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Design Thinking in Planning Practice

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Planning and design have a lot in common. Both fields have a focus on possible futures as well as present and past situations. Both seek to improve the human condition and the environments in which we live. And both are as old as humanity itself: we would not have survived as a species without the ability to plan or design when confronted with changing circumstances.

But there are differences. Designers typically work at the scale of buildings, landscapes, and products, while planners typically focus on challenges at the scale of neighborhoods, cities, and regions. And planners and designers differ in their methods and mindsets.

Planning has deeper roots in the social sciences and stronger ties to the *inductive* methods of science: gathering and assessing data about a situation, drawing generalizable conclusions from that data, and implementing strategies and putting in place systems in response. Design typically involves a different logic, what the philosopher Charles Sanders Peirce called *abduction* (Douvan 2017). Unlike induction, which develops general theories or approaches from accumulated evidence, abduction makes connections among disparate and seemingly unrelated phenomena in a pragmatic search for a new way of understanding a situation or a better solution to a problem.

Planners, of course, make abductive leaps, seeing connections among things others have missed, just as designers use induction, working from data as they create something new. The difference lies in the emphasis each discipline places on one logic or the other, reflecting the different weight each puts on reason versus imagination.

While both planning and design focus on the unmet needs of people and, increasingly, other species as well, the two fields differ in the roles they often play. Planners are often involved in creating the rules within which designers work: the codes, regulations, and policies that set boundaries on designers, whose abductive methods often lead to their bending the rules and creatively interpreting the codes.

Yet, as a form of logic, abduction also involves a rigorous process: design thinking. Design thinking typically involves five steps (Figure 1):

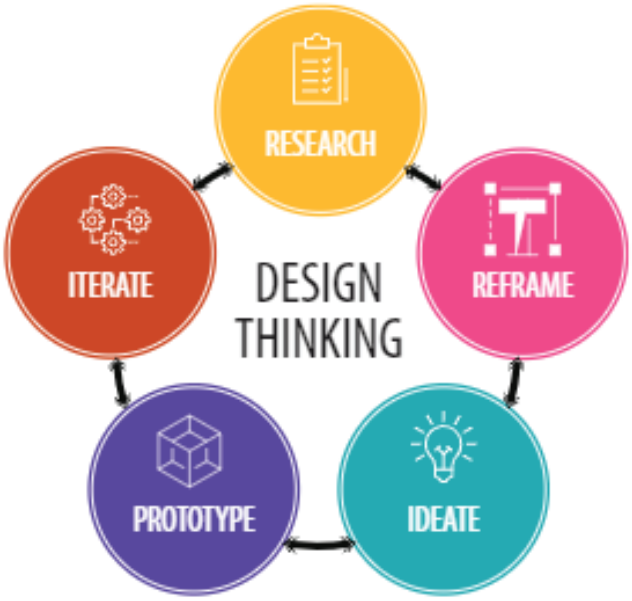

Figure 1. The design thinking process (APA)

- A *research* phase that entails looking at a situation from as many different perspectives as possible
- A *reframing* phase in which the common ways of seeing the situation are defined in new terms
- An *ideation* phase that includes generating as many possible solutions to the reframed problem as possible
- A *prototyping* phase in which the most promising ideas get implemented in a low-cost, low-risk way
- A *testing and iteration* phase in which the prototypes are evaluated and either refined or rejected, which leads to a revisiting of one or more of the previous phases

This *PAS Memo* explains design thinking and explores how this process can contribute to planning practice, offering communities an effective set of tools to achieve their goals and to leverage assets that they might not have even realized they

had. It shares a series of case studies from a diverse group of planners and designers who are staff members or affiliates at the Minnesota Design Center at the University of Minnesota. The *Memo* concludes with guidance to help planners begin using design thinking methods in their own practices and communities.

The Design Thinking Process

Design thinking has emerged in planning practice as a paradigm-shifting way of addressing the disruptive changes and grand challenges that an increasing number of communities face.

Design methods work best when dealing with *wicked problems*: problems that are undefined, unprecedented, and unresponsive to established ways of working. In such situations, the abductive leaps of design can open up new ways of seeing a problem and new approaches to addressing it. Everyone is capable of making such leaps, but most of us have had that capacity, inherent in how the human brain works, drummed out of us by an educational system that has largely ignored abductive logic and often dismissed design as a matter of personal preference or the product of a few creative geniuses.

Design thinking represents a rebellion against such views. It makes the claim that everyone has the ability to design—to imagine a future preferable to what currently exists. It focuses on the design process rather than the appearance of things, moving away from personal preferences and toward building the capacity of communities to engage in the design process themselves in order to address the challenges they face in creative ways. In that way, design thinking flips the old idea of the designer as a visionary individual who has all the answers, to one in which the designer serves as a facilitator of the idea generation of those who have the lived experience and the most at stake in improving a situation.

Design thinking also involves strategies common to almost all creative endeavors. Designers will frequently do the following:

- use analogies or metaphors to understand a situation in a new way
- alter the scale or size of something to see it from another perspective
- juxtapose or rearrange things to look for more productive ways forward
- reinterpret or reimagine a situation in search of creative alternatives

Mistaken ideas about design thinking, nevertheless, remain (Fisher 2017). Some who have a superficial understanding of it sometimes act as if it can solve every problem, which it can't, while others assume that it only involves thinking, overlooking its action orientation. At the same time, skeptics sometimes dismiss design thinking as just common sense or worse, a way of reinforcing the status quo and existing inequities (Iskander 2018). But although some designers, like some planners, too readily accept prevailing power relations, the design process itself involves challenging current structures and questioning common assumptions.

The best way to get past such fallacies is to see design thinking in action.

Design Thinking in Planning Practice

Among the power structures that design thinkers have challenged is that of the professional expert who presumes to know what is best in a situation and who imposes that assumption on others.

As the following examples show, the design thinking process assumes the opposite: that professionals often do not know what is best in a situation, that the people closest to a problem have important insights about it, and that out of a collaborative, creative process with a diversity of stakeholders, the best solutions will usually emerge.

Co-Designing

At the core of design thinking is the idea that design has to be a co-design process, benefiting from a diversity of perspectives and involving people who may not think of themselves as designers, but who have a lot to contribute to the process. As Jess Roberts, one of the affiliates in the Minnesota Design Center, has observed, community-based planning processes can often be "extractive," gathering the ideas of community members in order to justify planning decisions. Instead, we treat community members as co-designers, deeply involved in the development of a design.

An example of that process was a project that Roberts led with the staff of the Destination Medical Center's Economic Development Agency in Rochester, Minnesota. They wrote a job description for community co-designers and, with the help of diverse community partners, identified people who had the time and interest in working as paid members of the planning team for a new, four-block-long, pedestrian-oriented street called "Discovery Walk" (Destination Medical Center 2020).

A diverse co-design cohort was essential, as part of their role was to have conversations with and to represent the interests of communities that rarely have a role in the planning process. Also, that diversity led to more creativity. Over the course of a few months, the team engaged in a series of "sprints," in which the co-designers collectively explored ideas, alternating with a number of "design studios," in which they pursued those ideas in greater depth (Figure 2).

Out of this process came a number of insights about the character of the street. It needed to provide places for contem-

Figure 2. The Discovery Walk co-design planning team (Destination Medical Center)

Figure 3. Discovery Walk design (Coen+Partners, RSP Architects, Kimley-Horn, Latent Design)

plation as well as conversation—for people to be alone as well as together as they face potentially life-changing decisions from the nearby Mayo Clinic. At the same time, the co-design process pointed to the need for respite from such challenges, with places for physical activity and connections to nature (Figure 3).

The design professionals responsible for creating Discovery Walk brought the co-designers on as part of their project team to ensure that those insights continued to guide the design and implementation of the street, and the co-design process will likely become standard practice in the work of Rochester's Destination Medical Center going forward.

Appreciating Assets

While the co-design process involves "empathy," that term can sound condescending; most people don't want empathy, they want agency. The design process goes better when it begins with what David Cooperrider, professor of organizational behavior at Case Western Reserve University, calls "appreciative inquiry," a process that involves understanding what is working well in a community, what it has to work with, and what sets it apart (Cooperrider 2012).

The State of Minnesota commissioned the Minnesota Design Center to work with small communities in Southeast Minnesota to develop new approaches to economic development (Fisher and Vogel 2019). My colleague, Mary Vogel, and I began by observing how those communities represented themselves on their websites, and almost all of them had the same pitch: affordable communities with friendly people leading a slower-paced lifestyle. While no doubt true, that did little to differentiate one community from another or to attract or retain businesses and new residents, which these communities desperately wanted.

We began working with three communities interested in taking a new approach to economic development, recognizing that the old way had not worked for them. We created maps of the communities and had residents identify the assets that mattered to them and those that they thought were often overlooked.

Based on that process, in Wabasha, we reflected back to the city's inhabitants what we had heard from them as they spoke about the assets of their small community on the Mississippi River and about the visitors who come there to boat, bird-watch, and mountain bike. Out of those conversations came a new sense of identity as an "active living river town," which has led Wabasha to target its economic development efforts to the communities of people interested in birding, boating, and biking. It also led a to focus on physical features of the place that would reinforce that identity, including an undeveloped inlet as a place for bird-watching and recreational boating and biking. And it helped the city see how it could attract new residents through businesses and housing types that would appeal to people interested in such activities.

In Grand Meadow, surrounded by agricultural fields, we learned from community conversations how many people commuted to the nearby cities of Rochester and Austin to work, often at odd hours of the day, and how many struggled finding childcare as a result. At the same time, we heard how many residents valued living there because of the quality of its schools and how they described it as a "family-friendly" place. Based on that self-identity, we worked with the community to improve pedestrian access to the school and safer pedestrian crossings at the state road through town (Figure 4, p. 4). And we explored the idea of a community-based childcare strategy, setting up a babysitting network in which older residents would watch the children of working parents. While this encountered bureaucratic hurdles, it showed how a community can address its needs in creative ways when making new connections among its many assets.

Learning from Failures

A core principle of design involves failing often and "failing fast" to learn from those failures, and we are the first to admit that abductive processes do not always work in every community.

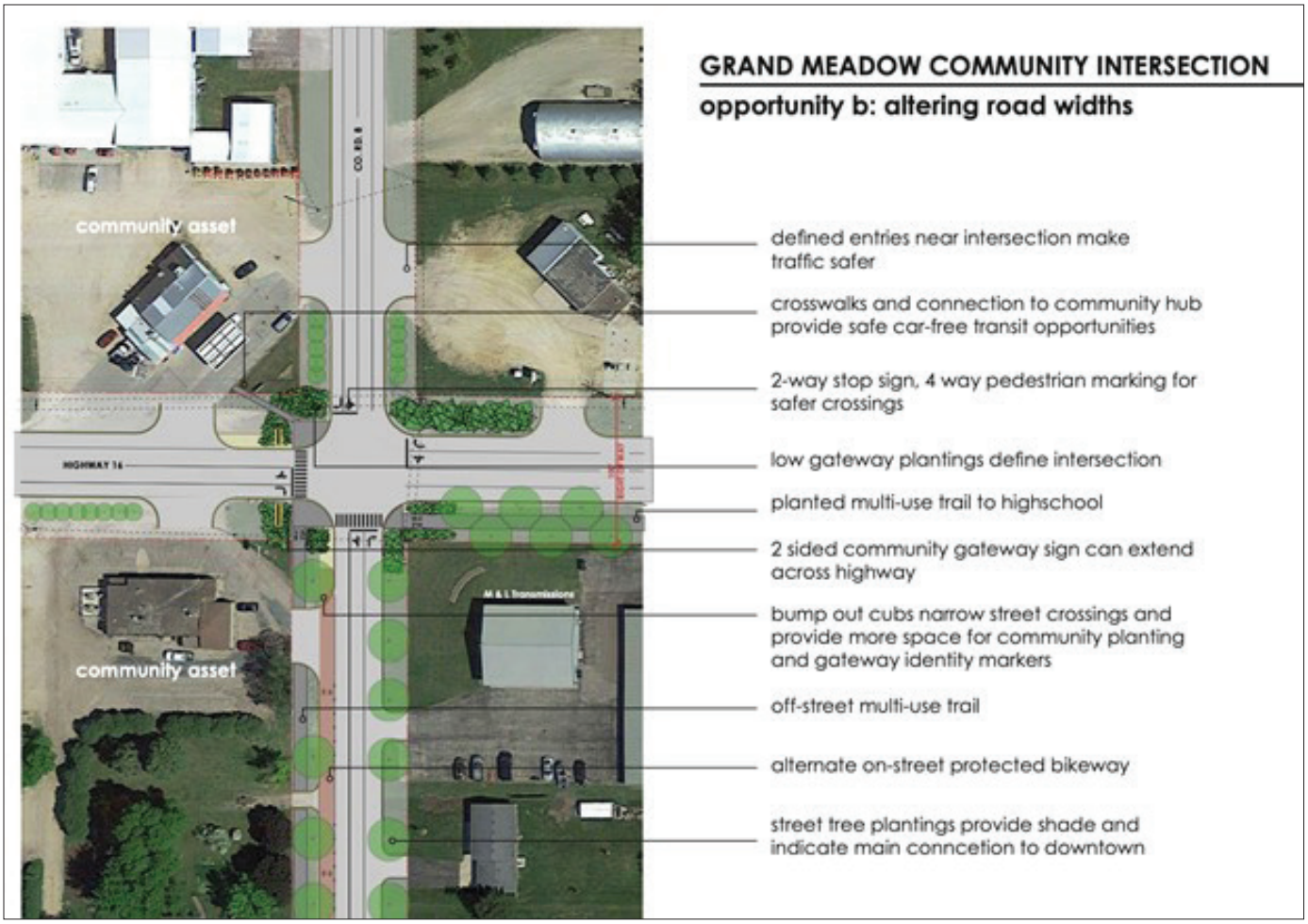

Figure 4. Plan for improving a state road crossing in Grand Meadow, Minnesota (Aune Fernandez Landscape Architects)

In one small town we worked with, the community played up its association with an early Norwegian settlement, even though the population of the town and surrounding area had become much more diverse in recent decades. Indeed, our conversations with and observations in the community made it clear that it had become a center for artisanal agriculture, producing crops of value to the beverage companies in the area. We tried to make the case that the future of the town lay in building upon that strength rather than in focusing on a past that no longer had much meaning to many people. And we showed how the town might leverage assets like its many parks, the old hospital, and its largely intact commercial main street for events related to its growing artisanal food and beverage community. But changing the identity of a place can take time and the ideas that emerged from our work with the community have yet to move forward; design thinking sometimes fails by moving too fast.

Another cause of failure can be divisions within a community that crush any creative ideas. In a community we worked with in an opposite corner of the state, the town had a remarkable asset in a large nature preserve that it hoped to use to attract new businesses and residents. Different members of the community, however, had very different things in mind for the preserve: some wanted to use it for active recreation, others wanted to preserve it for ecological restoration, and some leaders in town thought that they should prioritize building a nursing home, for which there was an immediate need. Design generally seeks win-win solutions to problems, and we worked with community members to help resolve those different perspectives, noting that the nursing home could get built without neglecting the nature preserve, and that the latter could accommodate both recreation and restoration if done thoughtfully and carefully. But too many residents seemed more intent on blocking each other than in working together in a mutually beneficial way, and as a result, nothing happened.

Such failures show that design thinking does not suit every problem. Design involves creative change, and if a community isn't ready for change or doesn't want to change—however much it may need to—no amount of abductive logic will make much of a difference. And those failures suggest that the reframing of problems at the center of design thinking can run counter to ideological thinking, which tends to frame problems in terms of a single set of answers and an unshakeable set of beliefs. If people believe that they already know the solution to

Figure 5. Design thinking co-designers in action (Sook Jin Ong)

a problem or that there is only one right answer and they know what it is, then design can do little to help.

Reframing Problems

One way that design thinking gets around such challenges is to reframe problems as unrecognized opportunities, which even the most die-hard ideologue may find of interest. Design does that through a set of strategies that involve the following:

- seeing the problem from diverse perspectives
- describing it as a range of others might
- perceiving it from a different scale or cultural context
- rearranging its parts in new and unexpected ways

Analogies and metaphors are useful when doing such work. Searching for situations in other areas of human activity that work well and applying those lessons to the problem at hand can lead to breakthroughs, as does having people diagram or visualize the situations they are in and the solutions they might suggest.

An example of the latter arose in the work we did with four Minnesota counties looking for creative ways to respond to the 1999 *Olmstead* U.S. Supreme Court decision, which holds governments accountable for adults with physical and mental disabilities having reasonable accommodations and not objecting to living in the community in which they are placed. My colleague, Emily Stover, and I, along with Sook Jin Ong of the Future Services Institute, asked adults living in state-funded group homes to describe and visualize how they felt about their living situations (Figure 5). Some of them drew images of prisons or highways with only on ramps and no way out (Fisher and Stover 2017).

We then put together working teams—each of which included at least one group-home resident or family member, a group-home provider, and county and state staff responsible for overseeing the system—and asked them to develop as many ideas as possible about how to improve the situation by drawing analogies from other things in their lives that they thought worked well.

The process itself represented an abductive leap, in that none of the residents, providers, or regulators had ever engaged in conversations with each other in this way. But most striking were the ideas that came out of the process. Many people see design as an expensive luxury for the wealthy and powerful and miss the fact that designers try to do more with less and the most for those who have the least. That clearly happened in this case.

The teams winnowed down their many ideas to those that were not only doable, but also affordable and even less expensive than the process as it currently existed. One group advocated for a revised placement process that housed people with similar interests—cooking, music, sports—in the same homes, something that hadn't happened before. Another group proposed the establishment of a coffee house that group-home residents would run so that they could have an income and an opportunity to interact with people not part of the system. The prototyping of those ideas is currently underway.

Hacking Systems

Design involves not only understanding the rules of a system, but also looking for cracks in the system that create unanticipated opportunities and allow for unexpected invention. The work we have done with people experiencing homelessness offers one example of this system hacking.

After years of working with the housing community to try to find solutions to homelessness at a scale that would match the

Figure 6. "Sacred settlement" for people experiencing homelessness (Thomas Fisher)

severity of the problem, my colleagues Gabrielle Clowdus, William Walsh, Joseph Hang, Jacob Mans, and I listened to those who have experienced homelessness. From their organization, Street Voices of Change, we learned how much interaction they had had with the medical community and how much support and solace they had received from the faith community—two communities rarely included in affordable-housing discussions.

We also learned how much homelessness involved not just the lack of shelter, but also the loss of family or friend networks beyond what people had with others also living on the streets. Putting people in a housing unit that breaks their connections to their community does little to improve their long-term prospects. Instead of this housing-first approach, housing advocates need to take a "community-first" approach that enables people to live in communities with others who they care about and who care about them (Clowdus et al. 2018).

With that in mind, we started to work with the medical community in Hennepin County on a community-first approach to housing people discharged from hospitals back to the streets, where they frequently became injured or ill and went right back into the hospital. With our Street Voices colleagues as our clients, we helped create Envision Community, which enables their community to remain intact, accommodating adult individuals and couples in units that share a common house and outdoor space under their control. And we developed financial strategies that allow community members to eventually own their units, giving them an asset that can help them move out of poverty.

We also started to work with churches and temples on a community-first approach to extremely affordable housing in St. Paul and the eastern suburbs of the Twin Cities. The faith community has an advantage with its protection by the federal Religious Land Use and Institutionalized Persons Act (RLUIPA), which gives religious organizations a degree of freedom from zoning constraints on housing and lot sizes. As a result, we helped launch a nonprofit, Settled.org, which helps the faith community create "sacred settlements" on religious property (Figure 6), with the members of various religious groups building tiny homes with those experiencing homelessness as well as "missional" residents who want to live there.

Not all of our design thinking work in the housing area has been this successful. A local nonprofit asked us to work with a Minnesota county to reduce the number of housing evictions occurring there. As we talked with a range of people who have faced eviction as well as those working in the housing courts and in the emergency services area, we saw many different challenges and the need to bring together diverse groups of people to come up with new strategies. The participants in this process produced a number of innovative ideas that were framed in terms of short-, medium-, and long-term solutions, some of which required very little money to implement.

It turned out, though, that the nonprofit that had asked us to do this work in the first place wanted us to justify their belief that the emergency services system needed to be reformed. When we presented them with a range of ideas, none of which conformed to their agenda, they dismissed the work and accused us of wasting time—as they certainly

Design Thinking Resources

For a primer on design thinking in planning practice, see *PAS QuickNotes* no. 90, "Design Thinking."

Helpful books on design thinking include the following:

- Brown, Tim. 2009. *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation.* New York: Harper Collins.
- Fisher, Thomas. 2016. *Designing Our Way to a Better World.* Minneapolis: University of Minnesota Press.

The following articles address design thinking as it specifically relates to planning.

- Boviard, Tony, and Elke Loeffler. 2013. "We're All in This Together: Harnessing User and Community Co-Production of Public Outcomes." University of Birmingham, Institute of Local Government Studies, Chapter 4.
- Clarke, Amanda, and Jonathan Craft. 2018. "The Twin Faces of Public Sector Design." *Governance,* March 30.
- Williams-Pulfer, Kim. 2013. "21st Century Strategic Planning: Design Thinking as a Supplemental Process." *PublicINReview* 1(2): 77–87.

The consulting firm IDEO remains one of the best sources for free information about design thinking as a method. Its website offers many useful references and case studies.

wasted ours and all of the people who put creative energy into the effort. If those in control do not want new ideas, better to not start the design process than to dash the hopes of the people involved.

Such examples show how abductive thinking can work with a chronic problem like homelessness and housing instability, if those in control remain open to outcomes that might not conform to their preconceptions. It involves connecting with those who have the most at stake in finding solutions, including unconventional partners who may have been overlooked in the past. And it takes a willingness to hack systems that, while possibly well-intentioned, have had the consequence of throwing up barriers to the very things they claim to solve. Finally, it requires a mix of optimism and pragmatism, seeing every institutional barrier or dismissive bureaucrat as an opportunity to move in a new direction to explore what else might work.

Iteratively Ideating

We saw this happen when working with the Centers for Disease Control and Prevention. The CDC asked Jess Roberts and me to lead a series of workshops in which we would teach its emerging leaders how to approach their work in more creative ways. What, we wondered, could we teach some of the top people in global health, and so we began by listening to and learning from them as we hoped they would us. We asked them to describe the work they did and to diagram what they saw as the biggest challenges they faced in doing that work.

We then had each team describe their work to other teams, out of which came a reframing of the challenges and a realization that of the eight teams in the room, there were four major challenges that pairs of teams had in common. As those pairs started to work together on their reframed problem, we asked them to start generating as many ideas as possible about how to address it from as many different perspectives as possible. At first, that idea generation proved difficult for some, as they were not accustomed to producing a great quantity of ideas. But after several rounds of idea generation, the success of which was measured in the amount of laughter in the room, there emerged some truly inspired and innovative ideas that no one had thought of before, with immediate benefits in their work.

Reimagining Assets

Creative ideas rarely come out of nowhere; most result from seeing what we already know in new ways. I once led a design thinking workshop with city and county managers from across Minnesota, representing governments of very different sizes, with very different capacities. In such settings, I try to talk about design as little as possible, not only because it often carries with it a reputation of elitism, but also because doing design is much more effective than talking about it. In this workshop, where a previous speaker had talked about the budget challenges these managers face, I decided to flip the conversation and have the audience members list all the underutilized assets they had at their disposal, as many as possible, as fast as possible.

For a group that had just heard about what they lacked, my request caught most people off guard. Many didn't know where to begin or what I meant, so I gave them possible examples: the school that sits empty most nights and weekends, the outdoor ice rink that sits empty all summer, the golf course that sits unused all winter. And with that prompt, they were off, making long lists of assets in their communities that remained unused or underused at various times of the week, month, or year. What had been a room of many gloomy faces became, in the process, an animated place, with people comparing their lists and coming up with new ideas together. Design represents an abundance mindset, and for the managers, that involved switching from a deficit to an asset approach to their challenges.

Engaging Community Members in the Design Thinking Process

One way to engage community members as co-creators in a design thinking process is to recruit and compensate them for their time. The following is a sample "job description" for a design thinking process.

COVID-19 Childcare Co-Design Effort

For daycare providers and/or parents interested in participating in the childcare co-design effort, please review this document to learn more about the project, expectations, timeline and compensation.

Background

One of the most important challenges facing communities right now, and for the foreseeable future is how to ensure safe and reliable childcare options for our children. To support families across Minnesota that are in need of sound, reliable guidance and support, we seek to partner with, and harness the collective talents of, those living the challenges of providing and relying on daycare every day (daycare providers and parents).

Working closely (in small groups) with public, private and governmental leaders, each participant (codesigner) will offer insights from their personal experiences and share the experiences and concerns of their community – insights will shape equitable, healthy, and practical ways to support families trying to safely balance work, childcare and day-to-day life during and following the COVID-19 pandemic.

Responsibilities

Co-designers will participate in four (4) 90-minute virtual meetings where they will share experiences, develop interview questions, discuss ideas, and communicate (with the help of the project team) project outcomes. Strong candidates work well with others, can dedicate the required time (see below), have a self-starter work style, and hold an interest in the issues facing working families during the COVID-19 pandemic.

Co-designers will participate in three (3) research and design exploration sprints which will occur following each virtual design meeting. Participants will individually hold interviews or conversations within their community (this could be with co-workers, neighbors, friends, or family) and test ideas that were collectively developed in the virtual meetings. Participants will take notes, synthesize those notes, and share them with project facilitators and other stakeholders during a subsequent virtual design.

Virtual Design Meetings

Candidates will need to attend four (4) 90-minute virtual meetings which will follow the schedule below. Meetings will take place at a time that is most convenient for co-design members. Technological and accessibility accommodations will be provided as needed, such as call-in options. If there are other limitations to participation, please share these with the project team to ensure accommodations can be made.

Research and Design Exploration Sprints

Between each virtual design meeting, candidates will spend 3-4 hours to hold interviews and test ideas with members of their community (the types of interviews and questions will be determined during the virtual design meetings). Candidates will also schedule one 15-minute phone call with the project team between each virtual design session.

Time Commitment

While accommodations will be made for unscheduled events such as personal or family illness, each candidate should be able to contribute the time needed to participate in this project. Candidates can expect the project to run approximately eight (8) weeks. In total, candidates can expect to spend 16–20 hours total over the duration of the project.

Co-Design Schedule:

Explore Caregiving & Family Challenges	
Kick off Virtual Session #1	*Start (mid-January)*
Exploration Sprint	
Virtual Session #2	*Late-January*
Exploration Sprint	
Develop and Tes t Ideas	
Virtual Session #3	*Mid-February*
Exploration Sprint	
Final Report Out Session #4	*Late February*

Compensation

Each community co-design participant will be compensated $1,000 for the duration of this project. Payment will occur on the following schedule: half ($500) at the beginning of the project and the remaining half ($500) at the successful conclusion of the project.

I hereby certify that I have read and understand the requirements of serving as a Community Co-Designer and receiving the $1,000.00 stipend.

_____

Name (Print)

_____

Signature

_____

Date *Parent Signature (if under 18)*

Action Steps for Planners

There is much that planners already do that makes integrating design thinking into planning practice relatively easy.

In the research phase:

- Design thinking is most helpful when addressing wicked problems and chronic challenges, so look for opportunities to apply design thinking in situations where other approaches to problem solving have not been effective.
- Create as many opportunities as possible to have as many diverse stakeholders as possible map, sketch, and talk about their place and its human, social, cultural, historical, natural and physical assets. See the sidebar on p. x for an example of a "job description" to engage (and pay) community members in a design thinking process.
- Attend to what people do as much as what they say, and to what they don't say as much as what they do. Such things often hold keys to what is actually going on in a place and where new ideas might emerge.

In the reframing phase:

- Reflect back to participants not just what you have heard them say and observe them do, but also how they might think about problems and opportunities in new ways and what connections might exist among different aspects of those problems and opportunities.
- Engage diverse communities in that reframing conversation, emphasizing that they are co-creators of their futures and that the reframing process is an ongoing activity in response to new and changing circumstances.
- Use analogies and metaphors to characterize the new ways of seeing problems and ask for suggestions about what to call the various reframing ideas to capture the essential concepts and to make them easier to remember.

In the ideation phase:

- Encourage participants in the process to generate as many ideas as possible, as quickly as possible. All ideas at this stage are potentially good ones and often the best ideas seem, at first, the craziest or silliest ones.
- Have people diagram or doodle each idea, because a visual representation can add greatly to their descriptions, and look for connections among ideas that might suggest areas of consensus or future exploration.
- Have participants present their ideas and have breakout groups select the most promising ideas to present to the entire group, which can further winnow down the ideas to those that might get prototyped.

In the prototyping phase:

- Develop low-cost and low-risk ways to test the ideas that have emerged from the above process, using tactical urbanism strategies of temporary installations and short-term experiments.
- Involve as many different stakeholders as possible to gather a diversity of perspectives on the prototypes and to ensure that policy makers are involved in the process and less likely to oppose any change.

In the testing and iteration phase:

- Get feedback on the prototypes from a variety of people, ranging from those involved in their development to those who are most skeptical of the innovations, in order to get the fullest idea of their effects.
- Look at the scalability and replicability of the best ideas, recognizing that strategies that might work well at one spatial or temporal scale may have different consequences at others.
- Be prepared for failures and be ready to return to earlier phases of the process, which can include reconsidering the research results, reframing the problems again, or revisiting other ideas from the ideation phase.

Conclusion

The examples of design thinking applied to planning practice described in this *PAS Memo* show that there is no one way to do design thinking. The process demands listening to diverse voices, observing what people do as much as what they say, reframing problems as opportunities in disguise, generating a lot of ideas to come up with some valuable new ones, and prototyping and testing the best of them to see which work well within the constraints of a situation. But design, like planning, also requires a degree of improvisation, with a lot of judgement in terms of what to do when, combined with a willingness to fail and to learn from those failures.

Design thinking isn't right for every problem or community, especially those in which failure isn't an option or change a desirable outcome. But the abductive logic that underpins design is, as Charles Sanders Peirce wrote, "the only logical operation which introduces any new idea" (Douvan 2017)—and where new ideas are needed and welcome, there is no better way to achieve them than with design thinking.

About the Author

Thomas Fisher is a professor in the School of Architecture and the Director of the Minnesota Design Center at the University of Minnesota. He teaches undergraduate and graduate courses in urban design practice and theory and has written or edited 11 books, 72 book chapters or introductions, and over 450 journal or magazine articles. His recent research has included work for the National Science Foundation on the infrastructure impacts of autonomous vehicles and for the State of Minnesota and Hennepin County on the redesign of government service delivery.

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