographic Information Science*, *44*(6), 551–567. https://doi.org/10.1080/15230406.2016.1230520

den Otter, A. (2009). Managing Effectiveness of Asynchronous and Synchronous Design Team Communication. In S. Emmitt, M. Prins, & A. den Otter (Eds.), *Architectural Management* (pp. 72–90). Wiley-Blackwell. https://doi.org/10.1002/9781444312195.ch4

Ertiö, T.-P. (2015). Participatory Apps for Urban Planning—Space for Improvement. *Planning Practice & Research*, *30*(3), 303–321. https://doi.org/10.1080/02697459.2015.1052942

Evans-Cowley, J., & Hollander, J. (2010). The New Generation of Public Participation: Internet-based Participation Tools. *Planning Practice & Research*, *25*(3), 397–408. https://doi.org/10.1080/02697459.2010.503432

Evans-Cowley, J. S. (2010). Planning in the age of Facebook: The role of social networking in planning processes. *GeoJournal*, *75*(5), 407–420. https://doi.org/10.1007/s10708-010-9388-0

Falco, E., & Kleinhans, R. (2018a). Beyond Technology: Identifying local government challenges for using digital platforms for citizen engagement. *International Journal of Information Management*, *40*, 17–20. https://doi.org/10.1016/j.ijinfomgt.2018.01.007

Falco, E., & Kleinhans, R. (2018b). Digital Participatory Platforms for Co-Production in Urban Development: A Systematic Review. *International Journal of E-Planning Research*, *7*(3), 52–79. https://doi.org/10.4018/IJEPR.2018070105

Feldon, D. F., & Tofel-Grehl, C. (2018). Phenomenography as a Foundation for Mixed Models Research. *American Behavioral Scientist*, *62*(7), 887–899. https://doi.org/10.1177/0002764218772640

Fountain, J. E. (2001). Enacting Technology: An Institutional Perspective. In *Building the Virtual State: Information Technology and Institutional Change*. Brookings Institution Press. http://www.jstor.org/stable/10.7864/j.ctvcb59n3

Fredericks, J., & Foth, M. (2013). Augmenting public participation: Enhancing planning outcomes through the use of social media and web 2.0. *Australian Planner*, *50*(3), 244–256. https://doi.org/10.1080/07293682.2012.748083

FT Visual & Data Journalism Team. (2021, July 28). Lockdowns comprared: Tracking governments' coronavirus responses. *Financial Times*. https://ig.ft.com/coronavirus-lockdowns/

Gabryelczyk, R. (2020). Has COVID-19 Accelerated Digital Transformation? Initial Lessons Learned for Public Administrations. *Information Systems Management*, *37*(4), 303–309. https://doi.org/10.1080/10580530.2020.1820633

Groenewald, T. (2004). A Phenomenological Research Design Illustrated. *International Journal of Qualitative Methods*, *3*(1), 42–55. https://doi.org/10.1177/160940690400300104

Gün, A., Demir, Y., & Pak, B. (2020). Urban design empowerment through ICT-based platforms in Europe. *International Journal of Urban Sciences*, *24*(2), 189–215. https://doi.org/10.1080/12265934.2019.1604250

Hajar, A. (2020). Theoretical foundations of phenomenography: A critical review. *Higher Education Research & Development*, 1–16. https://doi.org/10.1080/07294360.2020.1833844

Hillier, J., & Healey, P. (Eds.). (2008). *Contemporary Movements in Planning Theory* (Vol. 3). Ashgate Publishing Limited.

Honey-Rosés, J., Anguelovski, I., Chireh, V. K., Daher, C., Konijnendijk van den Bosch, C., Litt, J. S., Mawani, V., McCall, M. K., Orellana, A., Oscilowicz, E., Sánchez, U., Senbel, M., Tan, X., Villagomez, E., Zapata, O., & Nieuwenhuijsen, M. J. (2020). The impact of COVID-19 on public space: An early review of the emerging questions – design, perceptions and inequities. *Cities & Health*, 1–17. https://doi.org/10.1080/23748834.2020.1780074

Horrigan-Kelly, M., Millar, M., & Dowling, M. (2016). Understanding the Key Tenets of Heidegger's Philosophy for Interpretive Phenomenological Research. *International Journal of Qualitative Methods*, *15*(1), 160940691668063. https://doi.org/10.1177/1609406916680634

Hurley, J., Lamker, C. W., Taylor, E. J., Stead, D., Hellmich, M., Lange, L., Rowe, H., Beeck, S., Phibbs, P., & Forsyth, A. (2016). Exchange between researchers and practitioners in urban planning: Achievable objective or a bridge too far?/The use of academic research in planning practice: who, what, where, when and how?/Bridging research and practice through collaboration: lessons from a joint working group/Getting the relationship between researchers and practitioners working/Art and urban planning: stimulating researcher, practitioner and community engagement/Collaboration between researchers and practitioners: Political and bureaucratic issues/Investigating Research/Conclusion: Breaking down barriers through international practice? *Planning Theory & Practice*, *17*(3), 447–473. https://doi.org/10.1080/14649357.2016.1190491

Hycner, R. (1985). Some Guidelines for the phenomenological analysis of interview data. *Human Studies*, *8*, 279–303.

Innes, J. E., & Booher, D. E. (1999). Consensus Building and Complex Adaptive Systems: A Framework for Evaluating Collaborative Planning. *Journal of the American Planning Association*, *65*(4), 412–423. https://doi.org/10.1080/01944369908976071

Innes, J. E., & Booher, D. E. (2004). Reframing public participation: Strategies for the 21st century. *Planning Theory & Practice*, *5*(4), 419–436. https://doi.org/10.1080/1464935042000293170

Kahila-Tani, M., Broberg, A., Kyttä, M., & Tyger, T. (2016). Let the Citizens Map—Public Participation GIS as a Planning Support System in the Helsinki Master Plan Process. *Planning Practice & Research*, *31*(2), 195–214. https://doi.org/10.1080/02697459.2015.1104203

Kaufmann, V., Bergman, M. M., & Joye, D. (2004). Motility: Mobility as capital. *International Journal of Urban and Regional Research*, *28*(4), 745–756. https://doi.org/10.1111/j.0309-1317.2004.00549.x

Kleinhans, R., Van Ham, M., & Evans-Cowley, J. (2015). Using Social Media and Mobile Technologies to Foster Engagement and Self-Organization in Participatory Urban Planning and Neighbourhood Governance. *Planning Practice & Research*, *30*(3), 237–247. https://doi.org/10.1080/02697459.2015.1051320

Kwartler, M. (2012). The Preparation of the Kona Region Community Development Plan: A Case Study in Visioning and Visualization. In L. Bazzanella, L. Caneparo, F. Corsico, & G. Roccasalva (Eds.), *The Future of Cities and Regions* (pp. 173–204). Springer Netherlands. https://doi.org/10.1007/978-94-007-2518-8_9

Labosier, A. (2020). Crisis as Opportunity: Fostering Inclusive Public Engagement in Local Government. *Mercatus Center - George Mason University*, *Policy Brief*. https://doi.org/10.2139/ssrn.3592973

Lane, M. B. (2005). Public Participation in Planning: An intellectual history. *Australian Geographer*, *36*(3), 283–299. https://doi.org/10.1080/00049180500325694

Lennertz, B. (2003). The Charrette as an Agent for Change. In *The New Urbanism Comprehensive Report J.I. Jackson and Best Practice Guide* (pp. 1–4). New Urban Publications.

Lissandrello, E. (2017). When planners aim for more sustainable cities. In S. Kristjánsdóttir (Ed.), *Nordic Experiences of Sustainable Planning: Policy and Practice* (1st ed., pp. 284–298). Routledge. https://doi.org/10.4324/9781315598529

Loh, C. G. (2017). Learning from Practice, Learning for Practice in Local Land Use Planning Research. In T. W. Sanchez (Ed.), *Planning Knowledge and Research* (1st ed., pp. 24–34). Routledge. https://doi.org/10.4324/9781315308715-3

Lyles, W., & Swearingen White, S. (2019). Who Cares?: Arnstein's Ladder, the Emotional Paradox of Public Engagement, and (Re)imagining Planning as Caring. *Journal of the American Planning Association*, *85*(3), 287–300. https://doi.org/10.1080/01944363.2019.1612268

Madill, H., Lennertz, B., & Beyea, W. (2018). Crafting Charrettes that Transform Communities. *American Planning Association - PAS Memo*, *November December*, 10.

Magnusson, E., & Marecek, J. (2015). *Doing Interview-Based Qualitative Research: A Learner's Guide*. Cambridge University Press. https://doi.org/10.1017/CBO9781107449893

Mahoney, J., & Thelen, K. (Eds.). (2009). A Theory of Gradual Institutional Change. In *Explaining Institutional Change* (pp. 1–37). Cambridge University Press. https://doi.org/10.1017/CBO9780511806414.003

Marton, F. (1981). Phenomenography—Describing Conceptions of the World Around Us. *Instructional Science*, *10*, 177–200.

Marton, F. (1986). Phenomenography—A Research Approach to Investigating Different Understandings of Reality. *Journal of Thought*, *21*(3), 28–49. http://www.jstor.org/stable/42589189

McNutt, K. (2014). Public engagement in the Web 2.0 era: Social collaborative technologies in a public sector context: Social Collaborative Technologies. *Canadian Public Administration*, *57*(1), 49–70. https://doi.org/10.1111/capa.12058

Mergel, I., Edelmann, N., & Haug, N. (2019). Defining digital transformation: Results from expert interviews. *Government Information Quarterly*, *36*(4), 101385. https://doi.org/10.1016/j.giq.2019.06.002

Merriam-Webster. (n.d.). Virtual. In *Merriam-Webster.com dictionary*. https://www.merriam-webster.com/dictionary/virtual

Mugge, P., Abbu, H., Michaelis, T. L., Kwiatkowski, A., & Gudergan, G. (2020). Patterns of Digitization: A Practical Guide to Digital Transformation. *Research-Technology Management*, *63*(2), 27–35. https://doi.org/10.1080/08956308.2020.1707003

National Charrette Institute, & Form Based Codes Institute. (2020, April 28). *Charrettes Go Virtual: Missoula, MT, Hosts an Online Charrette to advance a Community Vision Webinar* [Webinar]. https://www.youtube.com/watch?v=0h8tVs68iO4&feature=youtu.be

Othengrafen, F., & Levin-Keitel, M. (2019). Planners between the Chairs: How Planners (Do Not) Adapt to Transformative Practices. *Urban Planning*, *4*(4), 111–138. https://doi.org/10.17645/up.v4i4.2237

Pánek, J. (2016). From Mental Maps to GeoParticipation. *The Cartographic Journal*, *53*(4), 300–307. https://doi.org/10.1080/00087041.2016.1243862

Pascal, J., Johnson, N., Dore, C., & Trainor, R. (2011). The Lived Experience of Doing Phenomenology: Perspectives from Beginning Health Science Postgraduate Researchers. *Qualitative Social Work*, *10*(2), 172–189. https://doi.org/10.1177/1473325009360830

Pelzer, P., Geertman, S., & van der Heijden, R. (2015). Knowledge in communicative planning practice: A different perspective for planning support systems. *Environment and Planning B: Planning and Design*, *42*(4), 638–651. https://doi.org/10.1068/b130040p

Piatkowski, D., Marshall, W., & Afzalan, N. (2017). Can web-based community engagement inform equitable planning outcomes? A case study of bikesharing. *Journal of Urbanism: International Research on Placemaking and Urban Sustainability*, *10*(3), 296–309. https://doi.org/10.1080/17549175.2016.1254672

Pittaway, J. J., & Montazemi, A. R. (2020). Know-how to lead digital transformation: The case of local governments. *Government Information Quarterly*, *37*(4), 101474. https://doi.org/10.1016/j.giq.2020.101474

Potts, R. (2020). Is a New 'Planning 3.0' Paradigm Emerging? Exploring the Relationship between Digital Technologies and Planning Theory and Practice. *Planning Theory & Practice*, *21*(2), 272–289. https://doi.org/10.1080/14649357.2020.1748699

Reis, J., Amorim, M., Melão, N., & Matos, P. (2018). Digital Transformation: A Literature Review and Guidelines for Future Research. In Á. Rocha, H. Adeli, L. P. Reis, & S. Costanzo (Eds.), *Trends and Advances in Information Systems and Technologies* (Vol. 745, pp. 411–421). Springer International Publishing. https://doi.org/10.1007/978-3-319-77703-0_41

Rosen, J., & Painter, G. (2019). From Citizen Control to Co-Production: Moving Beyond a Linear Conception of Citizen Participation. *Journal of the American Planning Association*, *85*(3), 335–347. https://doi.org/10.1080/01944363.2019.1618727

Rosol, M., Blue, G., & Fast, V. (2019). *Social justice in the digital age: Re-thinking the smart city with Nancy Fraser.* (Working Paper #1) [Preprint]. UCCities. https://doi.org/10.31235/osf.io/wkqy2

Ryan, D. E., Brown, N. W., & Middleton, J. K. (2008). *Wikiplanning™: The virtual design charrette*. 517–526. https://doi.org/10.2495/SC080491

Saldaña, J. (2011). *Fundamentals of Qualitative Research*. Oxford University Press.

Schneider, S., & Kokshagina, O. (2021). Digital transformation: What we have learned (thus far) and what is next. *Creativity and Innovation Management*, *30*(2), 1–28. https://doi.org/10.1111/caim.12414

Schön, D. (1991). *The Reflective Practitioner*. Ashgate Publishing Limited.

Shirvani, H. (1985). Insiders' Views on Planning Practice. *Journal of the American Planning Association*, *51*(4), 486–495. https://doi.org/10.1080/01944368508976842

Siemiatycki, M. (2012). The Role of the Planning Scholar: Research, Conflict, and Social Change. *Journal of Planning Education and Research*, *32*(2), 147–159. https://doi.org/10.1177/0739456X12440729

Slotterback, C. S. (2011). Planners' Perspectives on Using Technology in Participatory Processes. *Environment and Planning B: Planning and Design*, *38*(3), 468–485. https://doi.org/10.1068/b36138

Slotterback, C. S., & Lauria, M. (2019). Building a Foundation for Public Engagement in Planning: 50 Years of Impact, Interpretation, and Inspiration From Arnstein's Ladder. *Journal of the American Planning Association*, *85*(3), 183–187. https://doi.org/10.1080/01944363.2019.1616985

Solis, M. (2020). Racial Equity in Planning Organizations. *Journal of the American Planning Association*, *86*(3), 297–303. https://doi.org/10.1080/01944363.2020.1742189

Tait, M. (2011). Trust and the Public Interest in the Micropolitics of Planning Practice. *Journal of Planning Education and Research*, *31*(2), 157–171. https://doi.org/10.1177/0739456X11402628

Tasan-Kok, T., Bertolini, L., Oliveira e Costa, S., Lothan, H., Carvalho, H., Desmet, M., De Blust, S., Devos, T., Kimyon, D., Zoete, J. A., & Ahmad, P. (2016). "Float like a butterfly, sting like a bee": Giving voice to planning practitioners. *Planning Theory & Practice*, *17*(4), 621–651. https://doi.org/10.1080/14649357.2016.1225711

Turesky, E. F., Smith, C. D., & Turesky, T. K. (2020). A call to action for virtual team leaders: Practitioner perspectives on trust, conflict and the need for organizational support. *Organization Management Journal*, *17*(4/5), 185–206. https://doi.org/10.1108/OMJ-09-2019-0798

United Nations Division for Public Institutions and Digital Government. (2020, April 15). *COVID-19: Embracing digital government during the pandemic and beyond | Department of Economic and Social Affairs*. https://www.un.org/development/desa/dpad/publication/un-desa-policy-brief-61-covid-19-embracing-digital-government-during-the-pandemic-and-beyond/

Wallin, S., & Horelli, L. (2012). Playing with the glocal through. *Journal of Community Informatics*, *8*(3). http://ci-journal.net.uaccess.univie.ac.at/index.php/ciej/article/view/883/934

Walters, D. (2007). *Designing community: Charrettes, master plans and form-based codes*. Elsevier/Architectural Press.

Ward, K. (2014). *Researching the City*. SAGE Publications, Ltd. https://doi.org/10.4135/9781526401885

Watson, V. (2002). Do We Learn from Planning Practice?: The Contribution of the Practice Movement to Planning Theory. *Journal of Planning Education and Research*, *22*(2), 178–187. https://doi.org/10.1177/0739456X02238446

Watts, L. (2016). Synchronous and Asynchronous Communication in Distance Learning. *Quarterly Review of Distance Education*, *17*(1), 23–32.

World Health Organization. (2021, August 20). *Coronavirus (COVID-19) Dashboard With Vaccination Data*. Overview. https://covid19.who.int/

Zanotto, J. M. (2019). Detachment in Planning Practice. *Planning Theory & Practice*, *20*(1), 37–52. https://doi.org/10.1080/14649357.2018.1560491

Zhang, W., Xi, Y., & Chen, A. (2020). Why do replies appear? A multi-level event history analysis of online policy discussions. *New Media & Society*, *22*(8), 1484–1504. https://doi.org/10.1177/1461444819880520

Zoom Events roles and permissions. (n.d.). Zoom Help Center. Retrieved August 21, 2021, from https://support.zoom.us/hc/en-us/articles/4406880987917-Zoom-Events-roles-and-permissions

Zoom Releases By Date – Zoom Help Center. (n.d.). Retrieved August 22, 2021, from https://support.zoom.us/hc/en-us/sections/360008531132-Zoom-Releases-By-Date

Image Credits

City of Beverly Hills / Toole Design Group (2020 25 June). *Open Studio – Meet Me on Wilshire & La Cienega (Streetscape Plan: Discovery Charrette)* [Video]. YouTube. https://youtu.be/h0Wsee7piEA

City of Markham (2020 24 August). *Markham Sub-Committee Electronic Meeting* [Video]. EScribeMeetings https://pub-markham.escribemeetings.com/Players/ISIStandAlonePlayer.aspx?Id=36c63a78-eaf5-4e75-a04b-57fb49f5e352

City of Markham (2020, 26 September). *Markham Road – Mount Joy Secondary Plan Study: Community Information Session #2 (Virtual Meeting)* [Video]. YouTube. *https://www.youtube.com/watch?v=huB5JV6g9ws*

Dover Kohl (2020, 25 March). Urban Design of Mary Jane Square [Video]. YouTube. https://youtu.be/yvCPCi02TtY

Dover Kohl (2020 26 March). Mullan Neighborhoods: Details of the Plan - Wednesday's Draft [Video]. YouTube. https://youtu.be/OZP4PgeOZNM

Skylands/DPZ CoDesign (2020 10 November). *Skylands Master Plan Live Draw* [Video]. Facebook. https://www.facebook.com/skylandshobart/videos/689355198633496/

Skylands/DPZ CoDesign (2020 04 November). *Skylands Master Plan Live Draw* [Video]. Facebook. https://www.facebook.com/skylandshobart/videos/717091182493847/

Appendix I

Overview of the Virtual Charrettes

Overview of each of the Charrettes, including elements of their Digital Participatory Platforms and an overview of the elements analyzed.

		Does the project use:						Analysis				
Project	**Type**	**Web-site**	**Public Meet-ing**	**Private Meet-ing *****	**Survey**	**Inter-active Map**	**Live Cast or Open Studio**	**# of Meet-ings (Total)**	**# Analyz ed**	**Av. length (Min)/ video**	**Av. # of views / video**	**Significance**
Mullen Area Master Plan (March 2020)	Async.	X	NO	X	X	X	X	0	27	7	145	First virtual charrette, multiple short videos combined with surveys, interactive map and open studio session/Live draw
Villard Ave (June 2020)	Sync.	NO	X	NO	NO	NO	NO	2	0	N/A	N/A	Full day workshop model directly translated online using interactive platform (IdeaFlip)
Connect Beverly Hills (June 2020 /	Sync.	X	X	X	X	X	x	7	6	72	35	The first charrette was a discovery or visioning charrette, the second was a design charrette. Mostly used Zoom meetings with

		Does the project use:						Analysis				
Project	**Type**	**Web-site**	**Public Meet-ing**	**Private Meet-ing *****	**Survey**	**Inter-active Map**	**Live Cast or Open Studio**	**# of Meet-ings (Total)**	**# Analyz ed**	**Av. length (Min)/ video**	**Av. # of views / video**	**Significance**
October 2020)												interactive platform (Miro)
Richmond Public Libraries (July 2020)	Sync. Hybrid	X	X	NO	X	NO	X	6	3*	13	29	Digital annotation of site plan (virtual) Grounds walk (in-person)
Markham Rd – Mt. Joy (July-September 2020)	Sync.	X	X	NO	X	X	X	5	5	191	66	Design sessions held in public meetings and during City Council Sub-Committee meetings.
Bethel Homes / North Athens Downtown (August 2020 / October 2020)	Sync. Hybrid	X	X	NO	X	NO		7	7	75	21	In-person activities includes a resident survey and outdoor design event
Imagine College Hill	Sync.	X	X	X	X	NO	X	2	2	37	58	Breakout room design sessions recorded

		Does the project use:						Analysis				
Project	**Type**	**Web-site**	**Public Meet-ing**	**Private Meet-ing *****	**Survey**	**Inter-active Map**	**Live Cast or Open Studio**	**# of Meet-ings (Total)**	**# Analyz ed**	**Av. length (Min)/ video**	**Av. # of views / video**	**Significance**
(October 2020)												
Ward 1 Complete Streets (November 2020)	Sync.	NO	X	NO	NO	N/A	NO	1	0	N/A	N/A	Student-led charrette; Zoom meeting with breakout rooms and interactive tool (JamBoard)
Skylands (November 2020)	Sync.	X	X	X	X	X	X	15	14	93	290	Livestreamed many meetings on Facebook and extensive use of Live Draw
Uplands November (2020-February 2021)	Async.	X	X	X	X	X	NO	0	0	N/A	N/A	Self-guided design workshop activities online for several months

* Only part of the meeting was recorded
** Unable to see the number of live participants in the recorded video
*** Additional invitation only meetings may have occurred, but fell outside the scope of my window of analysis, or were not included on the charrette schedule

Appendix II

Project Fact Sheets

Project Name: Mullen Area Neighborhoods Master Plan	Location: Missoula, Montana, USA
Virtual Charrette Dates: 23-27 March 2020	Scale: Neighborhood (1,491 acres / 603 hectares)
Client: Public	Interviewee: Consultant

Summary and Story of Digital Transformation: The Design Charrette was the method used to inform the development of a Master Plan for a new development (603 HA), as well as development of a new form-based land use code in Missoula, MT (USA). The Mullen Area Master Plan Design Charrette was held early in the pandemic (March 2020). The goal of the charrette process was to identify community priorities and to reach consensus on the direction of the Master Plan (Mullen Area 2020). Originally, the design charrettes were planned to be in person and due to a parallel transportation project in the area, the client and consultant were hesitant to delay the charrette, even in light of the Pandemic, thus the consultant team made the decision to shift the charrette online. In December 2020, the Master Plan and Form-Based Codes were adopted by the County Commission.

Charrette Schedule and Structure:
The Charrette was held over five consecutive days in March 2020. All activities were held online. All public activities were held asynchronously: the consultant team produced a series of 26 short informational videos which were released over 5 days, but could be viewed at any time. Between March 24-26, the consultant team met with 33 different stakeholder groups (City, County, public and private associations). The stakeholder meetings were by invitation (e.g. not open to the general public), were held virtually and were held synchronously. These stakeholder meetings were not recorded. At various times throughout the week, the consultant hosted a Virtual Open Studio, where members of the public could join members of the consultant team online to watch them working, ask questions and provide feedback.

Matrix of Activities Analyzed:

	Synchronous	Asynchronous
Public Activity	Live Draw / Open Virtual Studio	Project Website Interactive Map Surveys (3) Informational Videos (26)

Invitation- Only Activity*	Stakeholder Meetings	(none)

* based off of online charrette schedule, interview, and Mullen Area Neighborhoods Master Plan Draft Final Report

Project Website: All activities were coordinated through a project website. The website included a short summary of each day's activities, which was updated at the end of each Charrette day.

Public Meetings: Unlike in-person charrettes, there were no synchronous public meetings in this charrette. Instead, the project team produced a series of informational, short videos which were posted to the project website and consultant YouTube channel. Each video presentation has just one presenter who is a member of the consultant team, and does not include any interactive elements. Three of the videos direct viewers to short surveys.

Invitation Only Meetings: The consultant team met with 33 different stakeholder groups. These meetings were synchronous, conducted on zoom, and not recorded.

Survey: At three points in the charrette process, survey were posted to the project website. The surveys solicited feedback about specific elements of the neighborhood (e.g a visual preference survey). Participants could also submit one-word comment cards used to make word clouds.

Interactive Map: Members of the public could provide localized feedback via a google map which was embedded in the project website.

Live Draw / Open Studio: Tuesday, Wednesday and Thursday the consultant team hosted between two and four hours of Virtual Open House, where members of the public could "drop in" on a zoom call with a designer, or multiple designers, and watch them work, ask questions, provide feedback. These sessions were synchronous, and were not recorded.

Analysis of Project Recorded Meetings

Name:	Sync. v Async.	Length	# of Attendees : Viewers*	Interactive elements used	OPT Classification (Sync.)	OPT Classification (Async)	Hyperlink
Intro to Virtual Charrette	Async.	04:13	n/a : 919	none	n/a	Mono	https://youtu.be/zOWV9_koM7c
Land and Water: an intro to the ecosystem	Async.	06:24	n/a : 292	none	n/a	Mono	https://youtu.be/tPp71cFvGcU

Traffic and Mobility Overview	Async.	14:40	n/a : 54	none	n/a	Mono	https://youtu.be/Wa3P90zvjas
Urban Design	Async.	03:26	n/a: 302	none	n/a	Mono	https://youtu.be/AwPKvUdKuM8
Economic Development	Async.	08:05	n/a: 166	none	n/a	Mono	https://youtu.be/Q-6U9mU2xX0
Transportation	Async.	07:28	n/a: 145	none	n/a	Mono	https://youtu.be/YTdSvcCOji8
Storm Drainage and Utilities Pt 1	Async.	06:26	n/a: 132	none	n/a	Mono	https://youtu.be/5LengdyXqMU
Storm Drainage and Utilities Pt 2	Async.	08:51	n/a: 103	none	n/a	Mono	https://youtu.be/Pqg3MZQi-GQ
Existing Transportation Conditions	Async.	08:45	n/a: 119	none	n/a	Mono	https://youtu.be/Z4o3qJuGJfw
Day 1 Poll question	Async.	08:41	n/a: 176	Link to Survey	n/a	Bi	https://youtu.be/ZiNhE6NrUJk
Urban Design of Mary Jane Square	Async.	08:21	n/a: 253	none	n/a	Mono	https://youtu.be/yvCPCi02TtY
Urban Design Change over time	Async.	04:36	n/a: 75	none	n/a	Mono	https://youtu.be/zzZmDbHsSY0
The 5 Big Ideas	Async.	13:13	n/a: 116	none	n/a	Mono	https://youtu.be/9rmrir7zBr0
Details of the Plan (Wednesday draft)	Async.	14:02	n/a: 89	none	n/a	Mono	https://youtu.be/OZP4PgeOZNM
Day 3 Polling Question Thoughts	Async.	02:56	n/a: 75	Link to Survey	n/a	Bi	https://youtu.be/l_UTyRFdVY0
Initial Feedback Results	Async.	05:22	n/a:	none	n/a	Mono	https://youtu.be/

			80				l_UTyRFdVY0
Work in Progress pt 1: site and process	Async.	11:10	n/a: 73	none	n/a	Mono	https://youtu.be/JREn3UKvd4E
Work in Progress pt 2: Engagement Results	Async.	06:07	n/a: 96	none	n/a	Mono	https://youtu.be/8ylwtXWdqh8
Work in Progress pt 3: the draft plan	Async.	14:43	n/a: 88	none	n/a	Mono	https://youtu.be/GCSS5OwY6rM
Work in Progress pt 4: Community Supported Agriculture	Async.	03:29	n/a: 58	none	n/a	Mono	https://youtu.be/VC5ZZm53UiI
Work in Progress pt 5: The Code	Async.	08:22	n/a: 52	none	n/a	Mono	https://youtu.be/0kzccoTd82g
Work in Progress pt 6: The Draft Plan in Depth	Async.	04:44	n/a: 53	none	n/a	Mono	https://youtu.be/dRKlsJ2UFU8
Work in Progress pt 7: Walking and Biking	Async.	01:36	n/a: 61	none	n/a	Mono	https://youtu.be/arJkde3COYI
Work in Progress pt 8: Storm Drainage and Utilities	Async.	12:52	n/a: 57	none	n/a	Mono	https://youtu.be/JRsUjxZp2TQ
Work in Progress pt 9: Transportation	Async.	10:40	n/a: 67	none	n/a	Mono	https://youtu.be/DnjR6txzEXY
Work in Progress: Survey Question	Async.	00:03	n/a: 78	Link to Survey	n/a	Bi	https://youtu.be/q0_JDzb-OvY
Virtual Open Studio	Sync.	Not Recorded	n/a: **	Open Dialogue	Multi	None	Not recorded
Total		07:48					

* Views of YouTube video as of 23 April 2021

Project Name: Villard Ave	Location: Milwaukee, Wisconsin, USA
Virtual Charrette Date: 16, 23 June 2020	Scale: Corridor
Client: Improvement District (BID)	Interviewee: Consultant

Summary and Story of Digital Transformation: The Charrette was conducted as part of a corridor redevelopment and revitalization project in Milwaukee, WI (USA). The Design Charrette transitioned online in May 2020. Five different architecture teams worked (pro bono) to create redevelopment plans for five specific sites along the corridor. The charrette is the result of a collaboration between Community Design Solutions, a Design Center within the local University and the Villard Ave Business Improvement District. A final report was published in 2020.

Charrette Schedule and Structure: The in-person charrette was planned for one day, however online it was split into two meetings held two weeks apart. Each meeting lasted about six hours. The agenda for each meeting was divided between each of the five sites, and was designed so that participants could attend just for the site(s) they were interested in. Two weeks after the second public meeting, each of the five architecture teams delivered a draft plan for their site.

Matrix of Activities

	Synchronous	Asynchronous
Public Activity	Public Meetings (include Idea Flip)	Idea Flip Survey Monkey
Invite-only Activity	None	

Project Website: There was not a dedicated project website, participants were invited to register via Eventbrite. Prior to the design charrette, the facilitator shared a Google drive folder which included some information about each of the five sites.

Public Meetings: There were two project meetings, each of which lasted ~6 hours and was hosted on Zoom. The meetings were not recorded.

Invite-Only Meetings: Prior to the Design Charrette, the project team conducted several focus group meetings. These meetings occurred outside the scope of the research.

Interactive Tools: Idea Flip and Survey Monkey: Idea Flip is a, online whiteboard tool that allows participants to post comments and up/down vote on the comments of others. The Idea Flip was used to solicit feedback during the Charrette, and it was left live for two days after the charrette so participants could return to provide additional feedback. The questions on the Idea Flip were duplicated on a SurveyMonkey survey.

Analysis of (Public) Project Meetings

Name (public v invite only)	Sync. v Async.	Length	# of Attendees : Viewers	Interactive elements used	OPT Classification (Sync)	OPT Classification (Async)	hyperlink
Charrette Meeting 16 June	Sync.	~7 hours	~40 *: n/a	IdeaFlip	Multi	None	Not recorded
Charrette Meeting 23 June	Sync.	~7 hours	** n/a	IdeaFlip	Multi	None	Not Recorded

* Based off of author's notes from attending the virtual charrette.
** Unknown, not recorded

Project Name: Connect Beverly Hills	Location: Beverly Hills, California USA
Virtual Discovery Charrette Dates: 22-25 June 2020 Virtual Design Charrette Dates: 14-15 October 2020	Scale: Corridor
Client: Public	Interviewee: Public Sector Planner

Summary and Story of Digital Transformation: This project, to develop a streetscape plan and design guidelines for two corridors in Beverly Hills, CA (USA) coincides with major Metro infrastructure investment along the corridor. The project kicked-off in November 2019, and transitioned online in the spring of 2020. The Streetscape Plan and Design Standards will be reviewed by the City Council for adoption in September 2021.

Charrette Schedule and Structure: In June 2020, there was a virtual discovery charrette, followed by two days of design charrette in October 2020. The Streetscape Plan and Design Standards was open for public comment between 14 April and 10 May 2021.

Matrix of Activities Discovery Charrette

	Synchronous	Asynchronous
Public Activity	Public Meetings (Discovery) Virtual Open Studio (Discovery) Public Meetings (Design)	Project Website (Discovery & Design) Digital Walking Tour (Discovery & Design) Interactive Feedback Map (Discovery & Design) Recordings of Virtual Meetings (Discovery & Design) Recording of Open Studio (Discovery)
Invite-only Activity	Focus Group Meetings Stakeholder Interviews	

Project Website: The Discovery and Design Charrettes used the same website. It includes the Charrette schedule, as well as information about how to participate in the Charrette Activities, or and links to recordings of the public meetings.

Public Meetings: During the Discovery Charrette (June 2020), every day of the charrette included a public meeting or Open Studio session. During the Design Charrette, there were two public meetings which included design activities using the Miro whiteboard platform. In the Street Design and Amenities Meeting, participants were broken into smaller groups using breakout rooms. In the Mobility Hub meeting, the total number of participants was small enough that they remained in one group for the duration of the meeting.

Invitation Only Meetings: The project team conducted ~60 individual and group stakeholder interviews, however these meetings do not appear on the schedule shared on the project website. It is unclear how many of these meetings occurred during the two Charrette weeks.

Survey: The project website included a Virtual Walking Audit (live June- October 2020). To access in the Audit, participants needed to provide their email and zip code. The Walk Audit consisted of a survey of 12 pages, with photographs of the existing conditions along the two corridors and open and close-ended questions. The project team also developed a Visual Preference Survey which was available from August – October 2020. Participants could provide feedback on streetscape furniture and landscaping preferences.

Interactive Map: The project website also included a map where participants could provide localized comments and feedback. The map accepted comments between June - October 2020.

Live Draw / Open Studio: The third night of the Discovery Charrette consisted of two hours of Open Studio. The session was designed as ~30 minutes of presentations from the designers followed by 30 minutes of Q&A. This presentation / Q&A pattern would be repeated twice with the understanding that participants would drop in over the 2 hour window. Instead, most participants showed up at the beginning of the Open Studio session. The interviewee reported it was less fluid than the project team was anticipating.

Analysis of (Public) Project Meetings

Name	Sync. v Async.	Length	# of Attendees : Viewers*	Interactive elements	OPT Classification (Sync)	OPT Classification (Async)	hyperlink
Discovery: Day 1 Streetscape Plan	Sync.	01:08:22	**: 53	Mentimeter live poll; breakout rooms; Q&A	Multi	Mono	https://www.youtube.com/watch?v=m-4raVoW5XI
Discovery: Day 2: Mid Charrette Check-In	Sync.	00:58:14	**: 36	Q&A	Bi	Mono	https://www.youtube.com/watch?v=F0bcD6cLMSU

Discovery: Day 3 Virtual Open Studio	Sync.	01:52:27	**: 39	Q&A	Bi	Mono	https://www.youtube.com/watch?v=h0Wsee7piEA
Discovery: Day 4: Closing Presentation	Sync	00:47:05	**: 35	Breakout Rooms; Q&A	Multi	Mono	https://www.youtube.com/watch?v=7-5uYkQThqA
Discovery: 16 Focus Group Meetings	Sync	N/A	***		N/A	N/A	Not Recorded
Design: Day 1: Street Design and Amenities	Sync.	00:54:16	**: 33	Miro Board; Break out rooms	Multi	Mono	https://www.youtube.com/watch?v=376lbLLccTM
Design: Day 2: Mobility Hub	Sync.	01:35:58	**: 19	Zoom poll; Miro board; role-play activity; breakout rooms	Multi	Mono	https://www.youtube.com/watch?v=SlI5upq-Iqs

* Based off of the number of views of the video posted on YouTube as of 23 April 2021
**Unable to view number of synchronous participants
*** Not recorded

Project Name: Richmond Public Libraries	Location: Richmond, VA USA
Virtual Charrette Dates: 13-14 July, 20-21 July, 27-28 July 2020	Scale: 3 Libraries
Client: Public	Interviewee: Consultant

Summary and Story of Digital Transformation: This project's aim was to develop storm water management plans for three public libraries in Richmond VA (USA). Concerned that library users may not attend a virtual event, the project team developed a virtual and in-person charrette for each of the sites. For each site, an existing conditions presentation was prepared.

Charrette Schedule and Structure: During the in-person charrette, members of the project team met on site and conducted a walking tour of the grounds, discussing and noting elements that participants would like to see changed or implemented on the site. The next day, the project team conducted a similar exercise online. The presentation opened with a presentation of the existing conditions at each library, before transitioning into a conversation about changes to the library site. The feedback from both sessions was compiled onto one map of the library grounds.

Matrix of Activities Analyzed

	Synchronous	Asynchronous
Public Activity	Virtual Charrette In-Person Charrette	Project Website Survey/Questionnaire Existing Conditions Video
Invite-only Activity	none	none

Project Website: The project website was a sub-page of the consultant website, which provided information about each of the three sites, as well as links to register for the events.

Public Meetings: Participants could register via the project website for either the on-site or on-line charrettes, but both activities were open to the public. The existing conditions component of the virtual charrette was recorded, but not the conversation. During the on-site charrettes, members of the project team marked up maps of the library grounds based upon feedback from the participants. During the on-line charrettes, a member of the project team was marking up a digital map of the library grounds as participants talked.

Invitation Only Meetings: There were no invite-only activities which occurred within the scope of this research.

Survey: There was a 10 question survey for each library site which asked about outdoor uses of the libraries.
Interactive Map: none

Live Draw / Open Studio: During the in-person and virtual charrettes, the consultant team were taking notes on plans of the libraries, but not a live-draw session per se.

Analysis of (Public) Project Meetings

Activity Name	Sync. v Async.	Length*	# of Attendees** : Viewers***	Interactive elements used	OPT Classification (Sync)	OPT Classification (Async)	Hyperlink
West End Branch (Site 1) virtual charrette	Sync.	00:17:41*	~10: 16	Dialogue + survey	Multi	Bi	https://youtu.be/f92vIGhEwPM
West End Branch (Site 1) in person charrette	Sync.	n/a	~10: n/a	Dialogue	Multi	None	n/a
Broad Rock (Site 2) Virtual charrette	Sync.	00:12:28*	~10: 25	Dialogue + survey	Multi	Bi	https://youtu.be/UY0Cvmh3QEY
Broad Rock (Site 2) in-person charrette	Sync.	n/a	~10: n/a	Dialogue	Multi	None	n/a
North Avenue Branch (Site 3) virtual charrette	Sync.	00:10:19*	~10: 17	Dialogue + survey	Multi	Bi	https://youtu.be/iPl_GnJq96w
North Avenue Branch (Site 3) in-person charrette	Sync.	n/a	~10: n/a	Dialogue	Multi	None	n/a

* Only existing conditions portion of virtual charrette was recorded.
** Interviewee reported ~ 10 synchronous participants in each of the events (both on-line and on-site).
*** Only reflects number of views of the video posted to YouTube as of 23 April 2021

Project Name: Markham Rd – Mt. Joy	Location: City of Markham, Ontario, Canada
Virtual Charrette Dates: 29 July, 5 August, 26August, 26 September 2020	Scale: Corridor
Client: Public	Interviewee: Public Sector Planner

Summary and Story of Digital Transformation: This charrette informs a Secondary Plan Study developed for a corridor in Markham, ON (Canada). Initially planned for a one-day in-person charrette, in May 2020 the project team proposed two virtual charrette activities: two public meetings in July and August, and three design workshops with a Sub-Committee of the Markham City Council. There have been additional project activities outside the frame of this research analysis. As of August 2021, the Secondary Plan is still under development and review.

Charrette Schedule and Structure:
The Charrette was held over four non-consecutive days and consisted of activities for two distinct audiences. The first were two meetings and design sessions held for the general public (29 July and 26 September). These meetings were held virtually and live-streamed on YouTube. The second consisted of three days of presentation, discussion and design activities with the members of the Markham Sub-Committee of the Development Services Committee of the Markham City Council. These meetings, while open to the public and live streamed on public access TV, were dominated by discussion between members of the Sub-Committee. As Sub-Committee meetings, there was a strong degree of formality and procedure in these events.

Matrix of Activities Analyzed

	Synchronous	Asynchronous
Public Activity	Public Meeting (2), also live streamed on YouTube, including Live Design	Project Website Survey Recordings of Public Meetings Map Mark-Up
Sub-Committee Meetings	Sub Committee Meetings, Virtual Bus Tour Live Design Session	Recordings of Sub-Committee Meetings

Project Website: There is a Markham Rd – Mt Joy Corridor project website, however, some materials (especially generated in the Sub-Committee Meetings) are housed in the City Council website. For example, the project website includes a PDF of the presentations given at the Sub-Committee Meetings; access to the minutes or recordings of those meetings is only available on the City Council Meetings website.

Public Meetings: There were two public meetings which included shortened versions of the presentations and activities held in the Sub-Committee Meetings. Both public meetings were recorded, and streamed live on YouTube. The September 26 Public Meeting included a live-draw activity (see below). Participants submitted questions to the project team via the chat; the session concluded with an open Q&A session. The presentations were organized thematically (e.g. transportation, land use) and each theme concluded with some questions to think on, as well as time for specific questions from the audience.

Sub-Committee Meetings: The majority of the time spent in Charrette was during three meetings of the Markham Sub-Committee. These meetings had a more formal structure (e.g. while the meetings were open to the public, one needed to request permission to ask a question from the Meeting Chair). The 5 July meeting included a multi-media virtual "bus tour" of the corridor, which included photo and video montages of elements of the project site. Meetings are distinctive because there is much more conversation between Councilors than between the Councilors and Project Staff. The formalities of the Sub-Committee are also strongly present in these meetings (e.g how to ask questions, role of the meeting moderator).

Survey: There were two surveys associated with the virtual Design Charrette. The City of Markham has a consolidated public engagement platform which you need to register for in order to be able to view or submit the surveys. The surveys are based upon the 5 July and 26 September public session presentations.

Map Mark-Up: The project website included a PDF of the project site; participants were encouraged to download it, mark it up and mail it back to the project team.

Live Draw: In both the public sessions and Sub-Committee Meetings, in August and September, a member of the design team mounted a top-mount camera over their desk, and marked up base maps of the corridor as participants were talking or asking questions.

Analysis of (Public) Project Meetings

Activity Name	Sync v Async.	Length	# of Attendees : Viewers***	Interactive elements used	OPT Classification (Sync)	OPT Classification	Hyperlink

						(Async)	
Community Information Session 29 July 2020	Sync.	02:11:54	*: 168	Q&A, Reference to survey to be completed asynchronously	Bi	Mono	https://www.youtube.com/watch?v=KMpSbyQMhjM
Community Information Session 26 September 2020	Sync.	02:52:50	*: 164	Live draw	Multi	Mono	https://www.youtube.com/watch?v=huB5JV6g9ws
Sub-Committee Meeting: 29 July 2020: Virtual Bus Tour	Sync.	04:08:11	77+**: **	Q&A	Bi	Mono	https://pub-markham.escribemeetings.com/Players/ISIStandAlonePlayer.aspx?Id=8338d54f-9ffc-4647-a4fa-8c1510afa42d
Sub-Committee Meeting: 5 August 2020	Sync.	03:16:38	65+ **: **	Live draw	Multi	Mono	https://pub-markham.escribemeetings.com/Players/ISIStandAlonePlayer.aspx?Id=56754023-a54c-4f44-bd95-50bb908d3ba2
Sub-Committee Meeting 24 August 2020	Sync.	03:32:21	63+**: **	Live draw	Multi	Mono	https://pub-markham.escribemeetings.com/Players/ISIStandAlonePlayer.aspx?Id=36c63a78-eaf5-4e75-a04b-57fb49f5e352

*Live participants in Community Information Sessions not visible
**I was unable to see the total number of participants who attended the Sub-Committee Meetings, or viewed them afterwards. The numbers recorded are the maximum number of participants visible on the Zoom meeting. The City of Markham does not show the number of times a Committee meeting has been viewed after the date of the meeting.
*** Asynchronous views based upon YouTube views

Project Name: Bethel Homes / North Athens Downtown	Location: Athens, Georgia, USA
Virtual Charrette Date: 13-15 August 2020	Scale: Apartment Complex and adjacent neighborhood
Client: Public	Interviewees: Consultant

Summary and Story of Digital Transformation: This design charrette is part of the community engagement strategy for a master planning project redeveloping the Bethel Midtown Village apartment complex and North Downtown neighborhood of Athens GA (USA). Originally, the community design charrette was planned in-person, and transitioned online due to the pandemic. There were two public meetings in February 2020 (outside the scope of analysis), followed by three days of charrette in August 2020. The project engagement activities concluded with two days of in-person open house activities in October 2020. The Open House was conducted in-person due to feedback about accessibility of the online charrette. While the October Open-House falls outside the scope of this research, it is an important element to highlight.

Charrette Schedule and Structure: The Charrette activities are organized around six one-hour thematic meetings (e.g. Complete Streets or Sustainability) which are spread over three days. The Charrette concludes with a final review meeting. All meetings are public, and hosted via Zoom. The October Open House was held in-person, outside over two days.

Matrix of Activities

	Synchronous	Asynchronous
Public Activity	Topical Meetings (6) Final Public Session (October Open House)	Project Website Project Surveys (3)
Invite-only Activity	[None]	

Project Website: When the project pivoted online, the project manager described the project website as “the hub” of the project, the central location where all information regarding the project would be located.

Public Meetings: The charrette was comprised of six hour-long topical meetings each of which started with a brief presentation from the consultant team or local experts followed by free-flowing dialogue.

Invitation Only Meetings: There were no invitational only meetings listed on the project schedule or mentioned in the interview.

Survey: The project team delivered three surveys over the duration of the pre, during and post-charrette phases. The first survey targeted a general audience, where as the second survey focused on residents of the Bethel Homes housing estate, and the third targeted university students who live in the adjacent area.

Interactive Map: None

Live Draw / Open Studio: None

Analysis of (Public) Project Meetings

Name (public v invite only)	Sync v Async.	Length	# of Attendees : Viewers**	Interactive elements used	OPT Classification (Sync)	OPT Classification (Async)	Hyperlink
Session 1: Complete Streets and College Ave	Sync.	01:05:07	*: 53	Open microphone	Multi	Mono	https://www.youtube.com/watch?v=MEAJKe7fBYM
Session 2: Parks and Open Spaces	Sync.	01:10:34	*: 28	Open microphone	Multi	Mono	https://www.youtube.com/watch?v=sMgMB-DPle0
Session 3: Exploring Civic Parcels	Sync.	01:13:52	*: 10	Open microphone	Multi	Mono	https://www.youtube.com/watch?v=sM6AFbaKBw0
Session 4: Transportation and Transit	Sync.	01:53:02	*: 18	Open microphone	Multi	Mono	https://www.youtube.com/watch?v=Qb2u8bMT0vw
Session 5: Sustainability and Green Strategies	Sync.	01:09:50	*: 17	Open microphone	Multi	Mono	https://www.youtube.com/watch?v=XBDI805DCRk
Session 6: Artlets and Neighborhood History	Sync.	01:22:18	*: 13	Open microphone	Multi	Mono	https://www.youtube.com/watch?v=bGV1GWtiKrE
Final Session: wrap up	Sync.	01:16:45	*: 13	Q&A	Bi	Mono	https://www.youtube.com/watch?

							v=p1YXumJto6k&t=197s

* Not visible from recording
** As of 23 April 2021

Project Name: Imagine College Hill	Location: Cedar Falls, Iowa, USA
Virtual Charrette Dates: 3-8 October 2020	Scale: Neighborhood
Client: Public	Interviewee: Public Sector Planner

Summary and Story of Digital Transformation: This charrette was part of a larger planning process to develop a Vision Plan and update the zoning codes in Cedar Falls, IA (USA). The Imagine College Hill Charrette project kicked off in January 2020, with an in-person design charrette planned for March 2020. Due to the pandemic, the charrette was postponed until October 2020, in part because the University, which is a major stakeholder, was not in session during the summer. In the interview, the City Planner often compared the Imagine College Hill Charrette with a similar charrette held for the Downtown area earlier in 2019. The College Hill Vision Plan was adopted by City Council in May 2021, with updates to the zoning code still under development.

Charrette Schedule and Structure:
The charrette process began with a Community Design Workshop which was hosted on zoom. Much of the Workshop was spent in facilitated breakout rooms. During the week there were two periods were members of the public could “drop in” to the Design Studio and ask questions or share ideas with the project team. These drop-in Studio sessions were not recorded. During the week there were also a series of stakeholder meetings which were not open to the public, and were not recorded.2 The Charrette ended with a “work-in-progress” presentation to the Planning Commission. This meeting was also livecast on public access TV.

Matrix of Activities Analyzed:

	Synchronous	Asynchronous
Public Activity	Community Design Workshop Community Presentation (also streamed via public access TV) Virtual Design Studio	Project Website Survey Recordings of Meetings Short Daily Update Videos Quick Polls
Invite-only Activity	Technical Meetings	

Project Website: The project website featured the charrette schedule, links to the surveys and polls, as well as information about the project, and the related Downtown Plan which was also under development. This project website was updated frequently, and once the participatory component of the charrette completed, the website was updated, which made it difficult to capture the essence of the project website when it was live.
Public meetings: The Charrette activities were bookended by two public meetings: the first was a Community Design Workshop held on the first day of the Charrette. This meeting was held virtually and was recorded, although the conversations in breakout rooms was not recorded. Instead, in the video posted to YouTube of the project, recordings of the breakout room sessions are sped up, so that the viewer can see the dynamism of the design process. The second community meeting was held on the last day of the Charrette at a Planning and Zoning Commission meeting, and consisted of a "Work-in-progress" update, which included a live polling activity.

Invitational Meetings: The project team held a series of technical meetings over the course of the Charrette week with various stakeholders (e.g. landlords, parking management, University administrators). These meetings were held virtually, but were not recorded.

Survey: The project team conducted two surveys, one targeting students at the university adjacent to the study area (13 responses), and one after the Work-in-Progress Meeting at the Planning and Zoning Commission (44 responses).

Interactive map: None

Live Draw / Open Studio: Twice during the week, the public could drop into the Open Studio to ask questions. According to the interviewee, this space was designed to serve as a forum for asking questions or providing feedback, rather than just watching the design process unfold.

Analysis of (Public) Project Meetings

Name	Sync v Async.	Length	# of Attendees : Viewers**	Interactive elements used	OPT Classification (Sync.)	OPT Classification (Async.)	hyperlink
Community Virtual Workshop	Sync.	00:37:38	: 26	Breakout rooms with live draw	Multi	Mono	https://www.youtube.com/watch?v=PhgQ2_a6Hz8
Work-in-Progress Presentation to Planning and Zoning Committee	Sync.	00:38:23	40: 50	Q&A	Bi	Mono	https://www.youtube.com/watch?v=S1TpRrM0e18
Daily Short Videos	Async.	Unknown	Unknown				Mentioned in the charrette schedule but could not locate

							on project website
Open Design Studio Q&A	Sync.	N/A	Unknown				Not recorded

* Number of live participants not available

** Based off of YouTube views, as of 25 April 2021

Project Name: Ward 1 Complete Streets	Location: Hamilton, Ontario, Canada
Virtual Charrette Date: 24 November 2020	Scale: City Ward
Client: Public	Who I spoke with: Public Sector Planner and Consultant

Summary and Story of Digital Transformation: This was an exploratory charrette to inform future complete streets activities in one Ward of the City of Hamilton, ON (Canada). The project is a collaboration between the City of Hamilton and students at a local university. The charrette was designed an implemented by a team of students under the supervision of a City Planner.

Charrette Schedule and Structure:
The Charrette Activity consisted of a 1.5 hr meeting, facilitated by the student team. The meeting was recorded, but the recording is not publicly available. During the Charrette, participants were broken into breakout rooms. Each breakout room had a separate JamBoard where participants and the student facilitator could post text and images. The facilitator structured the dialogue around a series of questions. The charrette did not have a strong design element, nor feedback loops (in part because it was a visioning charrette).

Matrix of Activities Analyzed

	Synchronous	Asynchronous
Public Activity	Virtual Charrette Meetings Jamboard Break Out Rooms	none
Invite-only Activity	none	Recording of the Virtual Charrette

Project Website: There is no dedicated project website for this project. Some of the information is found on the University website. I found this project via the Eventbrite event for the charrette.

Public meetings: There was one public meeting for this charrette. It was hosted on zoom, and participants needed to register to receive a link. The facilitators used breakout rooms and a collaborative platform called JamBoard. With JamBoard, participants can add text and images to a shared whiteboard.

Invite only meetings: None

Survey: None

Interactive map: None

Live Draw / Open Studio: None

Analysis of (Public) Project Meetings

Name	Sync v Async.	Length	# of Attendees : Viewers	Interactive elements used	OPT Classification (Sync)	OPT Classification (Async)	hyperlink
Ward 1 Complete Streets	Sync.	01:30:00	*: *	JamBoard Breakout rooms	Multi	n/a	n/a

*Information not available

Project Name: Skylands	Location: Droughty Point, Tasmania, Australia
Virtual Charrette Date: 2-11 November 2020	Scale: Neighborhood
Client: Private	Interviewee: Consultant

Summary and Story of Digital Transformation: The overall project aim is to develop a Master Plan and Design Code for a new development on Droughty Point, Tasmania (Australia). The Skylands Charrette was planned as an in-person charrette in September 2020, and was shifted online in late Summer 2020.

Charrette Schedule and Structure: The Charrette was spread over 10 days (7 working days). The charrette schedule details what activities will be occurring over all seven days of the charrette, including consultant team meetings, meetings with the City Staff, Design Team work sessions (not open to the public), as well as public presentations, meetings and Live Design Sessions (open to the public). Most of the consultant team was based in the United States; the time difference played into the structure of the charrette.

Matrix of Activities

	Synchronous	Asynchronous
Public Activity	Presentations Thematic Meetings Live Design Sessions Facebook Live	Project Website Recordings of Public Presentations, Thematic Meetings and Live Design Sessions Interactive Map Pre-Charrette Survey Post-Charrette Survey
Invite-only Activity	Consultant Team Meetings City Staff Meetings Design Team Work Sessions	

Project Website: The project website is quite extensive, with information about the history and context of the project site, a description of the charrette method, detailed charrette schedule, and links to various related planning documents. Recordings of meetings are embedded in the project website, as well as PDFs of all presentations.

Public Meetings: Public meetings are divided into three categories: Public Presentations which take a webinar format (e.g. consultant team presenting with options to submit questions via the chat function); Thematic Meetings which are structured more informally; and Live Design Sessions (see below). All public meetings were hosted on Zoom, and streamed on Facebook Live. Participants could submit questions via the Zoom chat, or as comments in the Facebook livestream: a dedicated member of the team was responsible for ensuring all Facebook comments were raised in the meeting. Recordings of the meetings were uploaded to the consultant's Vimeo platform and on the Facebook page for the project.

Invite-Only meetings: Within the official Charrette schedule, two types of invite-only meetings are listed; those specifically for the project team and a two hour meeting with the City Staff on the 5th day of the charrette.

Survey: The project team developed two surveys which were used during the 10-day Charrette. There was a short pre-Charrette survey and a longer post-Charrette survey which focused on capturing respondents priorities and receiving input on two proposed directions for the final Master Plan.

Interactive map: Participant could pin comments on a map of the project site. Comments were loosely coded as "Like," "Dislike" and "Suggestion."

Live Draw: There were six two-hour Live Design Sessions; each session consisted of three to four designers sharing a stream of their desk and them working. Most designers were drawing on physical maps + tracing paper, and had mounted a top-desk camera, so that the attendees could watch them drawing. During the Live Design Sessions, designers talked with each other about their drawings—but also engaged in more informal conversation, giving the Live Design Sessions an intimate feel. Between the 4th and 5th Live Design sessions, the format shifted slightly, with the Project Manager playing a more active role in facilitating a conversation between each of the designers and providing feedback on their work.

Analysis of (Public) Project Meetings

Name (public v invite only)	Sync v Async.	Length	# of Attendees : Viewers	Interactive elements used	OPT Classification (Sync)	OPT Classification (Async)	hyperlink
Opening Presentation	Sync.	02:22:41	918 (Facebook)*: 3 (Vimeo)**	Q&A (~1 hr in length)	Bi	Mono	https://vimeo.com/474911571
Mid-term presentation	Sync.	02:20:15	298 (Facebook)*:	Q&A	Bi	Mono	https://

			10 (Vimeo)**				www.facebook.com/skylandshobart/videos/682793445774667/
Final Presentation	Sync.	02:32:40	1160 (Facebook)*: 13 (Vimeo)**	Q&A	Bi	Mono	https://www.facebook.com/skylandshobart/videos/420591526000894/
Meeting 1: Land Use and development	Sync.	01:18:22	*: 1 (Vimeo)**	Q&A	Multi	Mono	https://vimeo.com/475239541
Meeting 2: Circulation and Infrastructure	Sync.	01:22:00	168 (Facebook)*	Q&A	Multi	Mono	https://www.facebook.com/skylandshobart/videos/2807325492704475/
Meeting 3: Community Needs	Sync.	00:56:48	219 (Facebook)*	Q&A	Multi	Mono	https://www.facebook.com/skylandshobart/videos/3637906886231449/
Meeting 5: Building Types and Zoning	Sync.	00:58:57	114 (Facebook)*	Q&A	Multi	Mono	https://www.facebook.com/skylandshobart/videos/2806435002792910/
Live Design	Sync.	01:52:00	128 (Facebook)*	Open Mic	Multi / Live Design	Mono	https://www.facebook.com/skylandshobart/videos/vb.103489888233048/2410139922613318/?type=2&theater
Live Design	Sync.	00:49:51	235 (Facebook)*	Open Mic	Multi / Live Design	Mono	https://www.facebook.com/skylandshobart/videos/

							vb.103489888233048/357270585379041/?type=2&theater
Live Design	Sync.	01:50:19	234 (Facebook)*	Open Mic	Multi / Live Design	Mono	https://www.facebook.com/skylandshobart/videos/vb.103489888233048/404970333864590/?type=2&theater
Live Design	Sync.	00:58:32	115 (Facebook)*	Open Mic	Multi / Live Design	Mono	https://www.facebook.com/skylandshobart/videos/717091182493847/
Live Design	Sync.	01:52:34	183 (Facebook)*	Open Mic	Multi / Live Design	Mono	https://www.facebook.com/skylandshobart/videos/832609857495562/
Live Design	Sync.	02:02:22	251 (Facebook)*	Open Mic	Multi / Live Design	Mono	https://www.facebook.com/skylandshobart/videos/2813429575643807/
Live Design	Sync.	02:10:10	314 (Facebook)*	Open Mic	Multi / Live Design	Mono	https://www.facebook.com/skylandshobart/videos/689355198633496/
City Staff Meeting	Sync.	N/A	***			N/A	Not Recorded

* Facebook counts a view as watching for at least 3 seconds. The total number of views on Facebook includes both synchronous and asynchronous. Data on the number of participants logged into the Zoom meeting was not available. Based off of number of Facebook views as of 23 April 2021
** Based off of the number of views on the Vimeo as of 23 April 2021
***Not recorded

Project Name: Uplands	Location: Westminster, Colorado, USA
Virtual Charrette Date: November 2020-February 2021	Scale: Neighborhood (New-Build)
Client: Private	Interviewees: Developer

Summary and Story of Digital Transformation: The Uplands Development is a new neighborhood being built outside the city of Westminster, CO (USA); the virtual charrette, termed a Digital Design Workshop, was developed and conducted by the developer of the site. The project kicked off in 2019.

Charrette Schedule and Structure: The Digital Design Workshop was designed to be completed asynchronously. There were two public meetings in November where project staff were available (online) to answer questions about the Design Workshop. During these times, participants would complete the Workshop activities on their own, and chat with a designer if they had questions. The Workshop was live for four months, and the Workshop include a lot visual preference survey-type questions.

Matrix of Activities

	Synchronous	Asynchronous
Public Activity	Community Design Workshop Meeting	Project Website Community Design Workshop (on Konveio)
Invite-only Activity	None listed	

Project Website: As one of the interviewees noted, the project website is primarily targeting future residents of the Uplands Development, where as the Community Design Workshop sought to reach a broader audience. Therefore, the project team developed a parallel public engagement website (using a platform called Konveio) to organize the community engagement.

Public Meetings: On two days in November 2020, members of the project staff were available online to answer questions as community members completed the Digital Design Workshop. The project and technical presentations from these meetings were recorded, and posted to the online community engagement platform, as part of the Community Design Workshop.

Invite Only Meetings: none

Community Design Workshop: The Community Design Workshop integrates short informational videos (e.g. about green space) plus ranking, open ended and close ended questions. From experiencing the Digital Design Workshop, there was little contact between participants in the Design Workshop (emphasis on providing information to the project team).

Live Draw / Open Studio: None

Analysis of (Public) Project Meetings

Name	Sync v Async.	Length	# of Attendees : Viewers	Interactive elements used	OPT Classification (Sync)	OPT Classification (Async)	hyperlink
Digital Design Workshop	Async.	N/A	*: *	Embedded videos; ranking questions; open ended questions; multiple choice questions	Bi	Bi	Survey is no longer live, but accepted responses for several months

*Unknown. Data not reported

Appendix III

Table of Interviewees

Interview Type: Contextual v Project	Interview #	Interviewee #	Interview Date	Sector
Contextual	A	1	07/24/20	Equity Consultant
Contextual	B	2	07/27/20	Professor, Charrette Expert
Contextual	C	3	08/03/20	Consultant
Contextual	D	4	08/18/20	Consultant, Equity Expert
Project	E	5	08/26/20	Consultant
Contextual	F	6	09/04/20	Communications Specialist
Contextual	G	6	09/29/20	Communications Specialist
Contextual	H	7	09/15/20	Consultant
Contextual	I	8	09/29/20	Professor, Equity Expert
Project	J	9	11/30/20	Public Sector Planner
Project	J	10	11/30/20	Public Sector Planner
Project	K	11	12/01/20	Consultant
Project	L	12	12/20/20	Student
Project	L	13	12/20/20	Student
Project	L	14	12/20/20	Student
Project	M	15	12/03/20	Public Sector Planner
Project	N	16	12/10/20	Public Sector Planner
Project	O	17	12/10/20	Public Sector Planner
Project	P	18	12/15/20	Professor, Consultant
Project	Q	19	01/05/21	Consultant
Project	R	20	12/21/20	Consultant
Project	R	21	12/21/20	Consultant
Project	S	22	12/29/20	Developer
Project	S	23	12/29/20	Developer
Contextual	T	24	03/10/21	Professor, Charrette Expert
Contextual	U	25	03/17/21	Consultant

Appendix IV

Interview Questions Template (Experts)

Charrettes

1. Can you describe your experiences with charrettes? How were you first introduced to this practice? How has it, or your engagement with it changed over time?
2. What do you see as the strengths of charrettes?
3. What are the limitations?
4. When or under what circumstances do you feel that a charrette is an appropriate engagement tool? When not?
5. How are online tools being integrated into Charrettes before the pandemic?

Equity

6. Like all engagement processes, who is involved is of utmost importance, and I think this is why I am interested in looking at co-design processes, as opposed to other engagement tools where power is not distributed to community stakeholders.
7. In your experience, which types of communities are difficult to engage in planning?
8. In charrettes specifically? Put another way, are there barriers to engagement with charrettes that are different from other engagement strategies?
9. How do you, or how do you see planning colleagues, changing their engagement approaches to reach hard to reach communities? What is working? What isn't?
10. How do you see online tools being part of that process of reaching hard to reach communities? Either in practice or hypothetically? And where is the digital divide hindering engagement?

Online

11. What have you seen working online regarding participation? What have you seen not working? And why is it not working?
12. Are there examples of projects or practitioners that you see using online tools in innovative or exciting ways that I should look into?
13. Are there changes to the process that practitioners could make that would address some of your concerns?

COVID

14. How have you been navigating COVID professionally: what issues is it raising for your own work, for the clients and communities you work with?

Conclusion

15. Anything we did not have a chance to speak about?
16. If I have follow up questions may I contact you?

Appendix V

Interview Questions Template (Practitioners)

Process:

Many projects in 2020 had to unexpectedly transition online. I'm curious about how this decision was made for [this project].

1. Could you tell me a little about what the initial plan was? When did you realize that you needed to reevaluate?
2. Can you walk me through what the decision making process was like and the things you were considering as you decided how to virtualize this project?
    1. What were key aspects of the charrette process that you wanted to try and preserve online?
    2. What were aspects of the in-person charrette that you were seeking to change?
    3. How has the role of the website changed?
3. Could you walk me through the charrette process in detail?
4. One of the things I was thinking about as I was looking at the daily schedule was zoom fatigue, and how you thought about this in designing the process for your team as well as the participants
5. [if applicable] Could you also describe in more detail the live draw/ live cast sessions? How they were structured? What your objectives or goals were? How could the concept be further refined?
6. How would you change the charrette process or schedule if you would do it over?

Technology:

1. Could you tell me more about how you integrated technology into the charrette?
    1. It seems you used [name of tools]. What were some of the considerations you were taking into account when selecting which tool to use?
2. What would you do differently vis a vis technology? What did you find effective? What was challenging?

Participation:

1. In thinking about issues related to access, I was looking at the data you shared in your presentations. How/is the shift online changing the way you think about how many people can touch the charrette process?
2. What are the limitations that you see through the shift online?
3. As you think about the next virtual charrette, what can be done to keep chipping away at the limitations of online co-design?
4. As you reflect on this virtual process: what could be done differently to engage an even more representative range of stakeholders?
    1. Which communities would have been hard to reach in an in person charrette?