

Co-Designing for Public Participation

Developing a Relationship-Based Toolkit for Public Engagement with the Utah Transit Authority

Kayla Guillory

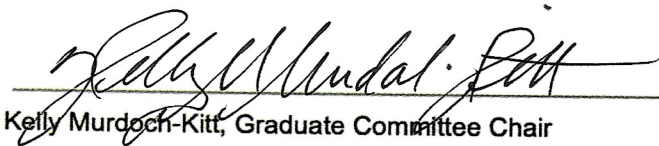
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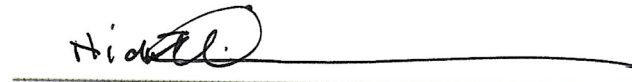
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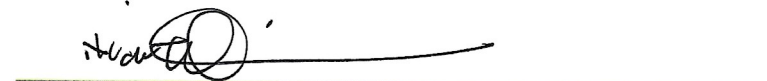
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A photograph showing three people from behind, looking at a large map or diagram pinned to a wall. The person on the right is pointing at a specific location on the map. The map features various colored dots (green, red, blue) and lines, possibly representing a transit route or a geographic area. The setting appears to be an indoor meeting or workshop.

BY KAYLA GUILLORY

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*Dedicated to my mother and sister —
the two reasons that I made it through with some semblance of sanity*

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abstract

Intentionally planned and well-executed public engagement with public sector organizations has the potential to make government agencies better equipped to effectively and equitably serve the public, especially for communities and relevant and affected parties who do not feel heard by the agencies meant to serve them. While the importance of institutions seeking public input is widely recognized, it is also true that the design of input collection is crucial, and even well-intentioned approaches to engage the public can fail. Transportation agencies—organizations in charge of managing public transportation and other transit infrastructure—often struggle to address the needs of communities because they lack a clear understanding of public priorities, fear that input is not representative of the entire service population, and do not have the tools or processes in place to translate them into real decision-making power. Public agencies are left grappling with how to conduct public engagement that is impactful, influential, and equitable.

For the Utah Transit Authority (UTA) this is no more true than in preparation for Change Day, an annual day in August when many changes to transit lines are implemented. This yearly event presents a particularly difficult challenge, as service changes directly impact everyday rider experience. Often engagement ends up feeling like a box-checking activity or a task to be in compliance with regulations that does not yield actionable insights for Change Day service planning. In addition, planners and UTA team members work to prioritize equity in plans, which can conflict with the desires expressed through public engagement.

Alongside the UTA community engagement team, the UTA service planning team, and other UTA team members I conducted an analysis of the current Change Day public engagement process through design-led workshops with both UTA and members of the public. The result is a four-part toolkit that speaks to key elements of the engagement process through an equity lens and a service blueprint that points future practitioners to important areas of the relationship between agencies and the public.

Keywords

co-design, co-creation, community-engagement, public-engagement, public-comment, public-participation, participatory-design, transit-agency, transit-equity

1 Introduction



“We’re aiming to set expectations about feedback so that we can actually take meaningful action, and if it’s not meaningful, it’s on us, because we are not being clear about what we are asking.”

- UTA Planning Team Member

1 introduction

1.1 In Service of Many: Transit Complexity

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Transportation is one of the most important parts of human life. It determines where we can live and work, who we can see, and what we can do. Transportation impacts who has opportunities and what they are. According to The Urban Institute, “access to transportation reduces barriers to employment, to educational opportunities, to health care, and to childcare. Access to these opportunities and resources affects all the dimensions of mobility from poverty.”¹

Communication is an essential part of a successful relationship between public agencies and the people they serve. When communication breaks down, people do not engage in the process of developing or improving necessary public services or may feel like their voices go unheard. For public agencies with a genuine desire to listen to their constituents and use public input, the frustration is equally tangible because they want to maintain a positive relationship with the community they serve and know the value of incorporating constituent voices. The risks of a deteriorating relationship include lack of support that leads to non-use and defunding of these agencies. Without transit—a public service that often supports vulnerable populations (such as people experiencing poverty), provides economic benefits, and lowers carbon emissions—communities such as the Salt Lake Metro Area could see a lower quality of life.²

A critical event that was referenced multiple times in conversations across the Utah Transit Authority (UTA) was Change Day. Occurring three times per year, Change Day is the day when UTA implements transit service changes such as route adjustments or new timetables. August Change Day 2022, in particular, was discussed as a very difficult time for both UTA ridership as well as UTA team members. Based on this learning, which emerged from collaborative sessions with UTA team members, Change Day became the focus of my research. Change Day was specific enough to provide a somewhat contained area of study, while also revealing many opportunities to create a smoother, more rewarding process.

In this research, I examine the relationship between UTA and its ridership to understand gaps that exist in the Change Day process and what design-led solutions might improve the current systems. My investigation led to the development of a relationship model that defines four areas where *design interventions* would be particularly effective, framed as questions:

1. Who is contributing to engagement?
2. How is engagement structured?
3. How are the results of engagement used?
4. How are the results of decision-making communicated to participants?

A *design intervention* is a solution that does not have a defined form yet. Design interventions, as opposed to terms such as *objects*, *products*, or *services*, is a “placeholder concept” which allows for a much larger range of potential concepts to be explored.³

The project outcome is a design toolkit, which encompasses four design interventions specifically tailored to UTA’s Change Day challenges. Design toolkits are tailored collections of materials, methods, and techniques that people can use to guide the design process and facilitate collaboration. The toolkit, created in collaboration with UTA, uses process design activities to strengthen public engagement practices. Process design involves defining and organizing tasks or procedures to achieve a particular goal. The toolkit examines each of the four questions stated previously and translates them into process changes that UTA can make for more thoughtful engagement, that does more than check a box.

RESEARCH QUESTIONS

- 1** How might we use design to **better understand the current process** of Change Day public engagement?
- 2** How might we **define the relationship between** UTA and the public in order to identify the gaps that prevent effective communication?
- 3** How might we **design for communication gaps** or challenges that make public input less impactful in the Change Day process?

The results of this project have the potential to impact the ways that designers and policy makers working in the public sector approach the relationship between public agencies and the populations they serve.

1.1 In Service of Many: Transit Complexity

Transportation is closely related to topics of equity, or how resources are distributed across populations and places.⁴ Typically, transportation equity is defined as the fair distribution of burdens and benefits among members of a society.⁵ Those without reliable transportation may struggle to hold a job, get to medical appointments, grocery shop, or access education. In contrast, those with transit access may have more access to opportunities, people, and places.

A recent study found that one in four adults in the US experiences “transportation insecurity,” a term that describes being “unable to regularly move from place to place in a safe or timely manner.”⁶ This begins to illustrate the complexity of the problem as a whole.

In a research and design practice, one of the most important and constant project challenges is scoping. Scoping refers to determining the boundaries of a project to create a manageable space within which to work. Scoping led me to public transit as a focus because of its potential role in improving transportation equity as well as my own personal interest and investment in the topic.

Public transit uses buses, passenger rail, subways, vanpools, and more, to move millions of people every day. According to the American Public Transportation Association, Americans took almost 10 billion trips on public transportation in 2019.⁷ Public transit is safer than traveling by automobile, costs less money, and provides economic benefits to communities.⁸ By creating transit infrastructure that is affordable, accessible, and effective, community members benefit, and entire regions thrive.

Public transit is typically run by public agencies which aim to serve large, diverse populations while operating under financial, political, and ethical constraints. The complex and technical landscape of public transit is an especially interesting environment to study and for which to propose design solutions. One anecdote that surfaced continuously during my study of transit in the Salt Lake metro area begins to highlight some of the inherent challenges of engaging communities in complex, public-sector work such as that of transit.

1.2 An Example from The Avenues

It was May of 2022 and soon, the Utah Transit Authority (UTA) would be implementing plans for its annual August Change Day, when large service and route changes go into effect around the Salt Lake City Metropolitan area. In the months leading up to Change

Day, UTA had put out a public notice, held virtual public hearings, opened channels for a public comment period, and allowed for other ways for members of the community to express their thoughts and concerns⁹. But, even with all those efforts, UTA found itself in the middle of controversy.

Several residents of the Avenues, a neighborhood tucked into the northeast corner of Salt Lake City, were furious. They worried that new routes planned through the area would increase noise, create more pollution, and affect resident safety.¹⁰ Some residents of The Avenues also explained that they felt like they had not been notified or given the opportunity to express their thoughts and opinions on the plan. With the frustration came a campaign to stop UTA's proposed changes long after the planned engagement period had ended, far beyond the point when feedback like this could have the desired impact on service planning.

As a result, UTA faced mounting pressure from both residents and their local representatives prodding them to act. UTA was left scrambling for a way to show residents that they were heard. At the same time, they needed to explain why and how they had created the plans in the first place and justify the decisions they had made based on region-wide analysis.

While this Change Day was among the most controversial for UTA in recent memory, public engagement and public input for Change Day have long had their challenges. Despite investing time and money in the process, and a genuine desire from UTA to create the best service plans possible, difficulties in the public input process still emerge. When the input process is fraught, organizations like UTA risk public scrutiny and shrinking financial and community support.

The example of UTA and the Avenues highlights why the UTA Change Day engagement process is so impactful and important. Riders, neighborhood residents, and other relevant or affected parties are invested in the places they live, work, and how they get there. Examining and optimizing the Change Day engagement process could drastically improve the relationship between UTA and the communities it serves.

1.3 Utah & UTA, Project Partner Organization

There are several factors that make public transportation an interesting topic of study in Utah's Wasatch Front, the metropolitan region located in the northern part of the state.

Utah was the fastest-growing state between 2010 and 2020, which makes transit and the movement of people there especially timely.¹¹ The population of the Wasatch Front, where UTA's service area is located, is expected to increase 60% by 2040.¹²

UTA’s service area contains just over 2.2 million people, or almost 70% of the state’s 3.3 million people.^{13 14} As of March 2023, there were over 100,000 weekday boardings on average of UTA vehicles.¹⁵ In short, UTA serves a lot of people, every day. Table 1 helps demonstrate how, demographically, UTA’s ridership differs from the larger population. Typically, riders are more likely to be low-income and there is a high chance they use transit at least once a week. Many are also “captive riders” meaning they have no other option besides walking to get to their destination.

Table 1. UTA’s ridership in comparison to the population of the Wasatch Front region.^{16 17}

	UTA Ridership	Regional Population
Race / Ethnicity	29% Non-white (not hispanic or latino) or mixed race	23% Non-white (not hispanic or latino) or mixed race
Low-Income	33% Annual household incomes under \$25,000	8.6% Persons below the poverty threshold
Student	35% Full or part-time college or university students 5% K-12 Students	N/A
Alternative Modes	53% Captive Riders (could only take UTA or walk)	N/A
Trip Frequency	95% Use transit at least once a week	N/A

The Salt Lake area also has a unique geography that makes it particularly susceptible to air pollution—the valley is distinguished by mountains that form a bowl shape, trapping pollution inside. Especially in winter months, smog causes concerns for health and safety. According to a 2022 research report, air quality was a top issue of public concern for the state’s urban residents, and people in the area have been exposed to “some of the world’s worst short-term particulate matter.”¹⁸

In considering public transit and its impacts, I identified UTA as a potential community partner early on. During an exploratory trip in the summer of 2022 to three cities, I met with people involved in community engagement work at Los Angeles Metro (LA Metro), San Francisco Municipal Transportation Agency (SFMTA), and Utah Transit Authority (UTA). I had previously been in contact with the UTA community engagement manager, Megan Waters, for another transit-related project. She was incredibly generous with her time and passionate in her work to improve engagement for people in the region. During the trip, Megan invited several of her colleagues to join a conversation to help me understand what transit engagement looked like at UTA.

When it came time to choose who to ask to be my thesis project community partner, UTA and Megan were at the top of my list. Our relationship had developed over many months and her willingness to connect showed both an openness and availability that would be essential for the project. Everyone I had spoken to at UTA shared a commitment to riders and a willingness to engage. And the UTA engagement team was young and looking for opportunities to be more successful in their efforts; this seemed like an opportunity to think strategically about practices that could affect the future of UTA's engagement work. In addition to these factors, Utah is my home state and where I still have many ties to people, places, and communities.

Working with a public sector agency was a strategic choice. This project specifically examines public transportation in an agency setting because of their influence in the system, awareness of the end users (the public), and desire to improve service delivery. As a result, I could work within the specific bounds of an agency setting to have an impact, while still being able to consider and factor in relevant and affected parties.

However, working within a public agency also has challenges. Team members within UTA have many demands on their time, limited resources, siloed views, and bureaucratic constraints to contend with as they perform their daily functions.

1.4 Project Aims

From the onset of this project, a secondary interest aside from transportation was in the ways that members of the public interact with public agencies. As I narrowed my focus and continued to scope this work, I began to see gaps between public engagement and UTA's defined engagement processes. As was demonstrated in the Avenues example, this resulted in a conflict that upset community members and discouraged folks within UTA – both sides were disappointed in the relationship.

Over several months, I worked to learn more about UTA planning processes and how they incorporated public input from such a large audience. UTA has several planning cycles from

longer term to shorter term and UTA collects public input for all these planning efforts. August Change Day typically results in the most or largest-scale changes.

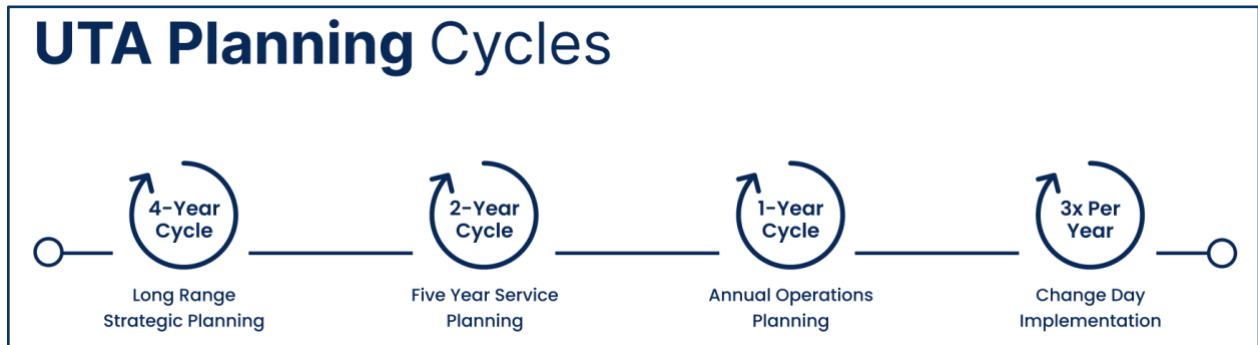


Figure 1. UTA Planning Cycles

1.5 Implications in Design & Policy

This project focuses on the relationship between people and their public service provider. As an interdisciplinary project, this work bridges topics of public policy and design.

Public participation in the public sector, such as public comment at UTA, is typically studied in the policy arena; scholars discuss and debate how to best incorporate citizens into decision- and policy-making. Using this as a foundation, I built upon topics of engagement to consider how public input can become more effective for a public agency like UTA. To concretize this, I developed a service design blueprint that shows where engagement efforts can be improved. Service blueprints are visual representations of a user journey and the underlying processes, and people involved; they can be used to identify interconnections and opportunities for improvement in the service delivery process.¹⁹ The key questions gleaned from the public-agency service design blueprint and follow up communication framework are contributions to the policy field that could help future practitioners working in a public sector context decide when and how to communicate with the public.

The process through which I was able to learn about and develop interventions for UTA Change Day was a result of design processes. The research, analysis, and synthesis, and were comprised of collaborative design methods that led to development, testing, iteration and eventually a design toolkit. Design toolkits are collections of materials, methods, and techniques that people can use to guide the design process and facilitate collaboration.²⁰ The public-agency service design framework, design toolkit, and novel methods used in design workshops are all contributions to the field of design.

2 Contextual Review



“Simply put, the process of inquiry provides clarity to muddled situations. And the purpose of providing clarity is to enable action...the process of inquiry gives form to problematic situations.”

– Carl DiSalvo, Adversarial Design

2 contextual review

2.1 Public Participation in the Public Sector

2.2 Equity in Planning & Participation

2.3 Design Research & Methods: Participatory design, Co-design

2.4 Theoretical frameworks: Participatory Action Research & Activity Theory

2.5 Design Toolkits for Public Sector Work

This project is situated in the academic space between public participation and public-sector transit planning, especially as it relates to equity, and participatory design methodology. This section provides an overview of the current and relevant literature pertaining to this thesis work.

2.1 Public Participation in the Public Sector

Public participation in public agencies is an important way to understand and collaborate with the people on the receiving end of public services. It is also a way to tailor services so that they are appropriate for recipients and to acknowledge the importance of individual lived experience. Contemporary scholars argue for this role of citizen experts in participatory research, pushing for conventional expert–non-expert hierarchies to yield to more collaborative methods.²¹ Contributions from community members are becoming recognized as “public knowledge” in engagement as opposed to noise or nuisance.²²

A core element of this project has been understanding what it means to design adjacent to public participation processes. Public participation, while still a relatively young field, has a large body of scholarship devoted to practice and improvement. Within this context, my project wrestles with how participation strategies should be systematized, how specific mechanisms can be improved, and how agencies can use engagement to improve their relationship with their constituents.

2.1.1 *Defining Public Participation*

Taking a step back, it is useful to define public participation as it relates to this project and to distinguish it from the many other similar terms in the field (citizen engagement, public engagement, civic engagement, citizen participation, collaborative governance, public involvement, community engagement, and more). Nabatchi and Amsler discuss direct public engagement as in-person and online methods that allow members of the public to express their ideas, concerns, needs, interests, and values to be incorporated into issues of public importance.²³

Rowe and Frewer expand Nabatchi and Amsler’s definition to consider not just decision-making, but also agenda-setting, and policy-forming activities; they then propose a framework to break up the types of interaction an organization might have with the public: communication, consultation, and participation.²⁴ Communication in this case constitutes a one-way information flow from the organization to the public, consultation is a one-way flow from the public to the organization, and participation is a two-way flow between the organization and the public (see Figure 2). Pertinently, in the design realm, communication models evolved from the Shannon-Weaver Model of sender to receiver, to the Emmert-Donaghy model which considers context and feedback, all the way to the Message Cycle, which considers how messages are received.^{25 26}

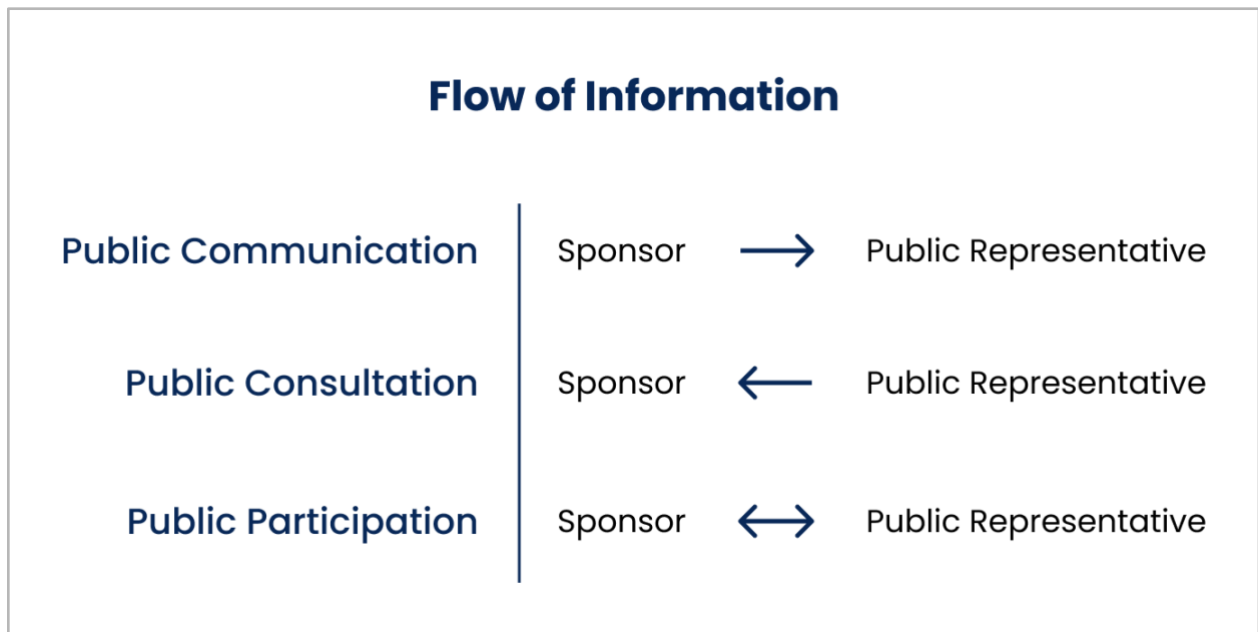


Figure 2. Flow of information, adapted from Rowe and Frewer²⁷

In the transit field, the Transportation Research Board defines public participation as “the process through which transportation agencies inform and engage people in the transportation decision-making process.”²⁸ A broad definition that does little to specify what might be encompassed in the “decision-making process.”

Putting these definitions together, my proposed definition is that public participation in a transit agency includes *in-person and online processes that inform or engage members of the public to express their ideas, concerns, needs, interests, and values, which guide decision-making, agenda-setting, and/or policy-forming activities in the transit decision-making process.*

To explain the relevance of this definition in the context of my study, I will dissect its key terms. First, *in-person and online* acknowledges the increasing digital forms of engagement – including online commenting, a large focus of this project. The phrase *inform or engage* broadens the spectrum of what should be considered participation to include holistic communication models and highlights the need for transparency of information to have successful engagement. *Ideas, concerns, needs, interests, and values* present a range of information that the public can provide to influence decisions, and get at the concept of *citizen-as-expert* in their own lived experience. *Decision-making, agenda-setting, and policy-forming*, as previously mentioned, help extend the utility of public input from simply making one decision, into a wider scope of strategically sorting, storing, and revisiting input. Finally, the *transit decision-making process* sets the scene for a public transit agency with specific and limited authority.

2.1.2 Evaluating Participation: What is Success?

There is not a clear consensus among participation scholars about the most ideal outcomes of participation efforts. And what is considered “successful” or “effective” participation is currently a noted gap in transit engagement work specifically.²⁹

One important way to address this is to discuss participation in terms of the purpose it is being designed to serve. Participation scholars encourage practitioners to carefully consider and define their participation objectives to then choose success criteria and participation strategies that will best align.³⁰ And contemporary communication models encourage us to carefully consider content, feedback, and reception by individuals.³¹ In other words, successful participation is a moving, self-defined target that is shaped by context.³²

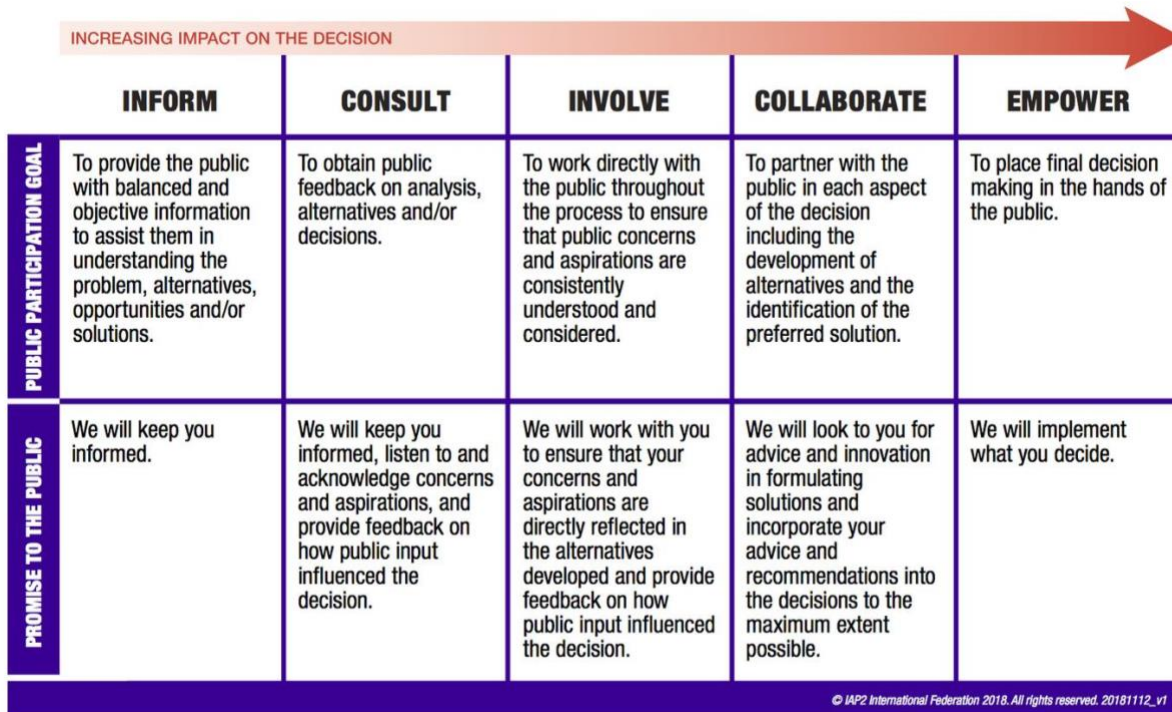


Figure 3. IAP2 Spectrum of Participation³³

On the other hand, many models carry echoes of Sherry Arnstein’s influential “Ladder of Citizen Participation” which firmly positions *citizen empowerment*, defined as giving citizens total decision-making control, as the end of the participation rainbow.³⁴ The IAP2 model of participation (see Figure 3), for example, is a widely circulated version of Arnstein’s ladder and positions empowerment and citizen decision-making as the end goal.³⁵ Contrastingly, Archon Fung, in his development of the “democracy cube” (see Figure 4) criticized this end goal by explaining that “there may indeed be contexts in which public empowerment is highly desirable, but there are certainly others in which a consultative role is more appropriate for members of the public than full “citizen control.”³⁶

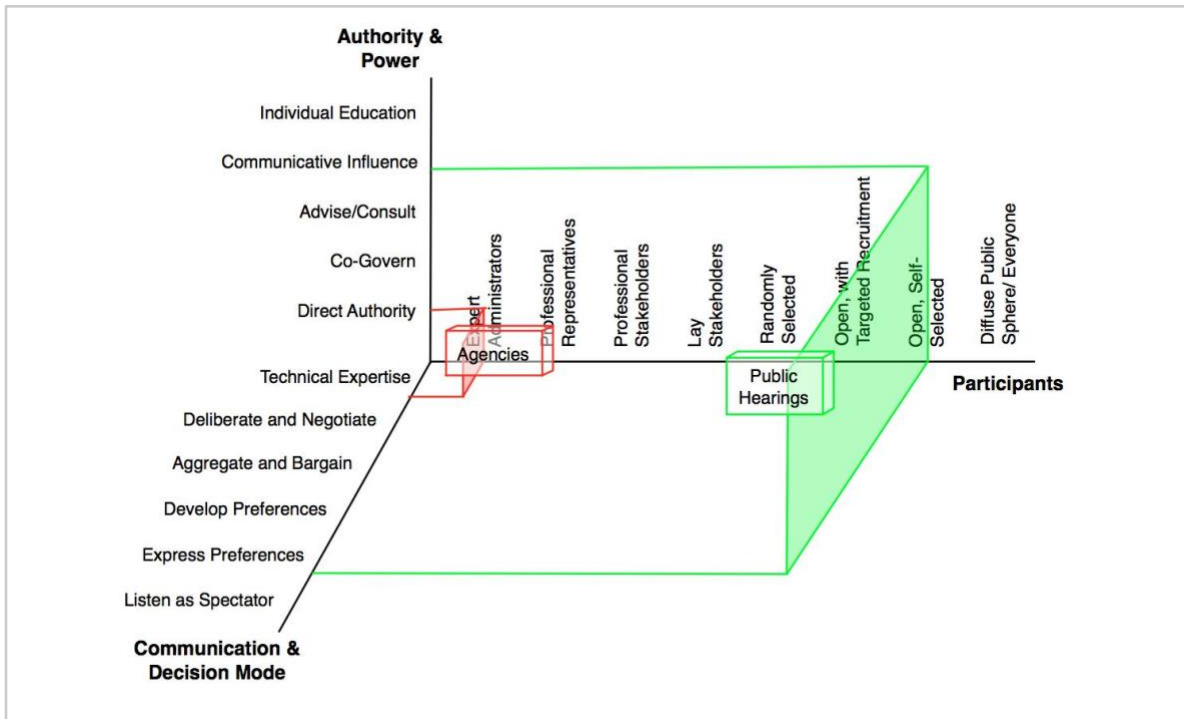


Figure 4. Archon Fung's Democracy Cube³⁷

In terms of determining whether public input is working well, Rowe et al. offer some specific criteria for effectiveness.³⁸ These include:

Criteria for creating and implementing effective participation

- representativeness of participants
- independence of participants (unbiased)
- early involvement
- influence on final policy
- transparency of process to the public

Participation process criteria

- resource accessibility
- task definition
- structured decision-making
- cost-effectiveness

2.1.3 Designing Engagement

Importantly, participation design choices are interrelated and thus are made through “an iterative and integrative process that considers numerous other factors,” much like the iterative and integrative work of design.³⁹ Conducting public participation with the greatest chance of being effective requires careful consideration of how engagement is conceived.

There are several frameworks, models, and guides that have been developed in order to strategize engagement activities.⁴⁰ Fung identifies three democratic values—legitimacy, justice, and the effectiveness of public action—in the democracy cube methods, none of which, he argues, can serve all three values simultaneously.⁴¹ Other scholars have proposed variables that highlight parts of participation design that are influential in the outcomes. Rowe et al. give six key areas that inform the effectiveness of engagement.⁴² Nabatchi gives eight participatory design elements. And Nabatchi and Amsler develop eight engagement design considerations.

The specific way in which the results of engagement should be evaluated will depend on the goals of the engagement process and the context in which it is taking place. While all the elements proposed by various scholars are important, my study takes place within the bounds of a public comment period, where I strive to improve UTA’s performance against a selection of the aforementioned evaluation criteria and engagement design considerations. In the following section I will discuss relevant criteria and engagement design considerations as they pertain to the thesis work herein.

2.1.4 How Might UTA Design Participation Using Best Practice?

As previously referenced, four areas emerged during this project where I concentrated my design efforts, as articulated by four key questions: 1) Who is contributing to engagement? 2) How is engagement structured? 3) How are the results of engagement used? 4) How are the results of decision-making communicated to participants? In the below I will reference them in order to connect these principles to practice. In the methodology and results sections I further elaborate on the design interventions developed for each area.

2.1.4.1 Who is contributing to engagement?

Two engagement design considerations, *participant selection* and *participant recruitment*, apply to this thesis work in two ways: 1) in the public workshops that were developed and implemented as part of the project, and 2) in considering the UTA’s strategies for notifying and engaging members of the public in public comment periods. Both require consideration of who is involved and how they are notified.

The relevant effectiveness criteria for this question is *representativeness*, or finding a sample of population that is representative of the population. In UTA's case this can be especially difficult because people who comment are self-selecting. In general, scholars tend to agree that finding the "right" participants for engagement is context dependent.⁴³ But many dilemmas crop up: who is recruited, how they are recruited, who actually shows up, who is represented, and the limitations of technical expertise of public audiences (potentially in tension with the idea of the 'citizen expert').⁴⁴

This last noted feature, "the demand both for participatory democracy and expertise in decision-making" is especially salient for a public agency such as UTA.⁴⁵ In Fung's discussion of common participation selection mechanisms, self-selection and selective recruitment, are two relevant choices.⁴⁶ In weighing these options, self-selection is ideal for demonstrating that a process is open to all, but it risks "setting up a biased arena."⁴⁷ In contrast, selective recruitment may not be appropriate where everyone is supposed to be allowed to contribute their thoughts.⁴⁸ In UTA's case self-selection, though it is not perfect, remains the core mechanism; however, additional strategies may prove useful in expanding the pool to increase representation.

Early involvement is an interesting criterion that deserves a side note here. Moving the UTA public comment period earlier in the engagement process for Change Day is out of scope of this process, but reconfiguring the timeline is a recommendation for UTA that resulted from this work.

2.1.4.2 How is engagement structured?

Relevant effectiveness criteria here include *resources accessibility*, *task definition*, and *transparency*. In this case where the relevant engagement method is public comment forms, it is important that participants have access to the appropriate resources needed to be successful and clearly understand the scope of public comment. Transparency should also increase with information clarity.

In line with the effectiveness criteria, considering informational materials is a salient engagement design consideration. Since there is typically no facilitator involved in collecting public comments, providing information that is useful and helps elicit relevant data from participants will be critical.⁴⁹

2.1.4.3 How are the results of engagement used?

Evaluation of engagement results should consider *structured decision-making* and *influence on final policy*. Participation results should show how and why a decision was made and the output of participation should have genuine influence on the process.

Additionally, when designing participations, participants should understand how their input will be used and how it will influence UTA's decisions. Recommendations that are developed through engagement should be specific and actionable.

2.1.4.4 How are the results of decision-making communicated to participants?

In line with the effectiveness criteria, *transparency* and *structured decision-making* are key factors to consider when communicating results. It is crucial to communicate the results of decision-making to participants and will help build trust between the organization and the public. Further, it is essential that the public is provided with a clear understanding of the decision-making process, including the factors considered, and how the decision was ultimately made.

Shifting towards two-way communication, rather than one-way, can help ensure that participants feel heard and valued, and that their input is being taken seriously. This can be achieved by having *communication mode and plan* as a design consideration.

2.1.5 Why conduct public participation?

Legal requirements for transit agencies are one reason that public engagement can feel like a "box checking" activity. Many laws and regulations have shaped the requirements transit agencies must adhere to, including comment periods, public hearings, involvement of underrepresented groups, and more.⁵⁰ In particular, Title VI of the Civil Rights Act, which prohibits discrimination on the grounds of race, color, or national origin, and is mandated for all agencies receiving federal funding, was discussed often in UTA as it works to not only satisfy legal requirements, but also exceed them in terms of fair and equitable planning.⁵¹

Other considerations for why to not only perform public engagement, but to carefully craft it, are summarized in Table 2. This relates back to the established definition of equity regarding the distribution of benefits and burdens.

Table 2. Potential benefits and burdens associated with public engagement⁵²

Potential Benefits	Potential Burdens
Inform the public about policy issues	Transaction costs of input processes (e.g., time, lost wages, or child care and transportation costs)
Increase trust in public services and knowledge of how to effectively engage with public systems	Potential to increase public frustration and perceived powerlessness
Increase knowledge of how to effectively engage with public systems	Exclusion, tokenism, power inequalities, and cooptation by stronger social groups
Develop empathy and tolerance for other values, interests, and positions	Foster risky decision-making, group think, and polarization
Validation and legitimization of experience, perspectives, and contributions	Reduce officials' ability to broker policy compromises and satisfy diverse demands
Increased likelihood of future participation	Such processes force organizations to interact with an uninformed, hostile, and disrespectful public
Build social capital among individuals or organizations to help address issues in the future	
Increase access to resources	
Creating more tailored strategies to target citizens' needs, preferences and values	
Reducing opposition which eases implementation, and increases the effectiveness of actions	
Increasing buy-in and ownership over policy which increases sustainability	

There are several potential benefits of this thesis work. If the information UTA provides to people is enhanced and the decision-making process is made clearer, UTA could see an increase in trust, knowledge of how to engage, and future participation. And if UTA is better

able to craft meaningful, tailored feedback they will be able to better validate and legitimize contributions, speak more effectively to citizen needs, and reduce opposition.

Alternatively, there are risks and challenges of this work. In a technical field such as transportation, the public is limited in terms of expertise and available information.⁵³ As a result, consensus among the public may not reflect safe or equitable decisions. On the other hand, when there is a consensus among members of the public that is not enacted, it may increase public frustration and perceived powerlessness, as was the case in the Avenues example. It could also be characteristic of *cooptation*, an organizational strategy to involve public participants only to prevent obstructionism, or superficial participation.^{54 55} And finally, as Xiaohu Wang puts it, “simply involving the public in decision making does not do the trick [to change the minds of cynical public participants].”⁵⁶ Disrespectful or hostile members of the public may choose to continuously contact organizations, a challenge UTA has faced in the past.

2.1.6 After Participation: Analysis, Evaluation, Follow Up

Public participation analysis, evaluation, and follow-up are crucial steps in an engagement process.^{57 58} This can help organizations assess the effectiveness of their engagement efforts and ensure that participants feel heard and valued.

Analysis involves review of engagement outcomes to determine the results of participation and decide on recommendations for moving forward.⁵⁹ Analysis includes assessment of participant feedback, data, and other relevant information. It can also help identify gaps and areas where the engagement process could be modified in the future to capture information in a different way or to gain additional data points.

Follow-up is another critical component of public participation that can help ensure participants input is taken into account in decision-making. This can help participants feel heard and valued and that their input is taken seriously. Follow-up can also build trust between organizations and the public.

Finally, evaluation helps organizations determine the impact of engagement efforts and whether they were successful in achieving their intended outcomes.⁶⁰ Evaluation helps identify areas where the engagement process could be improved in the future. This is where evaluation criteria, such as those discussed above can be leveraged.

2.1.7 Participation in Context: Transit Decision-making

Requirements for public engagement for transit providers have evolved over time, creating both incentives as well as a box to check. As a result, many agencies in the transit field are working to improve their public engagement practices. One study of multiple transit organizations found that the value an agency places on public involvement is critical to its

success.⁶¹ Another study used co-design strategies, or collaborative working sessions that gathered perspectives and insights from transit users, to understand what shapes their perceptions and to inform future processes for getting at some of the rich information transit experience produces.⁶²

Recent evidence suggests that even just the perceptions people have of transit and transit service changes have an impact on behaviors regarding transit.⁶³ In other words, creating positive relationships between transit organizations and the public leads to more positive transit perceptions, which may also lead to more transit-positive behaviors. (I discuss this more below when considering the topic of *procedural justice theory*.) The potential for positive outcomes in this space is enormous.

2.2 Equity in Participation & Planning

In general, transportation equity is related to the fair distribution of burdens and benefits, further, equitable processes, systems, and outcomes come together to work toward a more just society.⁶⁴ Central in the previous discussion of how public participation is defined, crafted, and executed were themes of equity. Similarly in participation scholarship equity “emphasizes an understanding of how individual and structural barriers (whether as a result of citizen initiatives or governmental institutional design) create conditions that unfairly restrict equal engagement and just outcomes.”⁶⁵

When it comes to equity, many transit organizations are attempting to go beyond the minimum standards set by federal guidelines. Civil rights laws set a baseline for prohibiting discrimination, but several transit agencies are working to better analyze populations that are underserved in their region, uncover barriers to access, and address gaps with improved transit service. Some practices include advisory committees, internal and external partnerships, altered hiring practices, and transit equity indexes.^{66 67} TriMet, the Tri-County Metropolitan Transportation District of Oregon, created a Department of Equity, Inclusion, and Community Affairs.⁶⁸

UTA has demonstrated a similar commitment to exceeding the expectations of federal regulations and currently has a Community Advisory Committee (CAC), a Committee on Accessible Transportation (CAT), and is working with external consultants to develop an equity index.^{69 70} The equity index will be integrated into UTA’s planning processes, to ensure system changes and priorities align with regional equity goals. For example, when creating Change Day plans in the future, the equity index would be used to evaluate potential planning decisions and determine what the negative or positive impacts might be for different demographics. Additionally, the index could help UTA planners consider what changes should be prioritized based on who they will serve. The decision to create an equity index was made before I partnered with UTA and demonstrates their preexisting interest in continuing to build an equitable system.

Increasing equity in decision-making processes doesn't necessarily mean that the policy decisions or policy outcomes will be more equitable. And using an equity lens with which to view this project could mean many things: Is the process equitable? Is the representation fair? Are the outcomes equitable?

To better narrow in and situate this project, I turn to a helpful framework created by Change Lab Solutions which presents three tenets of equity: procedural, structural, and distributional.⁷¹

Procedural inequity: "Procedural inequities occur when public decision-making processes lack transparency, accessibility, fairness, inclusion, and a diversity of perspectives."⁷²

Structural inequity: "Structural inequity occurs when institutions and systems of government lack the processes, practices, policies, and internal capacity to operationalize equity in how they function and make decisions."⁷³

Distributional inequity: "Distributional inequities occur when planning policies result in the inequitable distribution of resources, community burdens, or benefits."⁷⁴

While the Change Lab Solutions framework is in line with similar research into distributional, recognition, and procedural justice developed by research in the energy justice field,⁷⁵ justice and equity should not be conflated. Justice and transportation justice are much larger topics that deserve dedicated discussions outside the scope of this work; however, there are important overlaps that contribute to the conversations about equity at hand. While transportation equity is concerned with fair distribution of burdens and benefits, and equitable processes and outcomes, transportation justice speaks to more of a society-wide transformation. Karner et al. argue that equity-oriented interventions are "necessary, but not sufficient to achieve transportation justice, and that planning scholars, practitioners, and advocates must continue to reflect on the benefits and limits of state-centric strategies and develop new ways of engaging with environmental justice and related social movements in order to achieve transformational change."⁷⁶ This work is important, and cannot be the end of the conversation if we want to achieve a more just society.

So then, for this thesis work the question becomes: can improved processes lead to increased procedural, structural, or distributional equity? Or, put another way, can working with UTA to develop the way they approach and shape engagement for Change Day create a process that feels fairer?

Effectiveness criteria, engagement design considerations, and other parts of the work conducted such as increasing transparency, working toward a diversity of perspectives, operationalizing processes, and meaningfully following up with participants, begin to get at these ideas of *procedural* and *structural* equity as defined above.

Research supports the idea that people will generally be more satisfied with process outcomes and / or that outcomes matter less than process when individuals have a positive perception of the process.^{77 78 79 80 81} This is otherwise known as *procedural justice theory*. This helps tie together many of the concepts discussed and in short, how a decision is made and the perception of how a decision is made by the public has a substantial and demonstrable impact. And although it is termed *procedural justice theory*, in practice this principle encompasses the process of decision-making, which is related to both *procedural* and *structural* equity as they are defined above.

A final important caveat of this section is that we cannot assume that because a process is more equitable that the resulting outcomes will be equitable. In the terms I have described above, this means that procedural and structural equity do not necessarily lead to distributional equity. The hope for this project is that the improved processes combined with the genuine desire of UTA team members to create transit that meets the needs of the entire service area population will result in a fairer distribution of burdens and benefits. In other words, if UTA was better able to communicate with people who will be affected by Change Day changes, hear about the potential benefits or burdens of the change from those people, and then address the feedback based on what they know about the distribution of benefits and burdens of commenters and the regional population, then equity would increase.

In one real example where this was the case, UTA planned a service change that unintentionally disconnected a route from an essential resource for people who are visually impaired. There were several comments from people communicating to UTA that this change would be detrimental to their ability to reach this resource and UTA realized that this change was working against their goals to help people in the region access important resources. UTA was able to change the route to continue access to the resource. This is a good example of an ideal situation, but many others a more complicated balancing act for UTA team members whose goals of expanding access come into conflict with public comments.

2.3 Design Research & Methods: Participatory design, Co-design

Design research is a process of inquiry that can be used to better understand the needs, desires, and behaviors of users. The approach has become increasingly popular among non-designers as well as researchers in the design field.^{82 83} While other types of research may also involve studying human behavior and preferences, design research is unique in its focus on the needs and desires of people and helps researchers avoid making assumptions. The goal is to gather insights that can inform the design process and help designers create more effective interventions.

Design research can take many forms and there is a myriad of methods researchers use to gain insight.⁸⁴ Each method has its strengths and weaknesses, and there is often a combination of methods used to gather a comprehensive understanding of users and their needs.⁸⁵ Some of the methods used for this thesis work include research interviews, process mapping, workshop facilitation, and more. By understanding users' behaviors and desires, researchers can identify unmet needs and develop new products and services that address those needs.

2.3.1 Co-design and Participatory Design

The democratization of design refers to the process of making design accessible to everyone, regardless of their background or expertise.⁸⁶ This concept has become increasingly popular in recent years, as more people recognize the importance of design in shaping the world around us.⁸⁷ Democratization centers people who might not normally be involved in the design process, reminiscent, once again, of the idea of a citizen as an expert and designer as facilitator.⁸⁸

One way in which the democratization of design is achieved is through co-design and participatory design. By expanding who is involved in the design process, designers can create products and services that are more inclusive, user-friendly, and better meet the needs and desires of the people who will use them.⁸⁹ These approaches can also lead to more empowering design outcomes, giving people more control over the products, services, or design interventions that they will use. In the methods I used, participatory practices helped me better understand the needs and perspectives of UTA and their constituents to create more informed solutions that had a much higher chance of being utilized.

Co-design is a design approach that has become an important way to create more inclusive and user-centered design interventions with the designer as a facilitator as opposed to an expert or researcher. Co-design sessions create space for collaboration between designers and relevant and affected parties. In a co-design session, designers work together with one or more participants to identify needs, brainstorm solutions, and / or create prototypes. According to Elizabeth Sanders and Pieter Jan Stappers, co-design refers to “the creativity of designers and people not trained in design working together in the design development process.”⁹⁰ This approach values the knowledge and experiences of participants and recognizes that they have unique insights that will inform the design process.

Participatory design is a related approach that also emphasizes the involvement of relevant and affected parties in the design process. As defined by Spinuzzi, participatory design methods, “are always used to iteratively construct the emerging design, which itself simultaneously constitutes and elicits the research results as co-interpreted by the designer-researchers and the participants who will use the design.”⁹¹ Sanders discusses the ability of participatory methods to capture not only what people say and think, but what they do, use, know, feel, and dream.⁹²

There is some disagreement in design literature about the difference between participatory design and co-design. While some scholars position co-design methods as part of successful participatory design practice, others cite participatory design as more independent “reflection-in-action” and “mutual learning” for users and designers through the process.^{93 94 95}

In sum, participatory design and co-design are similar. Co-design and participatory approaches have been used in a variety of design contexts, including healthcare design, urban planning, and service design.^{96 97 98} In this work I will refer mostly to co-design, but view co-design approaches as part of a larger participatory design practice. I structured my approach to be iterative and reflective.

This is closely related to the discussion of citizens as experts, where, similarly, the goal is “elevating the voices and contributions of people with lived experience.”⁹⁹ Figure 5 depicts this shifting value system and shows how different design and research methods fall on scales of *led by design* to *led by research*, and *user as subject* to *user as partner*.

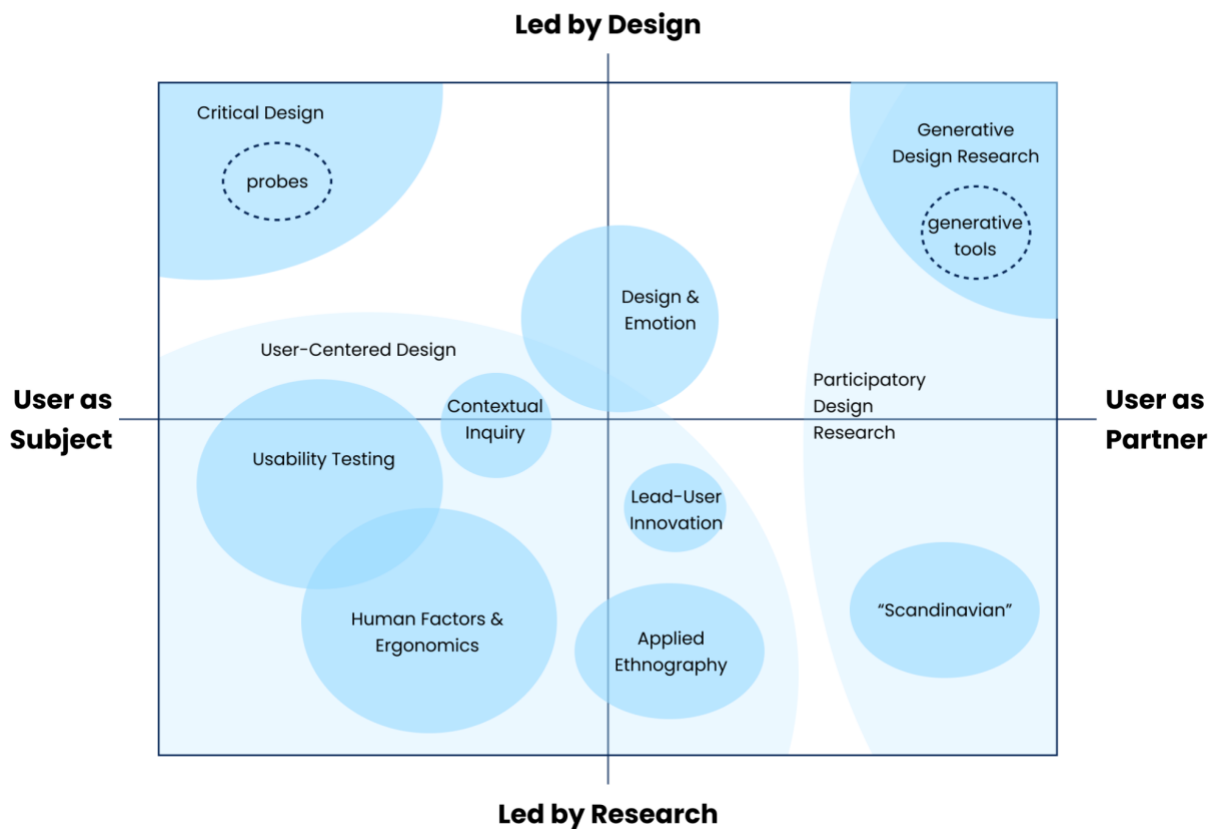


Figure 5. Current landscape of human-centered design research, adapted from Sanders & Stappers¹⁰⁰

2.3.2 Service Design

I would be remiss if I did not also mention the field of service design. Service design is a growing and emerging field that considers interactions and how those interactions can be designed to improve conditions.^{101 102} The work to reconsider UTA's processes and relationship with the public is very aligned. As Evenson and Dubberly put it, "designing for service is a process that brings together skills, methods, and tools for intentionally creating and integrating (not accidentally discovering and falling into) systems for interaction...to create long-term relationships between providers and customers."¹⁰³ This domain allows us to see the potential of design in the public sector beyond traditional conceptions of design as simply visual or graphic; service design is the space for purposefully investigating relationships and interactions. As Lara Penin puts it, "designers are indeed well positioned to not only improve service touchpoints but also contribute in policy formulations as part of multidisciplinary teams working to tackle complex social, political, cultural, and economic challenges."¹⁰⁴

2.3.3 Doing "Good" Design

In parallel to the caveat at the end of the previous section, this section likewise requires a disclaimer: just because it is participatory design or co-design does not automatically mean it is equitable, ethical, or *good*. Many scholars have wrestled with this notion. Simmons introduced the concept and category of "just design"—design to address social issues—by publishing examples from the professional design community.¹⁰⁵ Costanza-Chock developed ten design justice principles to rethink traditional design processes.¹⁰⁶ Udoewa revisits participatory design and posits instead the meta-methodology *radical participatory design*.¹⁰⁷ Goodwill names five forms of power to help those in an agency context share decision-making power.¹⁰⁸ And McKercher identified four key principles for co-design.¹⁰⁹ (See Appendix for more on these listed resources.) Considerations to do this work in a way that acknowledges and adjusts for power dynamics are many. And often, should designers do it right, we may eventually, and successfully, work ourselves out of a job.

2.4 Theoretical frameworks: Participatory Action Research & Activity Theory

Two theoretical approaches help underpin this work and further situate this project in design research literature. Participatory Action Research (PAR) is a theoretical approach that aims to empower communities by involving them in the research process.¹¹⁰ Activity theory is another theoretical framework that is based on the idea that people and systems are interconnected and that human activities are shaped by their social, cultural, and historical context.^{111 112} Both theories are relevant to this thesis work based on the relevant methodologies and approaches described previously in this section.

PAR recognizes that people have valuable knowledge and experiences that can inform research and drive interventions. By involving relevant and affected parties in this work, and emphasizing the value of their knowledge I have been able to gain a better understanding of the needs and perspectives of UTA's constituents and develop solutions that are more relevant and effective for them. PAR also helps identify systemic issues and barriers that could prevent the success of design interventions.

Activity theory is particularly useful to analyze and understand human behavior and the systems in which they operate. Because UTA is an agency that has many systems and processes and exists in the context of a large metropolitan region, it is important to take external factors into account. By understanding the context in which users interact, designers can better identify opportunities for innovation and improvement. Activity theory can also help develop interventions that better align with users' goals and motivations, which can lead to more effective and satisfying design outcomes.

In short, PAR is about engaging and valuing the contributions of people involved in the situations we seek to change, and activity theory is about acknowledging the broader systems and context with which people are situated. This project engages with both.

2.5 Design Toolkits for Public Sector Work

Lastly, it is important to examine the existing precedents for design toolkits that address public sector challenges. Design toolkits are collections of materials, methods, and techniques that people can use to guide the design process and facilitate collaboration.¹¹³ This could include resources, materials, or templates for public sector innovation or change.

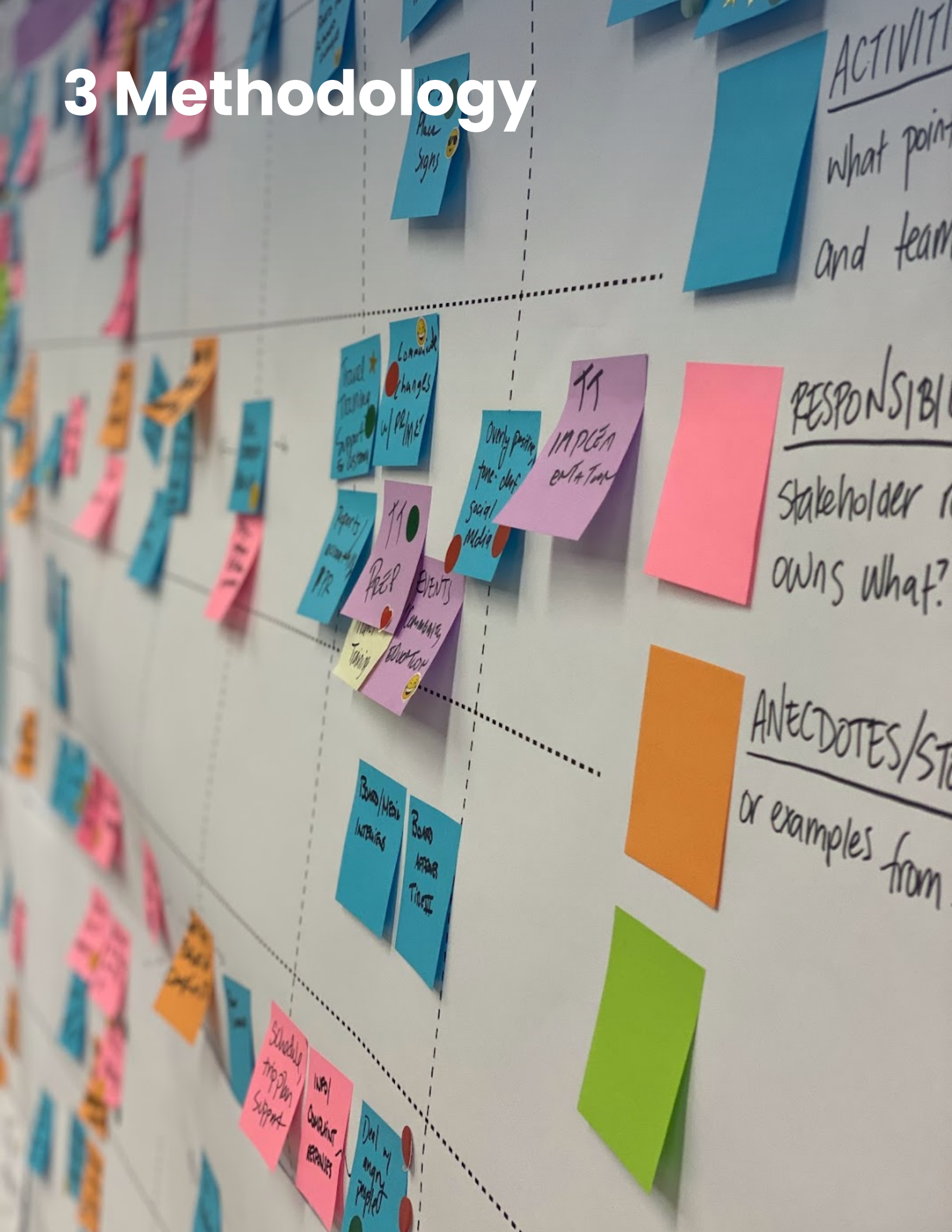
IDEO's Designing for Public Services toolkit is a good example of a resource aimed at helping people in the public sector generally learn more about employing user-centered design in their work.¹¹⁴ General resources, such as these, commonly explain how to integrate design methods into the public sector and typically are set up to help users identify their own problems and give design methods for how they might solve them.

The Observatory for Public Sector Innovation (OPSI) is another resource for public sector tools.¹¹⁵ The online hub catalogs hundreds of toolkits and other types of resources from numerous organizations. Related examples include the U.S. Public Participation Playbook, The Service Design Playbook, and the Public Problem Solving Canvas.^{116 117 118} The Community Engagement Process Development Public Participation Playbook is an especially pertinent example of work similar to the aims of this thesis, but unlike this thesis it was translated into a strictly digital artifact that is not interactive.¹¹⁹ These resources range in terms of specificity, breadth, and depth; some are PDFs that are hundreds of pages long, others are plug-and-play websites.

Thirdly, the Langdon Group's Project Outreach Planner (POP) is an example of a tool that UTA already uses as inspiration for their engagement planning.¹²⁰ The POP consists of questions a user can answer in order to get a score, which they can then use to determine strategies for outreach. This demonstrates the adaptability of users and toolkits in the right circumstances.

Overall, there are a myriad of resources, toolkits, and strategy guides. A challenge of all these resources is cutting through the noise and finding specific, tailored, relevant guides. Many resources might be general, vague, or too broad for practical implementation. By creating a UTA Change Day toolkit that is specifically designed for one purpose (to improve the relationship between UTA and the public as it relates to Change Day), my goal was to develop something that was timely, relevant, and useful in a specific context. For this toolkit to be more widely applicable, further research would need to be conducted into how to adapt it to similar service change timelines at other transit organizations.

3 Methodology



“Participatory experience is not simply a method or set of methodologies, it is a mindset and an attitude about people. It is the belief that all people have something to offer to the design process and that they can be both articulate and creative when given appropriate tools with which to express themselves.”

– Liz Sanders, From User-Centered to Participatory Design Approaches

3 methodology

3.1 Methods

3.2 Data Collection

3.3 Participant Recruitment

3.4 Analysis & Synthesis

3.5 Limitations

Design problems are often encountered through an intentional process of discovery. Thus, several phases of co-creative, qualitative research methods enabled me to define a particular challenge and research question within UTA; learn more about the selected problem (Change Day public input); and work with stakeholders from UTA and the local community to develop and refine potential solutions. Because Change Day is inherently about a relationship (between UTA and the public), I continued utilizing a series of qualitative methods to further explore the challenges and to assess solutions. This was appropriate to my project because qualitative methods—and especially generative, purposeful methods—enable interaction and honor unique contributions and perspectives in a way that quantitative research cannot. Therefore, a qualitative and relational research methodology is best aligned with a study about supporting and improving relationships. Moreover, co-creation design methodology is a qualitative approach that empowers participants to lead the process and own their lived experiences as essential expertise.

3.1 Methods

My primary method of discovery was in-person workshops with UTA and members of the public, although due to time and distance constraints, I also deployed a variety of remote and virtual qualitative methods. Most of the methods I selected were chosen with an emergent approach: they were determined in response to the results achieved in earlier phases of the research. As my understanding of the problem progressed, I made specific decisions about which methods to use in subsequent phases. Figure 6 shows the different methods incorporated into my research methodology.

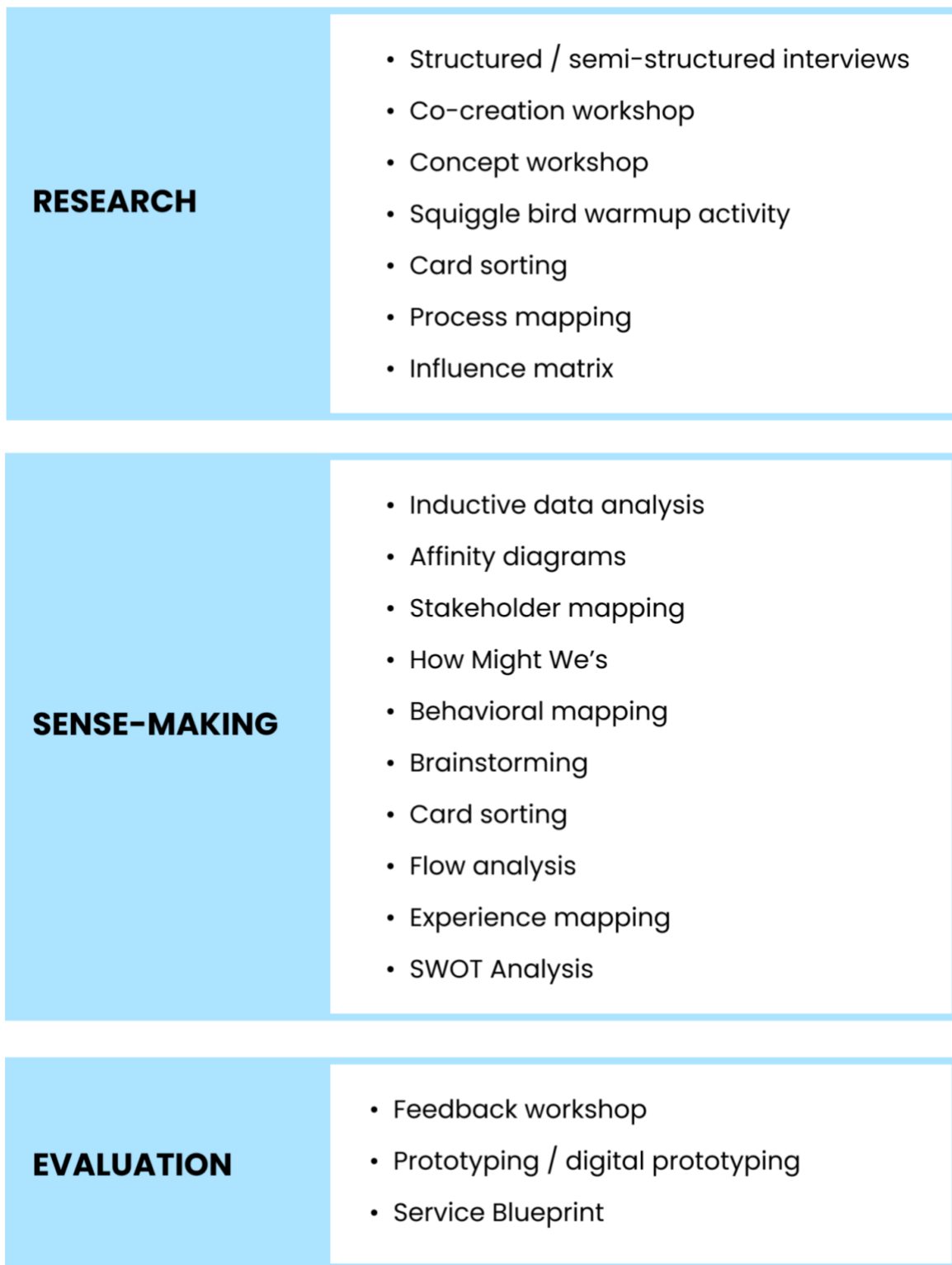


Figure 6. *Methods*

Selecting and tailoring specific methods to my partner-participants enabled my research process to be flexible, co-creative and iterative. This section describes the purpose of each method I used and explains their origins. The results section elaborates more on these results and contains detailed learnings.

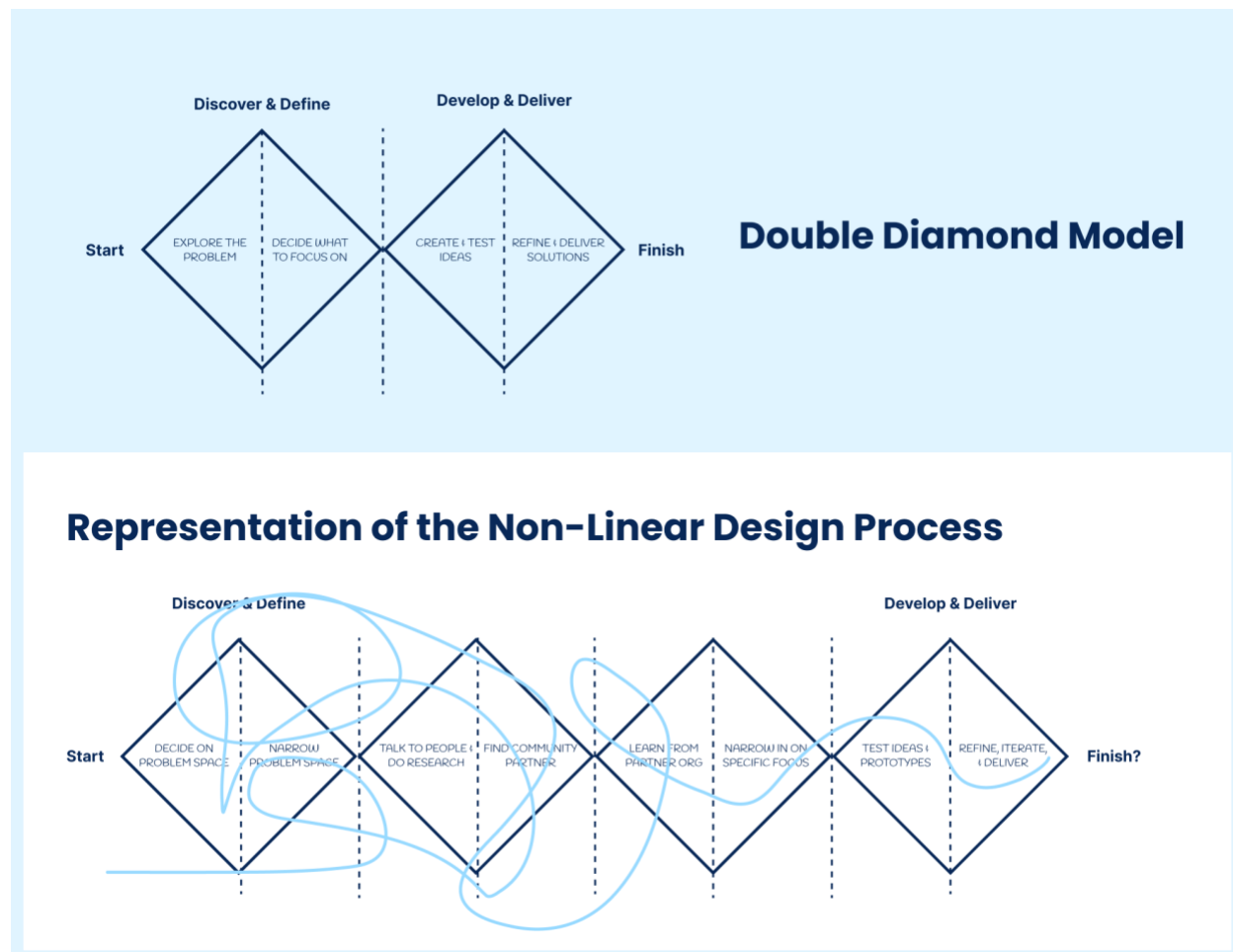


Figure 7. Adapted from Design Council UK and Damien Newman's *Design Squiggle*^{121 122}

Many authorities on design, such as the Design Council UK, discuss design happening in progressive phases, such as discovery, definition, development, and delivery, otherwise known as the *double diamond model*.¹²³ While my project followed this general trajectory, the design process itself is not linear (see Figure 7).¹²⁴ In working to facilitate a participant-led design process, there are twists and turns along the way. The methods I used were primarily deployed through a series of three workshops: Workshops one and two took

place with internal stakeholders from various departments within UTA; Workshop three took place with members of the public within the UTA service area.

3.2 Data Collection

The beauty and the challenge of co-creative qualitative methods is that they generate their own data. With the exception of interviews, the activities in Figure 6 result in rich amounts of participant data in the form of notes, sketches, and diagrams. In addition to photographic documentation, I preserved these artifacts in my workspace for ongoing study and analysis. I also utilized note-takers to capture comments during the discussion periods within each workshop.

3.3 Participant Recruitment



Workshop one included 13 UTA team members who were recruited primarily through Megan Waters, the UTA community engagement manager who was my main point of contact at the organization. For Workshop two, which was also for internal UTA team members, there were 17 participants, similarly recruited through Megan Waters as well as through word-of-mouth from the previous workshop. For Workshop three, which was for members of the general public in the area served by UTA, 22 participants were recruited for two in-person workshops by reaching out to community councils, contacting a local newsletter, getting in touch with individuals I had spoken with during the research process, and asking both UTA and the Salt Lake City Council to publicly promote the sessions on their social media accounts (see Figure 8). In recruitment I opted to ask participants a few

questions upon registration to determine diversity of participant area (zip code) and previous experience giving feedback to UTA.

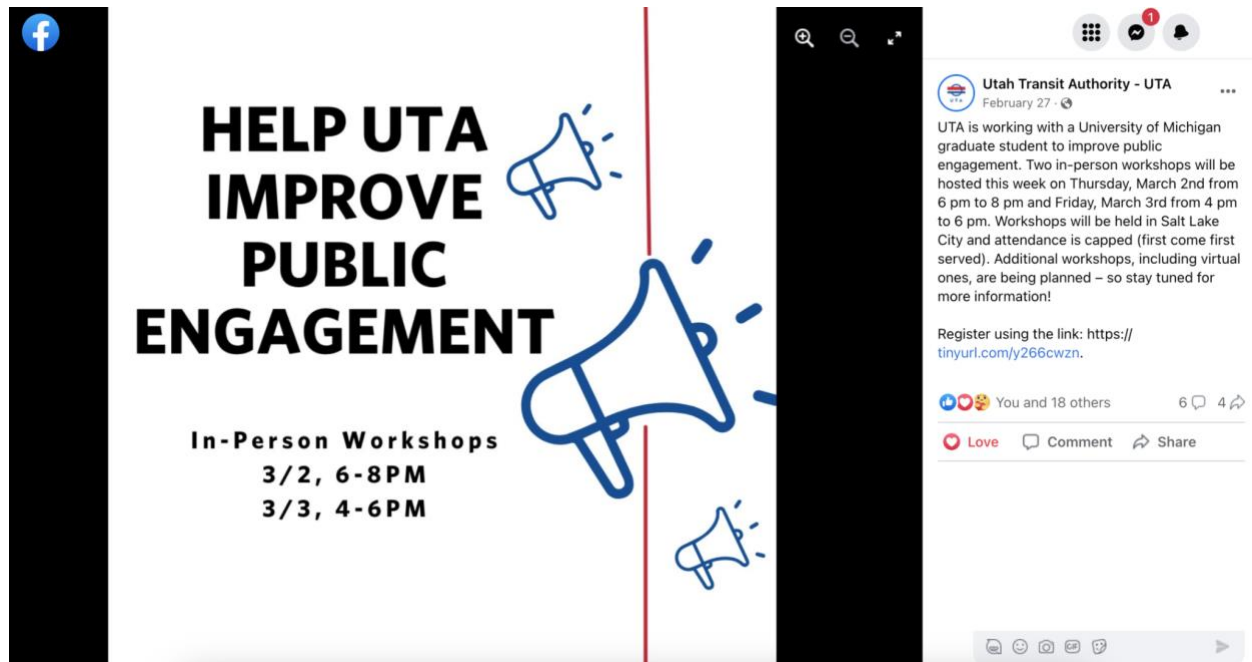


Figure 8. Example of social media recruitment post

3.4 Analysis & Synthesis

Many methods were used to analyze and synthesize the research findings gathered during interviews, workshops, brainstorming and more. Qualitative data was analyzed inductively for patterns, recurring themes, and key insights using categorization, affinity mapping, and summary documentation.¹²⁵ In other words, the analytic strategy was bottom-up and themes emerged from the research. Other tools, such as How Might We questions, process mapping, flow and SWOT analysis, and service blueprinting were used for sensemaking. Sensemaking is the internal and external process of making sense of complex ideas and forging connections that help designers consider intricate problems in new ways; it is highly dependent on the perspective of the designer.¹²⁶

3.5 Limitations

During this thesis project, there were several limitations that had an effect on the process and where the project “ended” based on the academic timelines imposed.

Because this work needed to meet a deadline, there was a constant tension between moving at the speed of trust and completing the project enough to fulfill program requirements. The relationship between designer and partner organization was prioritized above all else, a decision which may have resulted in slowing the project down in some ways but increasing trust and capacity in others. I anticipate similar timelines in future work and was able to learn a lot about balancing these aspects of a project. Relatedly, limited resources such as womanpower and funding-money also influenced what I was able to accomplish.

It is important to acknowledge positionality as an additional limitation, according to a post-positivist paradigm, there is no objective truth and this project, and the research herein are colored by my unique worldly viewpoint.¹²⁷

In doing workshops with community members, casting a wide net was good for this project timeline, but being able to focus more on specific communities would have likely been a better way to hear viewpoints, and generalize less about the entirety of the Salt Lake community. As was reflected in participation literature, there should always be concerns with who can and cannot attend voluntary meetings, consisting of a self-selecting population.¹²⁸ I hoped to mitigate some of this self-selection bias by providing participants with compensation to offset some of the opportunity costs of attending a workshop.

The issue of low participation in the comment period was beyond the scope of this study, which focused primarily on internal communication and procedures to address how feedback is collected and implemented. Therefore, it would require further time and study to assess how the approaches proposed within the toolkit would serve UTA if they were able, in the future, to substantially increase public participation in the comment period. Currently, only about 0.29% of the UTA's daily ridership contribute comments during the Change Day public comment period.^{129 130} Hopefully, with the increased data collection proposed in this work, UTA will be able to better assess who is giving comments and continue to further address gaps.

4 Design Process



“We shouldn’t expect the general public to become transit experts in order to comment...if you don’t know certain things about the system you don’t know what’s happening.”

– UTA Planning Team Member

4 design process

4.1 Discovery: Interviews & Remote Collaboration

4.2 Workshop One: Problem Definition around Change Day, with UTA

4.3 Workshop Two: Development Phase & Concept Prototyping

4.4 Workshop Three: Involving the Public

4.1 Discovery: Interviews & Remote Collaboration

In design, the role of discovery, or obtaining new knowledge throughout the process is critical to framing problems and thus seeing the set of possible solutions. According to Schön, “as the design progresses, new knowledge about applicable structures emerges...new knowledge may help to reveal inconsistencies in the existing problem specification, and eventually lead to a new understanding of the problem.”¹³¹

Conversations and research interviews were important throughout the project process to obtain information, context, and feedback. In the first phase of research, I conducted numerous structured and semi-structured interviews to continuously scope and problem frame.

Interview participants included people in other transit agencies aside from UTA, to learn more about community engagement practices in general, and folks in the Salt Lake Metro Area, who could help me better understand the regional transit landscape (see Appendix for full list of discovery research interviewees). Most interviews were conducted using video conferencing and a short question guide I developed beforehand (see Appendix for question guide example). The questions were helpful as discussion points, but I prioritized participant-led conversations over asking all the specific questions I had pre-defined.

Working with a partner in a different U.S. state had its challenges. Meeting virtually typically worked well but wasn't always smooth and the lack of face-to-face interaction meant that trust was slower to develop. I also was unable to attend ad-hoc events or familiarize myself with people without coordination. Overall, I was able to work well with members of UTA and others I engaged with virtually, but I know there likely would have been a lot more relationship building if I had been located locally.

4.1.1 Partnering with Megan Waters, UTA Community Engagement Manager

The UTA community engagement manager, Megan Waters, was an especially important and key partner in this research. As my main point of contact with UTA and the lead of most UTA community engagement initiatives, Megan and I worked closely over many months. She and other members of UTA, helped shed light on the scope of the community

engagement team, the top priorities for engagement, and challenges when it came to UTA's relationship with the public.

In this discovery phase of research, I began using Miro, an online whiteboarding tool, during meetings with Megan, as a more collaborative way to visualize some of the processes we were discussing and ensure the notes I was capturing were accurate (see Figure 9).

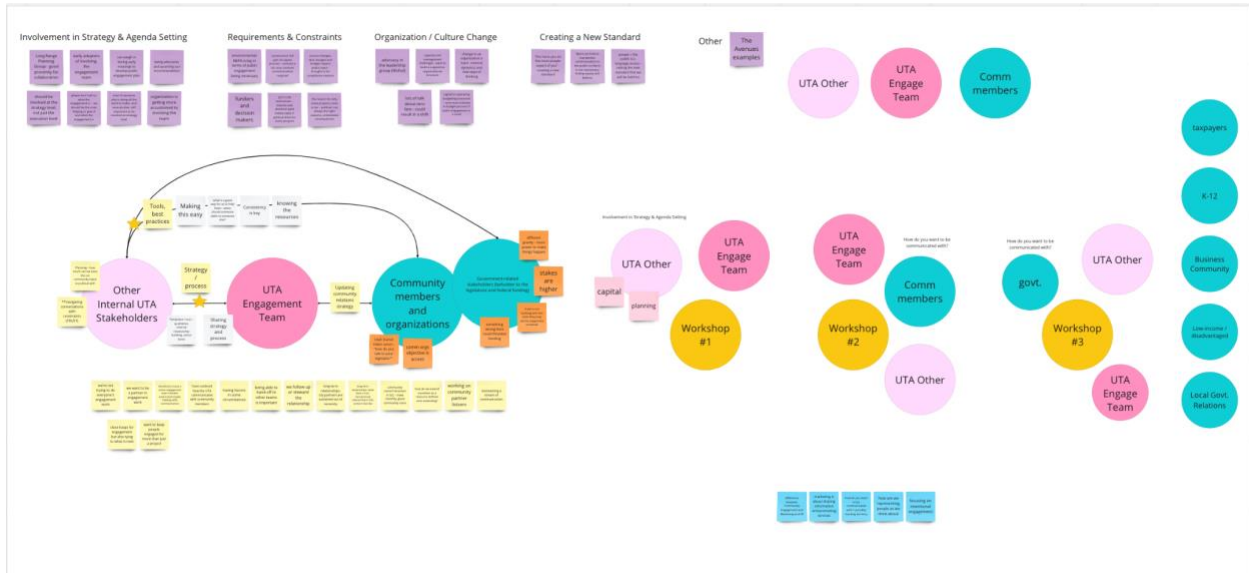


Figure 9. Miro screen capture from collaboration with UTA Community Manager, Megan Waters

Early interviews with Megan and her colleagues revealed the triannual transit service update, Change Day, as a common and pervasive pain point within the agency. In designing a workshop to learn more from UTA team members, I decided to structure it to help me learn more about Change Day.

4.2 Workshop One: Problem Definition around Change Day, with UTA

In design, defining the problem to be solved shapes the way designers and collaborators view the potential solution space for that challenge. This is why language and frameworks such as the word *interventions* (as discussed earlier) or the *How Might We* framework prove to be so helpful: they aid designers in not constraining the potential solution space too early in the process.¹³² According to Daly et al., “designers must define the size and scope of these spaces, and this definition evolves throughout a design process.”¹³³

The workshop I created to learn more about Change Day and better understand UTA Change Day engagement processes centered around collaboration, knowledge-sharing,

and getting a better idea of the problem landscape. The four-hour workshop included thirteen UTA team members from across the organization in departments such as community engagement, service planning, strategic planning, and continuous improvement. Team members participated in a warmup activity, three structured activities, and a wrap up discussion.

Workshop one goals were to:

- Understand UTA team perspectives about how Change Day can better leverage community input to improve service delivery
- Understand current the processes around Change Day and the role of participation (how input is gathered and how it is used for service change decisions)
- Understand perceptions on challenges and successes within current processes
- Gather team ideas on how to improve the participation and Change Day processes
- Develop ideas for how the input process can be improved for UTA to better incorporate feedback from the public
- Generate buy-in for UTA Change Day process change

Care and consideration went into designing the workshop; each activity had a clear purpose that related to the workshop goals. The workshop was a cornerstone of my project; careful planning led to key insights and buy-in that would last for months.

4.3 Workshop Two: Development Phase & Concept Prototyping

When conducting research, developing ideas, testing concepts, and using prototypes as a vehicle for inquiry is a hallmark of design. Macmillian et al. describe this phase as “typically vibrant, dynamic and creative – and a time when decisions with fundamental and extensive effects on appearance, performance and costs are made.”¹³⁴ This was true for this project; the development phase resulted in several versions of different concepts, tested in a range of formats.

For the first iteration of prototyping, the solutions I designed were meant to stand alone as separate tools UTA could use directly in their processes. I developed eight prototypes in total to bring to UTA team members for feedback during the second in-person workshop. A prototype is a physical manifestation of an idea or concept.¹³⁵ In this case, digital components were also developed and tested.

In creating first-round prototypes I aimed to make them well-informed but knew they would not be perfect without further contributions from relevant parties. Thus, instead of spending more time attempting to research and perfect the details of the content on my own, I decided to engage in another round of co-design. To accomplish this, I quickly created two notification strategy prototypes, a prototype comment form, four notification

documentation prototypes, and a prototype follow up card deck plus follow up framework that communicated key ideas and processes about Change Day, but with preliminary content. Because of my prior interactions with stakeholders from various internal UTA departments, I realized that inviting UTA team members to come together to help craft and evaluate these prototypes and their content was essential to the adoption of new processes. In other words, inviting UTA to help create solutions to their processes around Change Day would increase the likelihood that the solutions would be operationalized.

4.3.1 UTA Team Members Explore Prototypes

During the two-hour workshop, UTA team members explored each prototype and were encouraged to discuss them both as a full group and as smaller breakout groups. The workshop was designed to be casual and open-ended. I gave a short overview of my observations about the challenges UTA faced with public engagement and then distributed printed prototypes for feedback. Because they were printed on paper, team members were encouraged to write on the prototypes, use sticky notes to make comments, and constructively discuss the artifacts in front of them. This process helped me better understand what worked well, what could be improved, and provided more specificity in terms of language.

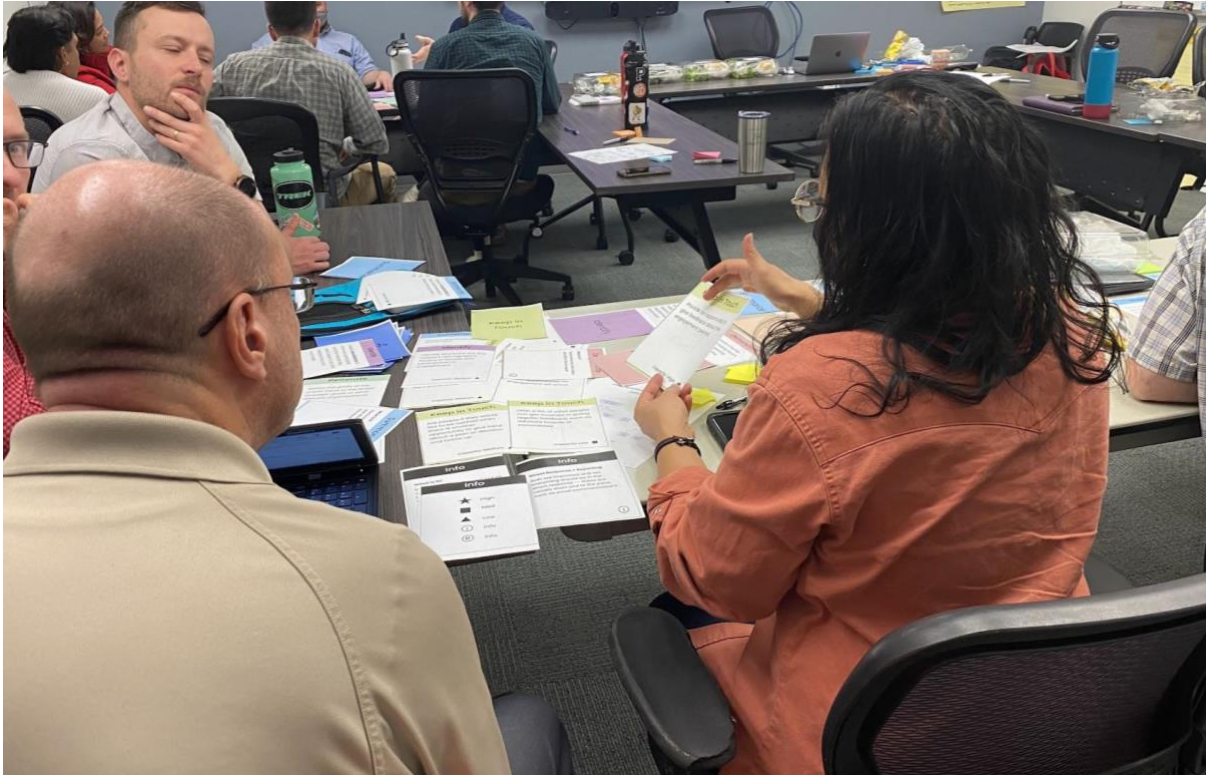


Figure 10. Image from the concept development workshop with UTA

The goals of the workshop were to start conversations about content and learn what formats best suited the processes they aimed to affect.

4.4 Workshop Three: Involving the Public

In examining the relationship between UTA and the public, learning more about how the public views UTA and Change Day enhanced the project outcomes. Because the relationship in question is that between UTA and *the public*, I determined that the public should be involved. However, in designing workshops for members of the public, it was essential to remember that the final design interventions were being created to improve internal processes within UTA. Therefore, information derived from the public workshops would not be used to directly create a design intervention for the public. Instead, I was looking for public input on a design intervention that would evolve internal processes that ultimately affect the public.

A primary challenge for these workshops was deciding when to engage members of the public; engage too early and risk having an unfocused discussion where insights are irrelevant to final project outcomes, engage too late and risk there not being enough time to apply learnings. I decided to conduct workshops later in the project to minimize the risk of the former but aiming to still have enough time to implement learnings.

I held two in-person workshops with members of the Salt Lake Metro Area general public, hosted at the Salt Lake City Public Library Main Branch (see Figure 11). Both workshops were identical in structure, the first was attended by 16 members of the public, the second had 6 attendees. Participants who attended the in-person workshop were compensated \$50 for their time.



Figure 11. Salt Lake City Public Library, Main Branch

The purpose of these workshops was to understand, from the public's perspective, how communication with UTA could be improved. Goals were to:

1. Pilot and vet the public input comment form prototype as a mechanism for input collection using a staged scenario of using form so that people could give feedback based on the relevant context
 - a. Understand how the online commenting process can set members of the public up for success for Change Day input and further help set expectations for how comments are used and what will happen next
 - b. Understand what people would like the UTA to know about them when they give feedback
 - c. Understand how UTA can better communicate their goals and process when asking for public comment for Change Day
 - d. Formulate additional questions that are meaningful to the public and are useful for the UTA's planning process

2. Understand what makes follow up from UTA after a Change Day comment period feel successful, thus helping people feel heard, satisfied, and validated
 - a. Understand how much of the decision-making process should be visible or made available to the public
 - b. Learn about how to successfully convey decisions that are based on factors aside from public input, especially when decisions feel unpopular based on input
 - c. Understand what successful “follow up” or “closing of the loop” means to members of the public
 - d. Understand what is most important to members of the public when they are followed up with and what contributes to feeling heard and satisfied

The public workshops consisted of several activities and discussions. As participants arrived they were invited to place dots on a large, printed map to indicate the area where they lived and the area they most wanted to be able to go using public transit. To begin the workshop, I used the same warm up activity as in the first UTA workshop, *Squiggle Birds*, to encourage psychological safety and fun. I gave an overview of workshop goals and then gave appropriate contextual information about Change Day. The first group activity was to look over a prototype comment form I created and then discuss prompted questions in small groups. Next, there were two brainstorms that asked participants to consider what makes follow up efforts feel *unsuccessful* and what makes them feel *successful*. Next was a card sort activity, where participants were asked to choose and prioritize five cards, out of twenty, that represented what was most important to them when it comes to follow up communication from UTA. And finally, there was a facilitated group discussion about how to communicate constraints and how people should be able to find out about and access public comment opportunities.

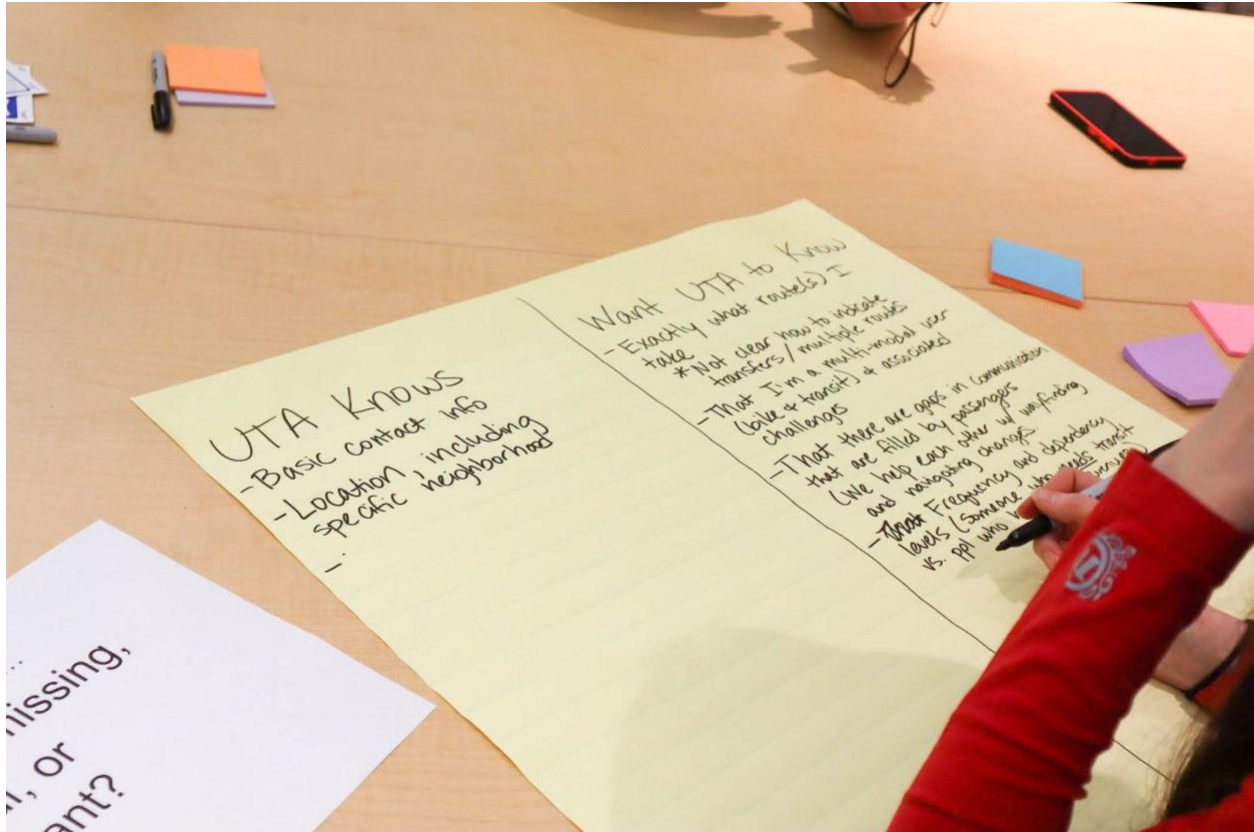


Figure 12. Image of the public workshops

In addition to the in-person workshops I also hosted a virtual workshop that, unfortunately, was not successful in garnering engagement or spurring conversations between participants. Of the five attendees only one chose to speak. Based on the low levels of participation, the workshop ended early. Participants were compensated \$20 for their time.

5 Results & Findings



“Everything we do impacts the public, we are spending public money, we are creating public service, so what is our responsibility to keep people informed about it? I think that is what this helps with.”

– Megan Waters, UTA Community Engagement Manager

5 results & findings

5.1 Findings, Insights, & Design Values

5.2 Analysis of UTA Change Day Workshop

5.3 Service Blueprint

5.4 Co-creation Through Iteration

5.5 Design Toolkit

The process of working with UTA proved that UTA team members care deeply about and value public input. And based on my experiences with other transit agencies, the sentiment is similar for other public agencies. This helped me in realizing early on that the question isn't *do we care what the public thinks?* but instead, *how do we prove we care what the public thinks and act on it?* Participation scholars, Nabachi and Amsler, came to a similar conclusion in that the question is not whether the public should be involved in governance, but rather how and to what extent.¹³⁶ As I developed a toolkit for the UTA, this was where I hoped to add value: creating a way to help demonstrate care for public input and implementing process improvements to act on it.

It would be naive to think this project and the interventions herein are a silver bullet for making everyone completely satisfied when it comes to engaging the public—opinions are diverse, transit planning is complex, and the stakes are sometimes very high. But once we've decided that public input should be acted upon and foundational processes begin to get built, practitioners can continue to grow improved public engagement practices.

Improving processes isn't just putting final decision-making power in the hands of the public, especially when it comes to public agencies that are responsible for large regions with huge populations. Instead, as the scholarship reviewed for this research shows, improvement can encompass inclusion, transparency, and accountability. Thus, we can create systems that are better attuned to listening to the public while growing equitable practices.

5.1 Findings, Insights, & Design Values

5.1.1 Key Finding & Insights

There were many important findings and insights that resulted from inductive analysis and synthesis. These findings helped direct each step of the research and design work, so that the design responses could evolve alongside the framing of the challenges. A few key insights that stood out and had an outside effect on the project direction are described below.

In learning more about UTA, I quickly realized that internal and external communication were areas that led to Change Day challenges. Externally, UTA struggled to communicate constraints to the public during Change Day comment periods. Team members reported that the public wasn't always aware of the tradeoffs one needs to make to plan transit and that many Change Day comments did not fit within the scope of Change Day planning efforts. Internally, UTA teams seemed to have disparate knowledge about Change Day that made it difficult for them to understand and thus communicate with the public about why changes were occurring.

Another finding that became clear was that UTA blended digital and physical work. Often posted around the office there were maps and other physical ways of working, but laptops and digital communication was also essential. Team members communicated that for anything physical to have longevity within the organization, it would need to also have a digital component. Digital formatting also helps with documentation and memorialization.

Like the importance of digital components, having flexibility was another element of a potential solution identified as key. UTA team members explained the changing nature of public engagement and how different efforts might require different strategies. It was noted that internal capacity also changes; what the UTA team might be able to do during any given engagement would depend on other factors.

Lastly, UTA team members spoke about the timeline constraints of Change Day. Many people inside and outside of the organization expressed that the Change Day public comment period felt too late in the overall process to be as effective as possible. As briefly mentioned earlier, moving the public comment period and reconfiguring the Change Day timeline was out of scope for this process, but is a recommendation for UTA as teams continue to evolve their processes.

5.1.2 Design Values

Throughout the design process, in addition to synthesizing insights and identifying emergent themes, it also became helpful to define the values that were guiding co-creation. By defining design values, I could better articulate what would be important in design solutions and be purposeful about decisions. In their discussion of value sensitive design, Friedman and Hendry explain that “all technologies to some degree reflect, and reciprocally affect, human values...actively engaging with values in the design process offers creative opportunities for technical innovation as well as for improving the human condition.”¹³⁷ This exercise in crafting design values was both useful and aligned with my desire to be an ethical design practitioner working to build just practices.

DESIGN VALUES

- 1 Manage expectations:** Help members of the public understand what is currently happening, what will happen and why
- 2 Demonstrate impact of input:** communicate decisions and outcomes, show where public input could factor into decision-making, demonstrate how community member input was implemented
- 3 Embody of UTA values:** safety, integrity, empowerment, inclusion, accountability, and teamwork
- 4 Aid in translation:** create ways for comments to turn into input that is heard, received, and perceived as legitimate

5.2 Analysis of UTA Change Day Workshop

The first workshop with UTA was designed to better understand Change Day. Activities were shaped around what I already knew about the public input process but were left open ended to encourage knowledge sharing. I hoped to hear UTA team member perspectives about how things worked and what could be improved.

The general outcome of the workshop was a much stronger understanding of Change Day processes. Additionally, the four-hour session was successful in gaining buy-in from team members, bringing teams from across the organization together, and facilitating a constructive dialog. The following section further delves into the workshop activities and some of the important learnings from each.

5.2.1 Warmup

The warm-up exercise was called *Squiggle Birds* and was designed to be a low-stakes activity where each person must practice suspending judgment of themselves and others.¹³⁸ Warm up activities are an important way of getting everyone ready for an interactive workshop where they will be asked to share and collaborate. *Squiggle Birds* is especially useful for encouraging psychological safety. By allowing participants to create something that is messy and silly, everyone practices suspending judgment of themselves and others. The activity requires everyone to build on someone else's work, making it also a team game.

Squiggle Birds encourages creativity and openness while also building camaraderie. Importantly, this type of activity prepares participants for the process of co-design.

The exercise was successful in encouraging an open environment and energizing participants. By the end, UTA participants were laughing at the birds produced and the room felt much lighter and more open.



Figure 13. UTA squiggle bird gallery

5.2.2 Change Day Process Mapping

For the first Change Day workshop activity, I split participants into three assigned groups, created to mix UTA team members with those from other teams in the organization. Each group was given a large grid template to work on; relevant and affected parties in the Change Day process were listed on the left side of the chart, and a timeline went across the top (see Figure 14). Participants were asked to fill in gaps if any relevant groups were not represented or if the timeline was not accurate. Groups could draw, write, and color on maps.

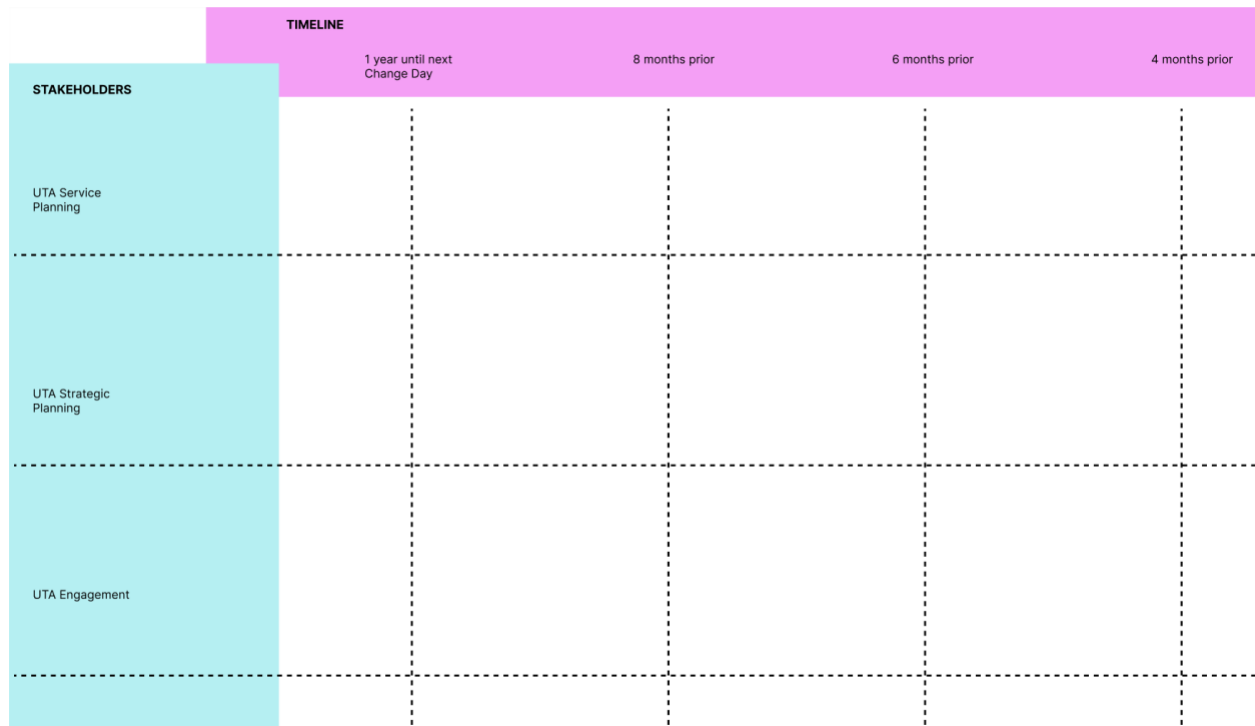


Figure 14. Change Day process mapping activity grid snippet

Participants were asked: What comes to mind when you think of Change Day? Using sticky notes, participants filled in the map with activities, responsibilities, and anecdotes that were important to the Change Day engagement process, as well as any other relevant additions. Participants were given about 30 minutes to build out their maps in teams. After time was up, each group presented their map in 3 minutes, highlighting key elements.

Finally, individuals were asked to look more closely at the maps around the room. Using 12 sticker dots of four different colors, each person voted to show what notes they thought best represented each of four categories:

- Blue Dots: Where decisions are happening
- Green Dots: What is working, positive things, successes
- Red Dots: Biggest challenges and barriers
- Yellow Dots: Biggest opportunity areas

Participants were invited to use optional emoji stickers to show the feeling of a certain note or star stickers to show something they were in strong agreement with.

This activity was designed to get a sense of the overall Change Day process, identify challenge and opportunity areas within current practices, allow participants to see gaps or

activities they otherwise might not be aware of, and mix internal team members for maximum information sharing.

Process mapping resulted in three maps. To synthesize the vast amount of information from the charts, I combined the information into one map (see Figure 15), created affinity clusters, and analyzed trends. The colored dots and other stickers participants used to mark important moments in the process were instrumental in understanding where there was agreement or shared frustration and the map itself became an outline of the Change Day process, which was synthesized down into a process summary (see Figure 16).

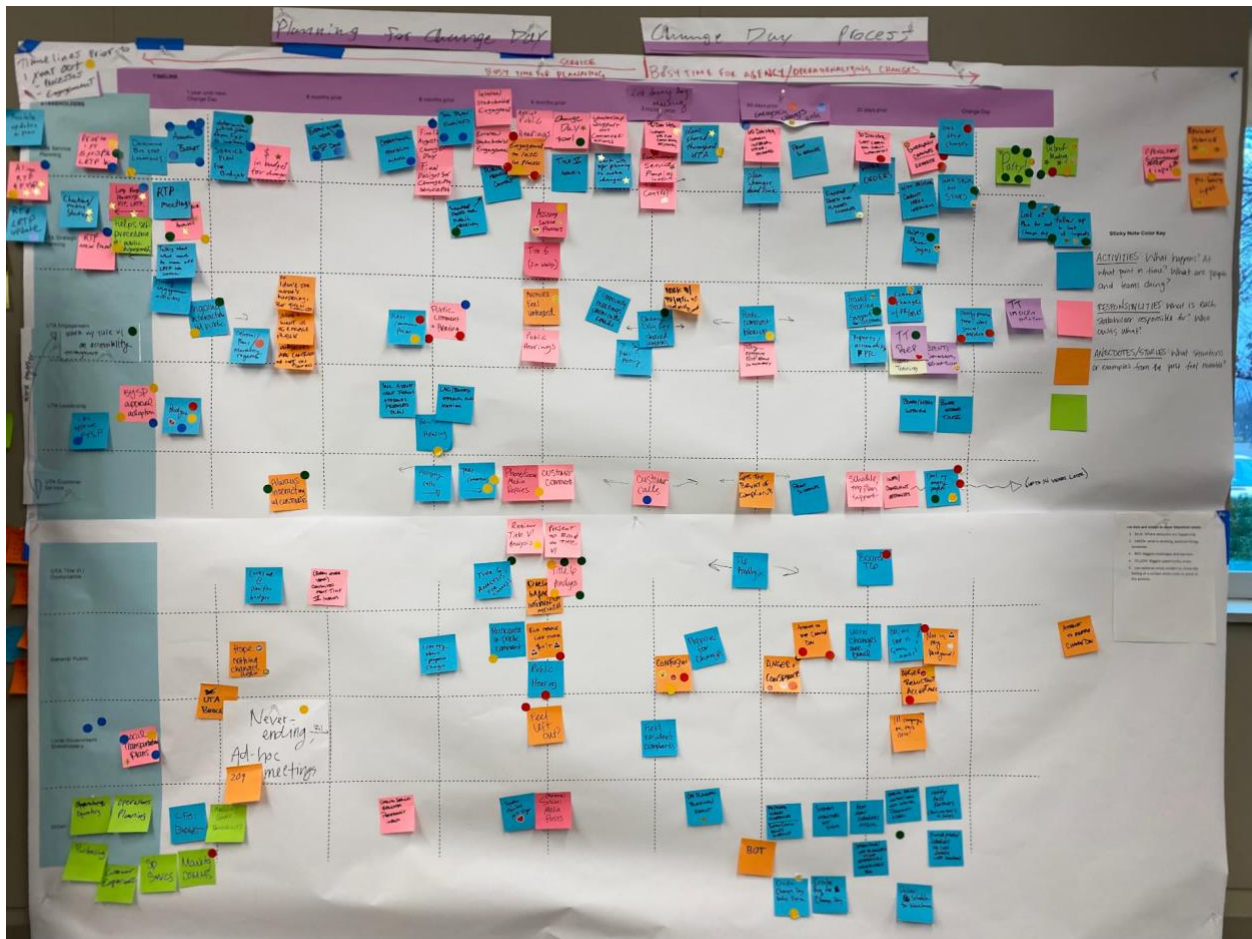


Figure 15. Image of combined process map

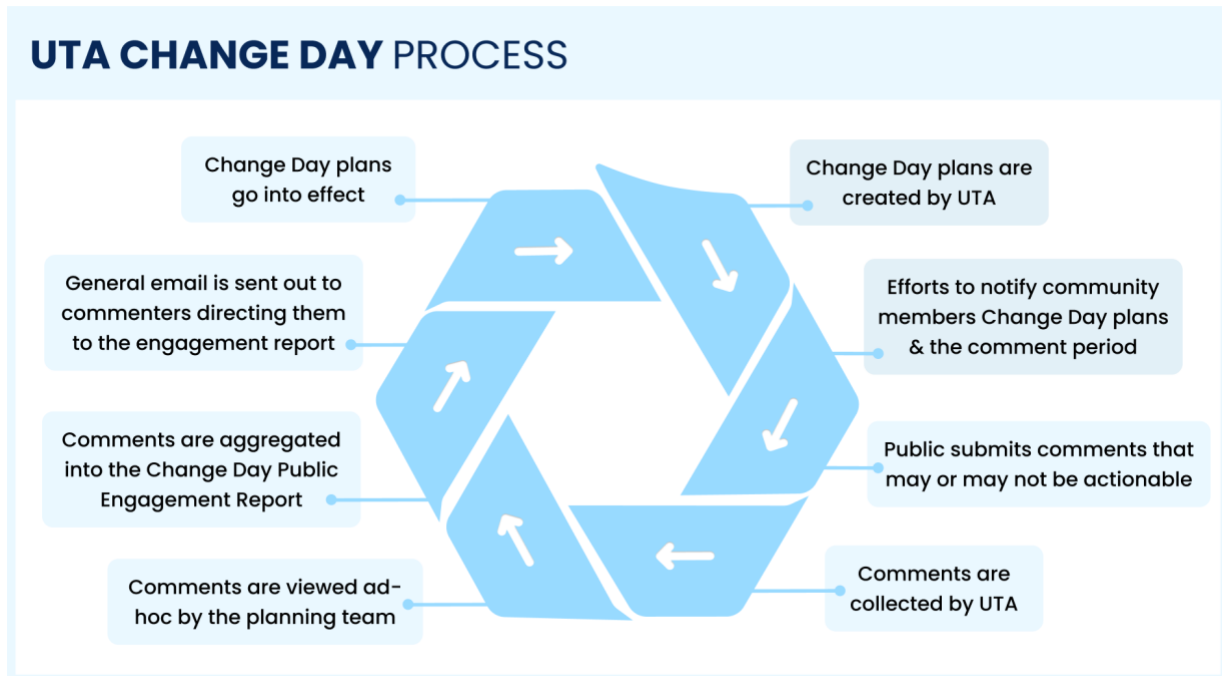


Figure 16. Summarized Change Day public input process

The analysis revealed that the most successful and positive moments of the Change Day process currently occur near the end. These moments include the post-Change Day party, the Change Day debrief, looking at the plan for the next Change Day, and looking back at the impact of changes. While these moments provide an opportunity for reflection, celebration, and learning, they also highlight the stark contrast between the parts of the process that involve the public.

Additionally, most key decisions related to Change Day are made at least four months in advance. These decisions include long-range planning, annual budget allocations, local government decisions, and service plan finalization. This suggests an opportunity to clearly communicate scope to the public and ensure there is clarity about how and when decisions are occurring.

The biggest challenge identified by the UTA team was difficulty communicating with the public. This was reflected in the majority of red-sticker votes (representing challenges), which cited public confusion and anger as a significant barrier to the success of Change Day. The analysis also identified what UTA team members saw as opportunity areas, including taking public comments and interaction with the public into account. This alignment demonstrated that UTA both saw the issues with the current engagement processes and viewed these issues as opportunities to engage more constructively.

5.2.3 Success Brainstorm

The second activity with UTA team members was a success brainstorm. Participants were asked to think about what a successful Change Day would look like and feel like, then describe it. There were no instructions about what to write or how to frame their responses, only that they should fill out as many sticky notes as they see fit and add them to the wall poster.



Figure 17. UTA team members during success brainstorm

This activity was structured to help UTA team members shift from thinking about current processes into considering the future through a more action-oriented, success mindset. This activity draws from the idea that success ideation helps teams coalesce and articulate a future possibility.^{139 140} By doing this activity after the process maps, participants had the opportunity to take what they wrote, observed, or learned from the maps and translate it into a criterion for success.

The ideas and criteria developed in the success brainstorm were sorted into affinity groups and produced sixteen themes of success. Figure 18 lists each theme, sorted by frequency and agreement (points), as determined by the number of sticky notes in the cluster and the number of star sticker votes per cluster.

There was strong agreement that helping people feel heard and using their input would make Change Day feel successful. There were also themes that suggested ways to reduce stress for UTA team members, such as less rushing and more clear communication.

#	THEME OF SUCCESS	Points
1	Public input is useful / utilized and people feel heard	32 points
2	No last minute changes, no rushing, adhere to appropriate timeline	24 points
3	Clear organization-wide plan, internal teams are set up for success	18 points
4	Change Day feels good and is less stressful	13 points
5	Timing of engaging / informing the public is just right	11 points
6	Alignment with all stakeholders (internal & external)	8 points
7	Decisions are equitable and just	7 points
8	Collaboration with local government	4 points
9	Clear understanding of why changes are made	4 points
10	Bus stops are ready and ADA compliant	4 points
11	Change Day plans are tied to long range plans	3 points
12	Alignment with UTA leadership	3 points
13	Communications / PR is set up for success	2 points
14	Public knows how to share feedback	1 points
15	Rename Change Day	1 points
16	Title VI is incorporated	1 points

Figure 18. Emergent themes from the Success Brainstorm and their point values

5.2.4 Influence Matrix

To better understand how and why Change Day processes exist in their current form, participants were asked to form new groups with members of their own teams. Each group chose a note taker and discussed the following questions:

- What are each of you responding to when making Change Day decisions, personally, as a team within UTA, and as an organization?
- How important are each of those things?
- What should be more important than it is?

Groups reflected on what they wrote and distilled each key point into a sticky note.

A two-by-two decision matrix was introduced; the Y-axis ranged from *Least Influential, Present Day* to *Most Influential, Present Day* and the X-axis ranged from *Should be Less Influential* to *Should be More Influential* (see Figure 19). This is a variation on the Eisenhower Matrix, which ranks importance and urgency as well as Mendelow's Power/Influence Matrix.^{141 142} One by one, each team shared a key point to the full group and stuck it on the matrix. This was repeated until all the key ideas had been placed on the board.

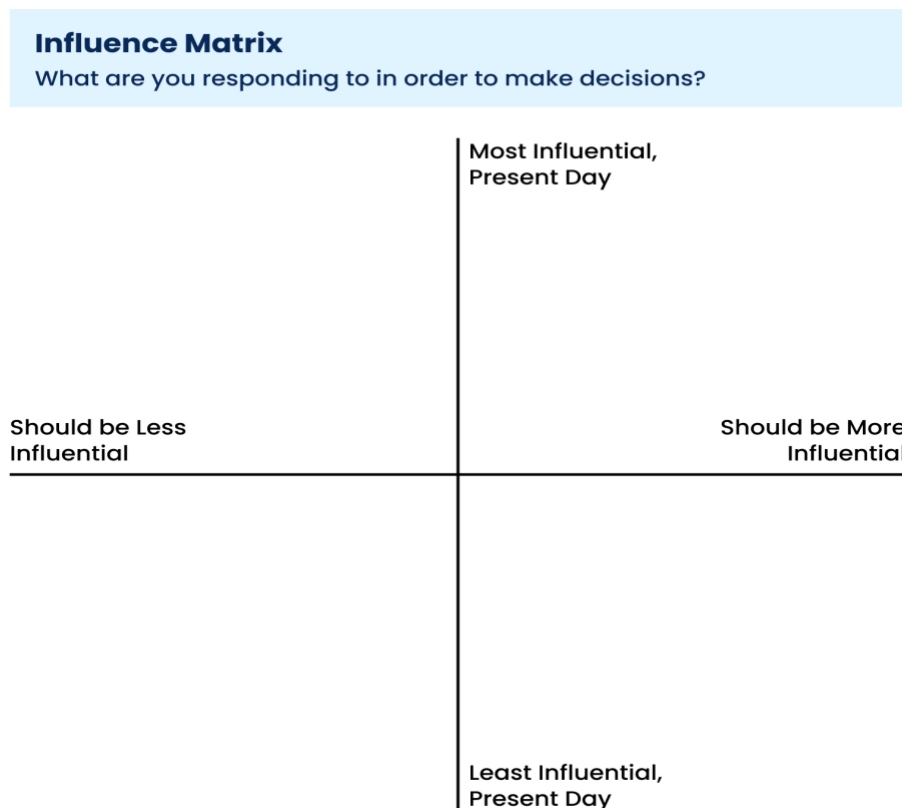


Figure 19. Influence matrix

The purpose of the activity was to identify factors besides public engagement that influence Change Day decisions. The *Influence Matrix* elicited discussion and debate about where criteria should be placed, and many participants expressed that they were seeing factors they hadn't thought about before. Through the process of adding ideas to the matrix as a full group, team members informed each other of what pressures or factors their team must consider.

The desire for social equity in planning came up in the matrix many times in different ways, such as a note describing *transit wants over needs* posted in the top left corner of the matrix. And increasing internal alignment was another familiar topic that came up in this exercise, underscoring the potential value of adjusting UTA processes and developing ways to open communication channels.

Based on the success of this activity, this novel matrix could be a useful way for future design practitioners to understand what considerations are contributing to processes and systems, especially those who are using activity theory as a theoretical framework.

5.2.5 Group Discussion

Lastly, there was a group discussion which utilized facilitation to ensure participation and inclusion. During the conversation, a note-taker recorded the main discussion points. The purpose was to determine how teams could more effectively interact with each other and hear ideas about what would be useful.

Discussion participants considered three questions:

- What do you need to better incorporate public feedback?
- As a result of all these things, what are you already getting from other teams and what do you need?
- How can it be provided to you, in a way that you can use?

The final group conversation helped unpack much of what had been brought up during other workshop activities. Comments were categorized into three main groups: Public Input & Communication, Reflections & Comment Analysis, and Planning & Engagement Processes. Figure 20 highlights a few points that came up in each category.

THEME: PUBLIC INPUT & COMMUNICATION	<ul style="list-style-type: none"> • Desire for feedback that is representative of the wider community • Gather public input and insights earlier in the timeline • Measure and report the scale of the comment • Get people to right place, at the right time to engage; proactively engage and inform • Increase transparency in timeline and planning process • Close the loop; explain and respond about why things happened or didn't
REFLECTION & ANALYSIS	<ul style="list-style-type: none"> • Perform change analysis: was it beneficial to make the change? • Define "improvement" and "success" • Help Continuous Improvement (CI) team discover new steps to incorporate
PLANNING & ENGAGEMENT PROCESSES	<ul style="list-style-type: none"> • Better incorporate long term plans, specifically the 5 year service plan • Improve internal understanding of the planning and decision-making process • Avoid last-minute changes that come from the top; leadership buy-in

Figure 20. Themes from the UTA workshop group conversation

5.2.6 How Might We Questions

The workshop resulted in sixteen refined “How Might We” (HMW) questions, which served to illuminate the themes and the pain points that surfaced during the workshop (see Appendix for full UTA Workshop One Summary including complete list of resulting HMW questions). By framing these opportunities as questions, the solution space was less confined.¹⁴³ The full set of HMW questions were discussed with Megan Waters and through collaboration, one primary and two secondary questions were chosen to become the focus of the work as I moved forward (see Figure 21).

HOW MIGHT WE...

Primary How might we more systematically consider public input in a way that is more useful for UTA planning and engagement team members and is understandable / rewarding for those giving input?

Secondary How might we provide communication about how engagement / comments were considered after engagement activities?

How might we show the public how Change Day decisions are made, generally?

How might we clearly communicate to the public why Change Day changes are occurring?

Figure 21. How Might We questions

Thus, not only did the workshop serve as an important way to learn about Change Day, it also helped direct where the project would go next. The new information I learned and challenges I had deduced from analysis and synthesis guided the next phases of the project: development of conceptual models and prototypes that began to respond to these project questions.

5.3 Service Blueprint

A service blueprint is a visual representation of the processes and people involved in a user journey, useful for identifying connections and improvement opportunities.¹⁴⁴ I created a service blueprint to conceptualize how UTA and the public interact during public comment periods and identify the places where interactions could be better facilitated through changes in the customer-facing and/or internal processes (see Figure 22). The blueprint helps visualize the Change Day comment process by defining actions taken by members of the public and processes carried out by UTA.

In creating the blueprint, I found that there were four areas where the relationship between the public and UTA had the greatest potential to improve, based on the research questions and HMW questions I was focused on. To better act on the four areas during design and iteration, I developed them into questions:

1. Who is contributing to engagement?
2. How is engagement structured?
3. How are the results of engagement used?
4. How are the results of decision-making communicated to participants?

UTA CHANGE DAY PUBLIC ENGAGEMENT SERVICE BLUEPRINT




	Leading Up to Public Engagement & Comment Period	During Public Engagement & Comment Period			After Public Engagement & Comment Period		
Change Day Activities	<p>Change Day plans are created by UTA</p> <p>Efforts to notify community members Change Day plans is the comment period</p> 	<p>Public submits comments that may or may not be actionable</p> <p>Comments are collected by UTA</p> <p>Comments are viewed and sorted by the planning team</p> 	<p>Comments are aggregated into the Change Day Public Engagement Report</p> <p>General email is sent out to commissioners directing them to the engagement report</p> <p>Change Day plans go into effect</p> 				
Members of the public served by UTA	<p>Doesn't see Change Day plans being made</p> <p>Some members of the public hear about Change Day, some don't</p> <p>Hearing about Change Day public comment after the comment period is closed</p>	<p>Submits comments based on what feels relevant to them</p> <p>Comments submitted through email, snail mail, or other sources</p> <p>Does not see how comments are collected and sorted</p>	<p>Does not see how comments are collected and sorted</p> <p>Receives email that comment period has ended and a link to the summary report</p> <p>May or may not choose to look over the public engagement report</p> <p>Must learn how to navigate the implemented changes</p>				
UTA Teams & Team Members	<p>Creating plans based on long range plans and other decision-making factors</p> <p>Outreach to community members about upcoming comment period</p> <p>Feeling unsure who is commenting and fearing that voices are not representative of full population</p>	<p>Comments about various aspects of transit and planning are received</p> <p>Comments may not be relevant to current Change Day plans</p> <p>Comments are received from various sources</p> <p>Attempts to best capture all Change Day comments from different sources in one place</p> <p>Engagement team places comments in a shared document that the planning team has access to</p>	<p>Engagement team summarizes engagement period</p> <p>Engagement team sends message to those who commented</p> <p>Engagement team shared link to the public engagement report</p> <p>Changes are implemented</p> <p>Provides travel training to support riders</p>				
Opportunity Areas	<p>Create a clear process for engagement that can be continuously adjusted</p>	<p>Use comment form as an opportunity to set expectations and help comments be successful</p>	<p>Create documentation for how decisions are made and how comments are factored in</p>	<p>Create guidelines for feedback that better align with what the public is interested in knowing</p>			

Figure 22. Service Blueprint

Each question corresponds to an intervention prototype; this was an especially helpful way to focus my interventions and continue to define the challenges I wanted to address. There was a lot of positive feedback within UTA about the questions, and even beyond this project I heard a lot of validation about how these questions likely fit with many public sector agencies.

5.4 Co-creation Through Iteration

Now that I had background information from research interviews, analysis of Chane Day from a collaborative workshop, and more focused challenges to consider, it was time for prototype development and iteration. In this phase, I designed and redesigned artifacts in order to speak as best I could to the needs and wants of the UTA team members who would actually be implementing these interventions. The following section outlines what additional information and insights led to design choices and evolutions of various artifacts.

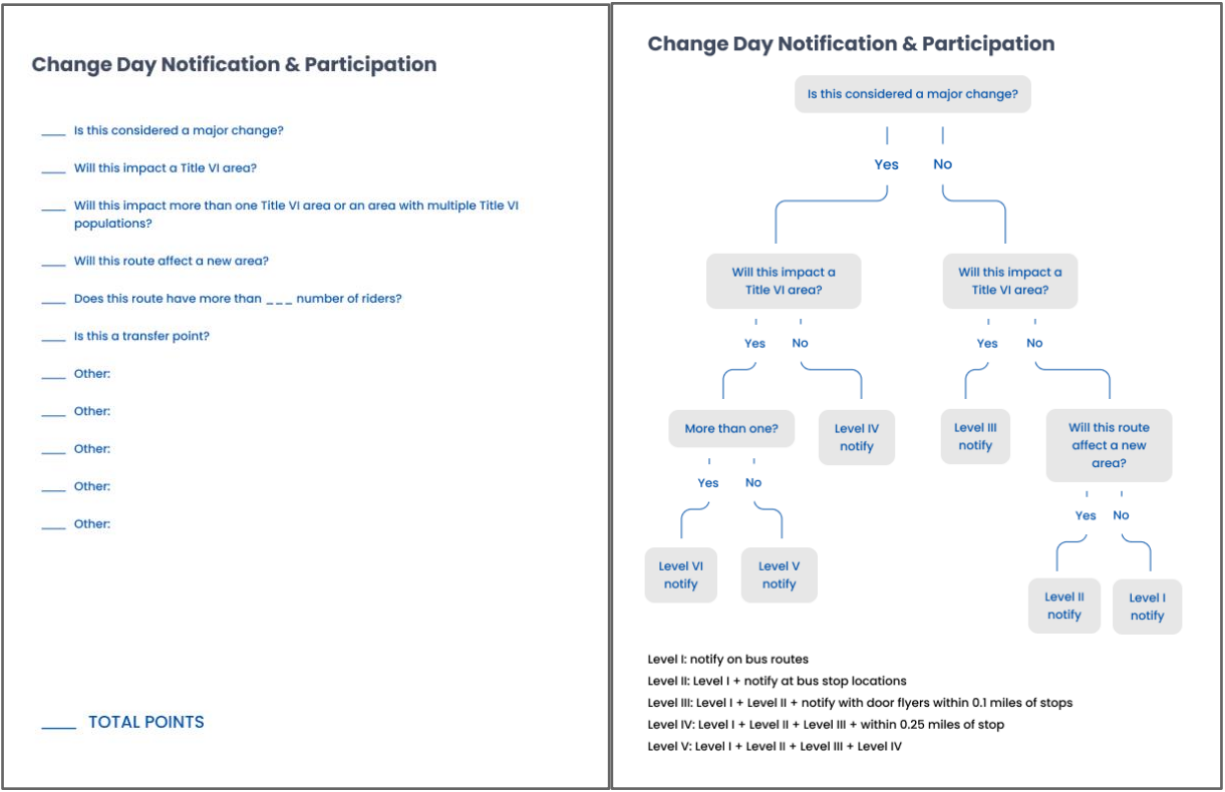
5.4.1 *Who is contributing to engagement?* | *Notification Strategy*

The idea for helping UTA develop a notification strategy came from inquiry into the first key question, *who is contributing to engagement?* Two important insights contributed: 1) that UTA is highly focused on developing processes that will support their organization and participation efforts, and 2) that unexpected controversy is especially difficult to deal with because UTA must justify the processes in place as well as the planning decisions that were made, simultaneously.

In the Avenues example mentioned at the beginning of this thesis, some members of the public expressed concerns that reflect this second issue: community members had qualms about not being notified early enough or not knowing about Change Day at all. For UTA this means that people may bring up issues and express opinions outside the comment period—a time they devote resources to understanding public input. To add to these challenges, the fact that UTA has no set process for notification decisions that they can refer to and tweak, means that it is difficult to respond to public frustration in a demonstrable way.

In first attempting to create an intervention for this pain point, I decided to take what I had heard and create two prototypes for strategizing notifications. While some comments from advisors pointed toward trying to increase collection of comments, I knew that I wanted to focus on UTA as my end user and their processes as an intervention point. Developing and testing just one method of comment collection wasn't in line with the other process-related strategies I was hoping to generate.

The two prototypes I developed were focused on putting a systematic strategy behind how UTA notified people about Change Day comment periods. The first prototype was points-based, where points might be used to understand the severity of the change and thus the amount of effort that should be used to notify people. The second version was a flowchart that used a series of questions to similarly determine the potential impacts of the change and choose what strategies should be used for notification.



Figures 23 & 24. Notification strategy prototypes

5.4.1.1 UTA & Public Feedback and Resulting Iteration

The flowchart was by far the most popular prototype; UTA team members noted that it was clearer and more visually stimulating than the points-based prototype. This led me to continue with the flowchart format. UTA team members noted that it was nice to have “triggers” to determine the level of communication they might use for a given change. Team members also made several comments about other strategies that should be added to the list of possible ways to notify people including driver training, service alerts via distribution lists, and UTA ambassadors. In future versions, these and other strategies were added to make the list more comprehensive.

“
“The flowchart is very visually pleasing!”
 - UTA Customer Experience Planner

In later prototypes I additionally included a baseline of communication methods that could be used for every engagement with other strategies then building upon that, to respond to corresponding feedback. However, the final iteration eventually ended up with a list of notification strategies, grouped by when they might be most useful, that helped address this.

Public workshop participants suggested many ways they might like to be informed about Change Day public comment periods, which were also added to future iterations of the notification strategies list. These included: advertisements on vehicles, paper comment cards, UTA attending community events to meet people where they are (such as community council meetings), and signage at route stops. Workshop participants also discussed wanting to be notified in a timely manner. This concern related to the timeline of Change Day and was determined to be outside the scope of this thesis work. However, the hope is that by creating a clearly defined process for notification strategizing, UTA will more easily be able to adjust the timeline of comment periods in the future.

5.4.2 How is engagement structured? | Comment Form

In considering how to respond to the second question, *how is engagement structured?* the UTA online public comment form was top of mind and something I had discussed numerous times with Megan Waters. Reimagining the comment form was an effort that I had considered from the onset of this project because it represents such a big opportunity to match the expectations of the public to those of UTA. Information gathered during comment collection is also potentially a very useful way to understand *who* is commenting and solicit information that will make their opinion heard and legitimized within UTA.

I began by creating a prototype for a new comment page with questions that could be asked to get more holistic and relevant information from community members. The prototype was developed using Qualtrics, an online survey tool, and was accessible online as well as on printed versions of the same form (see Appendix for full prototype comment form).



Figure 25. Member of the public examines the comment form prototype

When developing this comment form prototype there were four important things to keep in mind: 1) the software tool UTA would be using to create the online form and the technical limitations therein, 2) the capacity of UTA to use the information they collect for analysis, 3) the scope of Change Day and things that could be acted by the planning team, and 4) the details of feedback that help comments feel more helpful and therefore become more legitimized within UTA.

5.4.2.1 UTA & Public Feedback and Resulting Iteration

The formulation of the comment form prototype elicited a lot of meaningful conversation about what should be in a comment form and how to give people information. Some feedback related to expectation setting; there was a desire to highlight that comments will be reviewed even if not incorporated into Change Day plans and to help people understand the types of comments that end up affecting Change Day plans. As a result, I considered what topics elicited the most discussion and used them to form the basis of the toolkit activity, described later in this section.

There were many comments about one form question that used a map to ask people

about the places they travel most (see Figure 26). UTA team members mentioned that it was a nice way to get more context. Members of the public found the question both helpful and challenging; some respondents thought it was too general and others wanted to give more context for the type of trip being planned. Most participants agreed that it would be useful if it was fully functional, and a respondent was able to zoom in and out. However, because of software constraints, an actual map could not be implemented on the UTA comment form. Instead, another question that tried to get similar information about key routes and destinations was utilized.

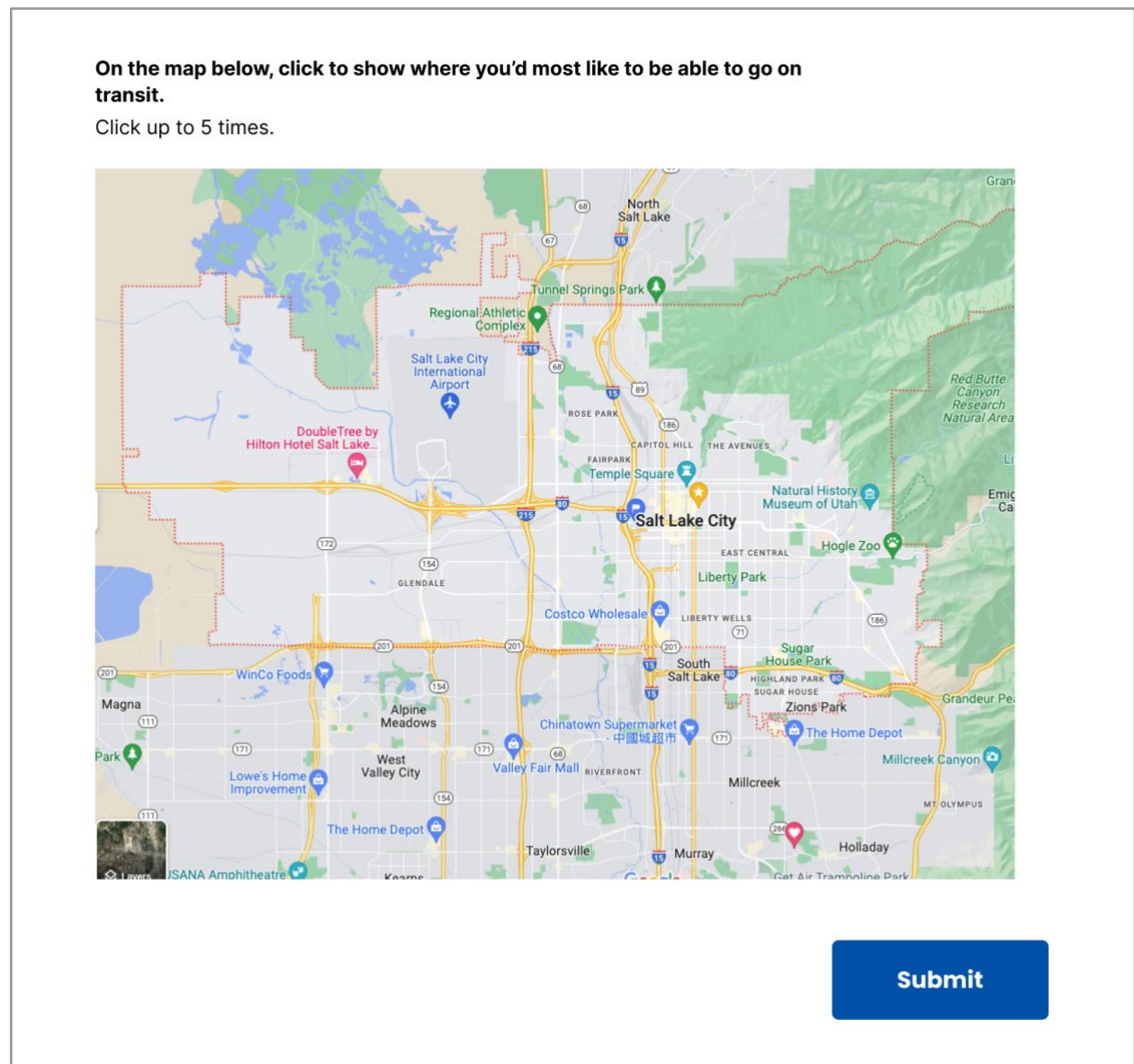


Figure 26. Comment form prototype mapping question

In general, members of the public expected little from the comment form and the process of commenting, which indicated that there is a huge opportunity to demonstrate care and surpass expectations. One recurring theme was the desire to share personal details such as demographics, frequency of use, and reasons for riding or not riding. Public workshop participants also wanted to express how they were impacted by changes, their accessibility needs, and even how seriously they viewed their own concerns.

5.4.3 How are the results of engagement used? | Decision-Making Documentation

I created four prototypes for decision-making documentation. As part of the Change Day process, decisions about what changes will be implemented are made by the planning team and then disseminated to other UTA teams. This handoff often results in a significant knowledge gap – many team members, especially those on the engagement team don't know *why* changes are happening and thus cannot effectively communicate about the changes to the public. Further, UTA teams have no way of tracking or noting how and when changes are influenced by public comments, thus it is difficult to report that information back to the public.



Figure 27. UTA planning summary

Two prototypes were structured as matrices, meant to be used as scoring tools. In these examples a UTA planning team member would rate a Change Day decision based on several criteria and end up with a score for that decision. One prototype positioned points as positive, so a higher score meant the change might be more highly prioritized, while the other positioned points as negative, where a higher score might mean that there were more potential negative impacts from the proposed change.

Planning Equitably at the UTA (Points are Good)

Planned Change:

Category	1 Point	2 Points	3 Points	4 Points	5 Points
Improvement for community with higher proportion of race, color, or national origin	1-2% higher in area surrounding change	3-4% higher in area surrounding change	5-6% higher in area surrounding change	6-8% higher in area surrounding change	8% or higher in area surrounding change
Improvement for populations with lower income compared to county average	1-2% higher in area surrounding change	3-4% higher in area surrounding change	5-6% higher in area surrounding change	6-8% higher in area surrounding change	8% or higher in area surrounding change
Improvement for community with higher proportion of older adults	1-2% higher in area surrounding change	3-4% higher in area surrounding change	5-6% higher in area surrounding change	6-8% higher in area surrounding change	8% or higher in area surrounding change
Improvement for populations or community with people with disability	1-2% higher in area surrounding change	3-4% higher in area surrounding change	5-6% higher in area surrounding change	6-8% higher in area surrounding change	8% or higher in area surrounding change
Improvement for community with higher proportion of zero car households	1-2% higher in area surrounding change	3-4% higher in area surrounding change	5-6% higher in area surrounding change	6-8% higher in area surrounding change	8% or higher in area surrounding change
Incorporates best practices when planning for equity	1 best practice	2 best practices	3 best practices	4 best practices	5+ best practices

Equity Score:

Planning Equitably at the UTA (Points are Bad)

Planned Change:

Category	1 Point	2 Points	3 Points	4 Points	5 Points
Negative effect for community with higher proportion of race, color, or national origin	1-2% higher in area surrounding change	3-4% higher in area surrounding change	5-6% higher in area surrounding change <i>Possible Title VI Finding</i>	6-8% higher in area surrounding change <i>Possible Title VI Finding</i>	8% or higher in area surrounding change <i>Possible Title VI Finding</i>
Negative effect for population with lower income compared to county average	1-2% higher in area surrounding change	3-4% higher in area surrounding change	5-6% higher in area surrounding change <i>Possible Title VI Finding</i>	6-8% higher in area surrounding change <i>Possible Title VI Finding</i>	8% or higher in area surrounding change <i>Possible Title VI Finding</i>
Negative effect for community with higher proportion of older adults	1-2% higher in area surrounding change	3-4% higher in area surrounding change	5-6% higher in area surrounding change	6-8% higher in area surrounding change	8% or higher in area surrounding change
Negative effect for population or community with people with disability	1-2% higher in area surrounding change	3-4% higher in area surrounding change	5-6% higher in area surrounding change	6-8% higher in area surrounding change	8% or higher in area surrounding change
Negative effect for community with higher proportion of zero car households	1-2% higher in area surrounding change	3-4% higher in area surrounding change	5-6% higher in area surrounding change	6-8% higher in area surrounding change	8% or higher in area surrounding change
Possible Title VI Finding	-	-	-	1 possible finding	2+ possible findings

Inequity Score:

Figures 28 & 29. Decision making matrix prototypes

Inspiration for this format was a matrix that UTA currently uses for bus stop prioritization. The matrix (see Figure 30) guides UTA team members in deciding what bus stops they should prioritize for improvement.

Category	1 Point	2 Points	3 Points	4 Points	5 Points
Non-ADA Compliant*	-	-	-	-	Yes
Total Stop Activity (TSA) - Average Daily Weekday**	1 to 19	20 to 39	40 to 59	60 to 79	80 +
Transfer Point***					
<i>Equal to or Greater than 30 min. freq.</i>	1 Route	2 Routes	3 Routes	4 Routes	5+ Routes
<i>Less than 29 the min. freq.</i>	1 Route	2 Routes	3 Routes	4 Routes	5+ Routes
Serves Title VI Community	Title VI Route	Minority OR Low Income	Minority AND Low Income	2 x Minority + Low Income	2 x Minority + 2x Low Income
Safety					
<i>Intersection</i>	1 of 5 Elements	2 of 5 Elements	3 of 5 Elements	4 of 5 Elements	5 of 5 Elements
<i>Parking Allowed</i>					
<i>Obstacle(s) Present</i>					
<i>No lighting Present</i>					
<i>Sidewalk Not Level</i>					
* Non-ADA compliant bus stop locations automatically receive five (5) points					
** TSA Data is average weekday ridership taken from the last eight change day periods					
***One (1) additional point is assessed each route at the transfer point with 30 minute or less frequency					

Figure 30. Image of bus stop prioritization matrix from UTA

The matrix prototypes were upstream in the Change Day process, meant to be used as Change Day decisions were being made. This would ideally help UTA team members prioritize decisions or consider what changes to make of all the possible choices.

The other two prototypes were further downstream in the decision-making process and were form-style. Both contained checkboxes, but one leaned heavily on this concept to feel like something that could be filled in quickly. The other form-style prototype had more open-ended questions to be filled in; this style was less evaluative than the matrices.

All four of these prototypes were created to help planners communicate what they considered as they came up with the changes that would be implemented for the upcoming Change Day.

Planning & Decision Making for Equity at the UTA

Total Population in proximity to the change
(within 1/4 mile of the change)

Which one of these is affected by the change?

<input type="checkbox"/> Safety	<input type="checkbox"/> Mobility
<input type="checkbox"/> Access to Opportunity	<input type="checkbox"/> Change in speeds
<input type="checkbox"/> Air	<input type="checkbox"/> Change in headways
<input type="checkbox"/> Density	<input type="checkbox"/> Change in route
<input type="checkbox"/> Healthcare	<input type="checkbox"/> Health & Environment
<input type="checkbox"/> Education	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Affordability	

Are any groups with certain demographic factors impacted more than others?

<input type="checkbox"/> Race, ethnicity, color, or national origin	<input type="checkbox"/> Older Adults
<input type="checkbox"/> Income (County Average \$716)	<input type="checkbox"/> Disability
<input type="checkbox"/> 10K - 40K	<input type="checkbox"/> Zero Car Household
<input type="checkbox"/> 40K - 80K	<input type="checkbox"/> English Proficiency
<input type="checkbox"/> 80K - 120K	<input type="checkbox"/> Other: _____

Positive or Negative Impact?

Positive
 Negative

Are any of these a primary consideration in the decision?

<input type="checkbox"/> Budget	<input type="checkbox"/> Transit Studies
<input type="checkbox"/> Ridership	<input type="checkbox"/> Leadership / Governmental Support
<input type="checkbox"/> High	<input type="checkbox"/> Service Design Guidelines
<input type="checkbox"/> Low	<input type="checkbox"/> Best practices
<input type="checkbox"/> Route	<input type="checkbox"/> Emergency Circumstances
<input type="checkbox"/> Fewer route overlaps	<input type="checkbox"/> Driver Shortage
<input type="checkbox"/> Additional route overlaps	<input type="checkbox"/> System Performance
<input type="checkbox"/> Improved connections	<input type="checkbox"/> Improved reliability
<input type="checkbox"/> Degraded connections	<input type="checkbox"/> Improved frequency
<input type="checkbox"/> Land Use & Development	<input type="checkbox"/> 911 Service

Are any of these a secondary consideration in the decision?

<input type="checkbox"/> Budget	<input type="checkbox"/> Transit Studies
<input type="checkbox"/> Ridership	<input type="checkbox"/> Leadership / Governmental Support
<input type="checkbox"/> High	<input type="checkbox"/> Service Design Guidelines
<input type="checkbox"/> Low	<input type="checkbox"/> Best practices
<input type="checkbox"/> Route	<input type="checkbox"/> Emergency Circumstances
<input type="checkbox"/> Fewer route overlaps	<input type="checkbox"/> Driver Shortage
<input type="checkbox"/> Additional route overlaps	<input type="checkbox"/> System Performance
<input type="checkbox"/> Improved connections	<input type="checkbox"/> Improved reliability
<input type="checkbox"/> Degraded connections	<input type="checkbox"/> Improved frequency
<input type="checkbox"/> Land Use & Development	<input type="checkbox"/> 911 Service

Are any of these a result (or expected result) of the change?

<input type="checkbox"/> Budget	<input type="checkbox"/> Transit Studies
<input type="checkbox"/> Ridership	<input type="checkbox"/> Leadership / Governmental Support
<input type="checkbox"/> Increase	<input type="checkbox"/> Service Design Guidelines
<input type="checkbox"/> Decrease	<input type="checkbox"/> Best practices
<input type="checkbox"/> Route	<input type="checkbox"/> Emergency Circumstances
<input type="checkbox"/> Fewer route overlaps	<input type="checkbox"/> Driver Shortage
<input type="checkbox"/> Additional route overlaps	<input type="checkbox"/> System Performance
<input type="checkbox"/> Improved connections	<input type="checkbox"/> Improved reliability
<input type="checkbox"/> Degraded connections	<input type="checkbox"/> Improved frequency
<input type="checkbox"/> Land Use & Development	

Could this present an equity opportunity?
An "equity opportunity" is a decision that is designed to enhance positive impacts or reduce negative impacts for marginalized communities or others facing disparities in access to opportunities.

Yes
 No

Planning Equitably at the UTA

Planned Change:

Disparate Impact
A Disparate Impact refers to a facially neutral policy or practice that disproportionately affects members of a group **identified by race, color, or national origin** (5% or greater of the impacted population)

Is this change expected to result in a negative disparate impact?

Yes
 No

Disproportionate burden
A Disproportionate Burden refers to a neutral policy or practice that disproportionately **affects low-income populations** (5% or greater of the impacted population)

Is this change expected to result in a disproportionate burden?

Yes
 No

Other impact indicators
Race, ethnicity, color, or national origin
Income
Total Population Served
Older Adults
Disability
Zero Car Household
English Proficiency

What other populations or demographics is this change expected to impact differently than the general population?

Other Decision Factors
Safety
Budget
Land Use & Development
Transit Studies
Government Support
Service Design Guidelines
Emergency Needs (i.e. driver shortage)
Planning Guidelines & Best Practices
System Performance

What other factors contributed to this decision?

What are the strategies to mitigate any potential negative consequences of the change?

Is there anything else that should be mentioned about the change?

Figures 31 & 32. Decision making form prototypes

It was around this point that Megan Waters and I discussed the role of a consulting team soon coming to work with UTA to create an equity index. Our discussion determined that the second prototype approach was more appropriate because the forms were designed to come at a different point in the process—after planning team members had already made decisions and needed to document them. This approach, we decided, would complement, rather than duplicate, the upcoming equity index efforts.

Originally, the prototypes around decision-making did not respond directly to the key question, *how are the results of engagement used?* Instead, they responded to a different, more general question: *how are decisions made?* This, I hoped, would encompass where public input was used in decision-making. However, it started to become clear that there needed to be a more intentional place for documenting relevant public input for each change in addition to documenting why the change had happened. This is something I am still working to incorporate in the newest iterations of the final toolkit.

5.4.3.1 UTA & Public Feedback and Resulting Iteration

Feedback from UTA stressed that a form should be simple enough for planners to use for every Change Day decision and fit many different types of changes. Team members articulated that the checklist format was the most appropriate and would fit at the right place in the process. UTA team members also suggested several checklist criteria additions, such as public input, environmental impacts, and connectivity to community assets. These suggestions were incorporated into future iterations.

Members of the public emphasized that it is important to explain why things don't happen or why Change Day plans are not always adjusted even when there is public input that demands it, to avoid discouraging people from participating again in the future. This translated into helping UTA team members know why things do or do not happen in the wake of input so that they can communicate those factors to the public.

5.4.4 *How are the results of decision-making communicated to participants? | Follow Up*

Lastly, I created a card deck prototype (see Figure 33) and follow up framework (see Figure 34) to assist with follow up efforts and respond to the question, *how are the results of decision-making communicated to participants?* I noticed that the previous follow up email sent by UTA, and the Change Day Public Engagement Report were missing some elements that might help people better understand why changes happened and how Change Day plans had been impacted by input. I also noticed that other tools and literature regarding engagement contained little to no information about what to include in follow up communications to be successful.



Figure 33. Follow up card deck prototype

The framework was developed based on some of the biggest pain points I had heard: 1) that members of the public don't understand what happened as a result of Change Day public input, 2) that members of the public don't feel heard during input, and 3) that UTA is working hard to take the entire region into account when they make decisions. The card deck, as a form, was an experiment in trying to create a compelling and flexible way of strategizing follow up. I questioned, using physical form, *could cards make the process of strategizing easier, while also being interesting and entertaining?*

Follow Up Framework

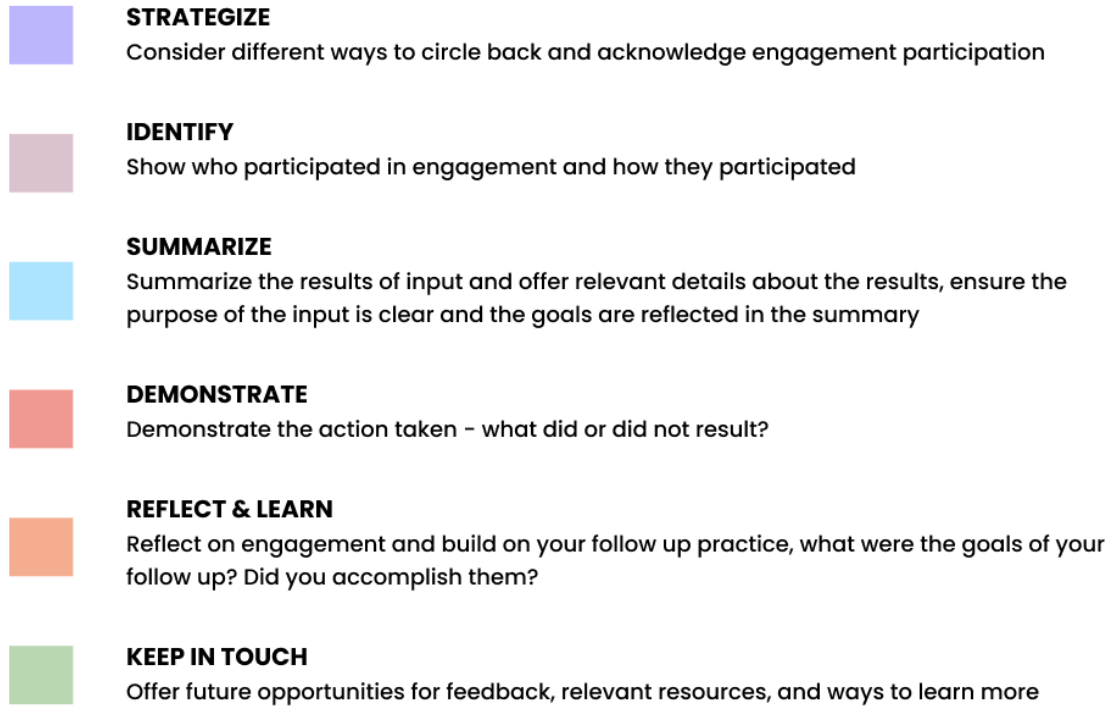


Figure 34. Follow Up Framework

5.4.4.1 UTA & Public Feedback and Resulting Iteration

The follow up framework and card deck saw many improvements based on feedback from UTA and public workshop participants. The first version of the framework included eight categories: methods, thank, reiterate, identify, summarize, demonstrate, reflect and learn, and keep in touch. One change resulting from the public workshop was taking out the *thank* category as it was something the public specifically noted was not a high priority for them. In addition, feedback reflected that goals of the input should be made clear in collection of input, so the *reiterate* category was also omitted. This simplified the framework down to just six categories: strategize, identify, summarize, demonstrate, reflect & learn, and keep in touch.

“

“I don't want to be thanked, I want to be heard.”

-Member of the public

UTA team members validated the form of a card deck as an interesting way to visualize so much information. They also noted that the capacity indicator on the cards, which gave an estimate of how difficult the idea on the card might be to implement (high, medium, or low), was useful, but would need to be discussed and agreed upon for team alignment; the indicator needed to depend on context. This was adjusted in future prototypes so that UTA could define the capacity of each card themselves.

Overall, members of the public wanted to feel heard and have their concerns acknowledged. People requested explanations of why things did or did not happen and how UTA planned to overcome barriers (i.e., operator shortage). They wanted responses to be specific, contextual, and not dismissive. These and various other points of feedback resulted in adjusting individual cards, splitting them out into multiple cards for clarity, or getting rid of them.

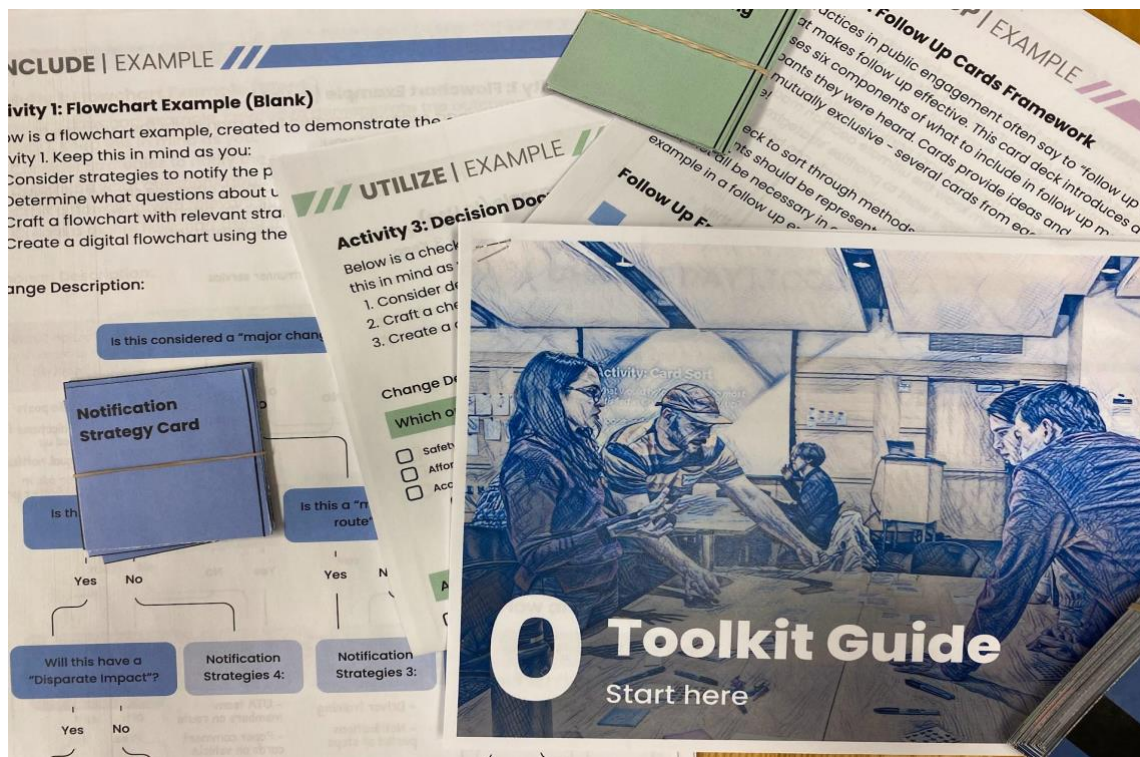


Figure 35. Toolkit prototype contents

5.5 Design Toolkit

As I further investigated how to comprehensively respond to the defined challenges, I decided that a toolkit would unite these solutions and help them feel less disparate. This would also allow me to focus less on complex transit planning content (the stuff UTA are the experts in), and more on how UTA can be encouraged to create and continue editing process tools. I decided to carry forward four prototypes that corresponded to one of each of the four key questions, crafted an activity around those interventions, and combined them into one comprehensive toolkit. I then tested the toolkit through several rounds of formal and informal feedback. Each activity was made as a large foldable poster to test one way in which an activity could be made physical and entertaining (see Figure 36).



Figure 36. Toolkit activity foldable poster prototype

5.5.1 Toolkit Overview

The notification strategy tool shifted to an activity that was designed to help UTA create their notification strategy. This was meant to give UTA more control and ownership over the flowchart that was previously prototyped, while also being able to edit it in the future. The resulting strategy flowchart aims to improve participation in two ways: 1) increase the total number of people engaging in public comment, and 2) improve the representativeness of respondents. Creating and using a notification strategy flowchart will also help UTA consider who is most impacted by each change and which changes should involve the most effort to notify people.



1 Include
Who leaves comments?

INCLUDE | INSIGHTS

Process

It's easier to change a set process within the organization than it is to alter ad-hoc activities

Unexpected Controversy

Unexpected controversy is the most difficult because it is difficult to justify both process as well as planning decisions at the same time

Notification Strategy Flowchart

The activity on the back of this sheet will help you create a Notification Strategy Flowchart to determine how and when to notify members of the public about a Change Day public comment period. You will:

1. Consider strategies to notify the public
2. Determine what questions about upcoming changes should be asked
3. Craft a flowchart with relevant strategies for each branch
4. Create a digital flowchart using the online template

Flowchart Example

Below is a flowchart example, created to demonstrate the outcome of this activity. Keep this in mind as you complete the activity on the back of this page.

Change Description: *Revised weekend Freshener service*



INCLUDE | DESCRIPTION

What you'll make

During this activity you will create a **Notification Strategy Flowchart** that helps UTA decide how to make members of the public aware of a Change Day public comment period.

This activity will help build a process around how members of the public are notified about Change Day.

What you'll need

- A large whiteboard or wall space

Purpose

Include & Represent

This tool is meant to improve participation in two ways: 1. increase the total number of people engaging in public comment, and 2. improve the representativeness of respondents. Creating and using a Notification Strategy Flowchart will help UTA consider who is most impacted by each change and which changes should involve the most effort to notify people.

Equity Impact

Include Community Members

By defining criteria to consider who should be included in different types of outreach efforts, UTA can build equity into the Change Day input process and continuously adjust to best fit the changing context.

1 Brainstorm: Notification Strategies

Use this space to brainstorm existing and desired ways of notifying community members about Change Day public comment periods. Take 5 minutes to brainstorm existing strategies and 5 minutes to brainstorm desired strategies. Spend 5 minutes looking over the Notification Strategy Cards and add any additional strategies you think should be on the list. As you brainstorm, consider strategies that are: digital, physical, on routes, on vehicles, in relevant locations, take lots of effort, and take little effort.

1a Existing Strategies	1b Desired Strategies

1c Strategy Cards

Notification Strategy Card

2 List: Important Questions

What is important to think about or know when it comes to deciding how to notify people about different types of Change Day changes? Use the space below to list relevant yes or no questions. These will be the questions that form the basis of your flowchart – consider questions that help determine how many people a change will impact, who a change might impact the most, or when it is important to take extra steps to notify people. What questions will help you include people and well represent those impacted?

⌚ 10 mins

3 Create: Guiding Flowchart ⌚ 15 mins


Use the questions you listed above to outline a flowchart where yes / no answers lead to other relevant questions (see example for guidance). Some questions might be repeated. You'll need additional space such as a whiteboard or empty wall to create your flowchart outline.

4 Sort: Notification Strategies ⌚ 10 mins

Number each branch of your flowchart. Sort the notification strategies you came up with by placing them under the branches in your flowchart. You might want to repeat some strategies for multiple branches or you might notice that some branches should require the same strategies – make note of this and / or change things around so that your flowchart makes sense for you.

5 Post-Workshop: Digitize


After you've completed the workshop session, use the template in the digital toolkit folder to make your flowchart digital. Share and validate your flowchart to ensure no other tweaks are needed. Link to digital flowchart template: bit.ly/3z8bz2K



⌚ 1 hour

Figure 37. Notification Strategy Activity


Instead of a comment form example as a final deliverable, I instead created a second toolkit activity that provides questions and considerations to determine what might be most useful in a comment form. This tool is a way to help UTA deeply consider comment collection so that input is more holistic, sets commenters up for success, and sets expectations about how input will affect the planning process.



2 Set Up for Success


How do people leave comments?

SET UP | INSIGHTS



Expectations

Mismatched expectations are the source of conflict, confusion, and frustration – comment forms are a place to address them



Rider Factors

People are interested in having some important factors, such as how often they take transit or why they use transit, to be known and considered

SET UP | DESCRIPTION

What you'll make

During this activity you will create a **Public Comment Page** that members of the public can use during Change Day public comment.

This activity will help make Change Day comment collection more strategic and tailored to UTA's needs.


What you'll need

- Your preferred way to access digital documents

Creating a Comment Form

You'll complete this activity online, the guiding document for this activity is linked here: bit.ly/40v0l1p, or you can find it in the online toolkit folder.

1. **Define Goals of Engagement:** Outline why you are engaging with the public and what you are hoping to get out of the engagement.
2. **Engagement Questions:** Consider prompts that will help you think about different types of questions you can ask or pieces of information you can share with the public.
3. **Translate:** Use your answers to prompted questions to create questions or informative blurbs that you might like to put in front of the public.
4. **Craft Comment Page:** Define what you might like to ask commenters during this public comment period based on your goals, your capacity to analyze the information you collect, and the information that is most important to know.

 1 hour



Purpose

Improve Comment Collection

This tool is a way to more deeply consider how UTA is collecting comments in order to create ways of giving input that are: more holistic, set commenters up for success, and set expectations about how input affects the planning process.



Equity Impact

Legitimized & Ongoing Feedback

As UTA prepares to hear from more people across communities, improving input collection will result in more complete, ongoing feedback that is legitimized within UTA.

SET UP | QUESTIONS

Question Themes

The questions in the online document reflect three themes: making comments successful, understanding commenters, and considering what's next. These questions will help UTA team members consider what is most important to learn from and about commenters, as well as what to ensure they know.








Figure 38. Comment Form Activity

Not unlike the notification strategy tool, the decision-making documentation prototype was adjusted to be an activity to create and adjust the decision-making checklist that was prototyped. It was similarly meant to give UTA control, ownership and editing power over the checklist as they create it. The hope moving forward is that this third activity will

provide a space for several teams to come together and discuss what would be useful as they communicate internally—in this way the engagement team can get the information they need to fully justify and communicate about decisions during follow up and the planning team can clarify what factors influence their choices most often.



3 Utilize
How are comments used?

UTILIZE | INSIGHTS

Non-uniform Knowledge

Internal knowledge is not uniform which means that some team members have a better understanding of decisions than others

Documentation is Key

Documentation is key for follow up because it allows any UTA team member to see how a decision was made

Purpose

Document & Communicate

This tool aims to demonstrate how input and other important factors impact decision making. It also serves as an internal communication tool to help other public-facing team members justify and communicate during follow up.

Equity Impact

Transparency

By increasing the transparency of decision making within the organization, UTA will also make it easier to communicate to the public why things happen, especially when decisions are based on principles of equity.

Documenting Decisions

The activity on the back of this sheet is to help develop a decision making checklist that can be used to document decisions made for Change Day plans. Keep this example in mind as you:

1. Consider decision making strategies that will become check boxes
2. Craft a checklist questions
3. Create a checklist template

Checklist Example

Change Description: Reduced weekend front-door service

Which one of these is affected by the change?

Safety Mobility
 Service Affordability Change in spaces
 Access to opportunities Change in behaviors
 Jobs/Education Change in mode
 Healthcare Health & Environment
 Other Other

Are any groups with certain demographic factors impacted more than others?

Older adults Race, ethnicity, national origin, color
 Housing/poverty Sexual/orientation
 Income Low English proficiency
 Age People with disabilities
 White Other
 Low

Positive or negative impact?

Positive
 Negative

What the primary considerations in this decision?

Safety Public input Local government support / opposition
 Affordability Transparency/Accountability Reliability
 Access to opportunities / services Budget High clearance
 Jobs/Education Mobility Low literacy
 Healthcare Health & Environment Social Use and development
 Other

What the secondary considerations in this decision?

What are the expected results of the change?

Comment Period: Was there significant public input about this? Were any changes made?

There were 6 comments about access to the blind center – supporting services slightly for community access.

1 Define: Decision Making Factors ⌚ 15 mins

Take 5-10 minutes to look over the Decision Making Cards and placing all the factors that contribute to decision making when it comes to planning for Change Day changes on the table. Place the ones that are not influential in Change Day decision making to the side. Spend another 5 minutes to discuss what other factors contribute to decision making and add any that are missing.

3 Create: Checklist Template ⌚ 30 mins

Start by discussing which questions from step two are most important to answer and should be incorporated into a document that facilitates communication between teams. Begin to create a checklist document template by listing questions and deciding what decision making factors from step one should be given as checkboxes. Not all questions need to be checkboxes, but the form should be succinct enough to allow planners to use it for every Change Day change. You can use this section to take notes or outline the form.

2 Craft: Checklist Questions ⌚ 10 mins

Spend 10 minutes considering what is most important to know about how a decision is made and writing questions on post-it notes. What might help show the factors being considered? Consider a future where you are looking back at past decisions -- what would help you understand the decision fully? Frame these as questions that could be answered by those making Change Day planning decisions.

4 Post-Workshop: Digitize & Verify

Using the online template (located here: bit.ly/3UOWigt) make the form you created a digital document. Verify that the form can be used for most, if not all, Change Day planning decisions based on the content and length. Is this checklist actionable? The right length? Clear enough that it can be used by any planner?

Figure 39. Decision-Making Activity

And finally, the follow up framework and card deck did not change much in form, but instead were iterated on and became part of the larger set of activities. The framework and cards are meant to ensure that those who gave input are informed about what the impact was. By following up well, UTA can demonstrate that participants are listened to and heard.



4 Follow Up

What does follow up look like?

FOLLOW UP | INSIGHTS

💡

Best Practices

Best practices often point to follow up as a key activity but few provide information about what makes follow good or how follow up well

💡

What Doesn't Happen

What doesn't happen or the actions that UTA does not take based on public input are just as important as the things that do happen

FOLLOW UP | DESCRIPTION

What you'll make

The outcome of this activity is a strategy for follow up communications. You'll use the card deck to help decide what methods might work best for you, based on your engagement goals and what you learned from the input.

What you'll need

- Toolkit card deck

Card Deck

Best practices in public engagement often say to "follow up" but do not specify how or what makes follow up effective. This card deck introduces a framework that discusses six components of what to include in follow up materials to help show participants they were heard. Cards provide ideas and strategies for following up and are not mutually exclusive - several cards from each category might be useful to combine!

Use the deck to sort through methods and strategies for follow up. Ideally, all six components should be represented in public engagement reporting, however, they may not all be necessary in a direct follow up communication to commenters, for example in a follow up email.

Framework

- **STRATEGIZE**
Consider different ways to circle back and acknowledge engagement participation
- **IDENTIFY**
Show who participated in engagement and how they participated
- **SUMMARIZE**
Summarize the results of input and offer relevant details about the results, ensure the purpose of the input is clear and the goals are reflected in the summary
- **DEMONSTRATE**
Demonstrate the action taken - what did or did not result?
- **REFLECT & LEARN**
Reflect on engagement and build on your follow up practice, what were the goals of your follow up? Did you accomplish them?
- **KEEP IN TOUCH**
Offer future opportunities for feedback, relevant resources, and ways to learn more





Purpose

Demonstrate Care

This tool is meant to ensure that those who gave input are informed about what the impact was. By following up well, UTA can demonstrate that participants are listened to and heard.



Equity Impact

Show Equity in Decision Making

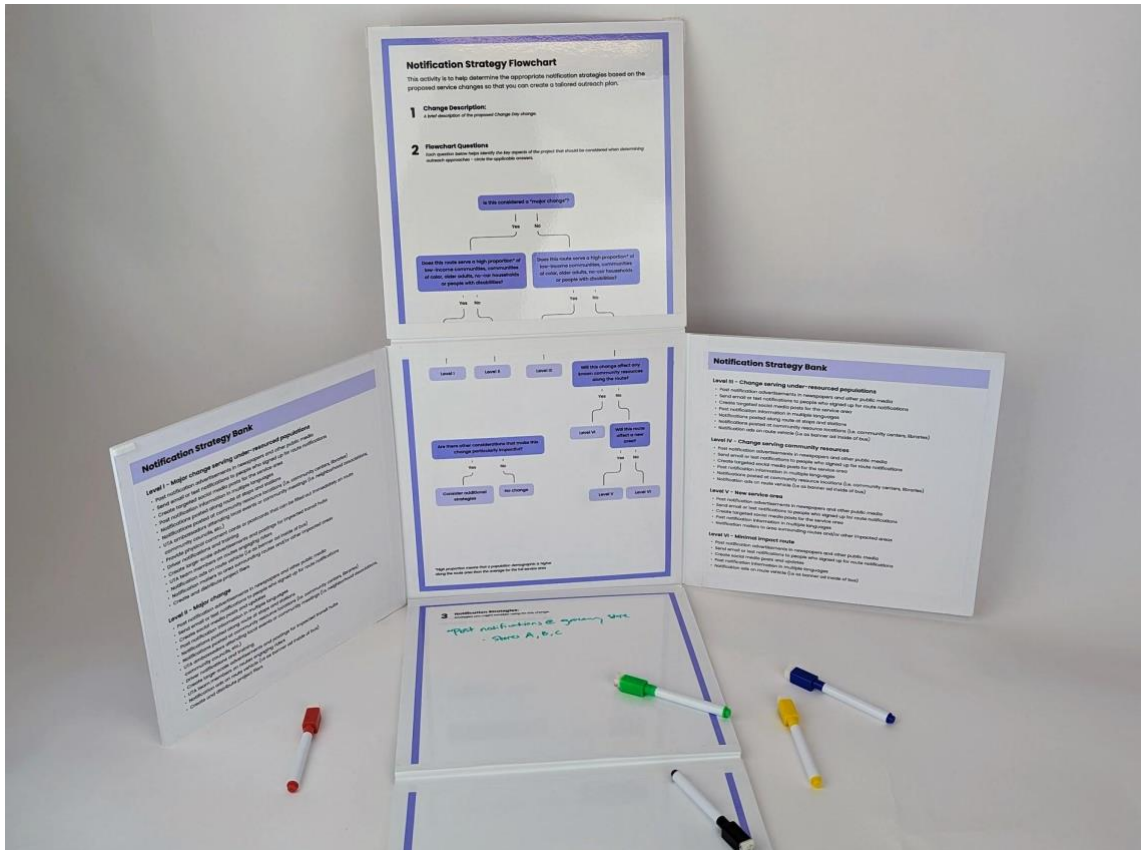
With a more thorough follow up practice, UTA will be better positioned to embrace and address unexpected discourse and justify decisions that were made to increase equity for community members.

Figure 40. Follow Up Card Deck Activity

5.5.5 Learnings & Iteration

I collected data through informal feedback rounds for the prototyped toolkit. Though there was a lot learned, I was only able to incorporate some feedback before the conclusion of this thesis work. Based on what I heard about the way that the UTA was able to use and interact with the activities, I decided to try another format for the final iteration of the toolkit: large, interactive cubes that unfold to reveal information and activity instructions. The notification strategy activity prototype was completed first, the only one that was in time for the conclusion of this thesis work.

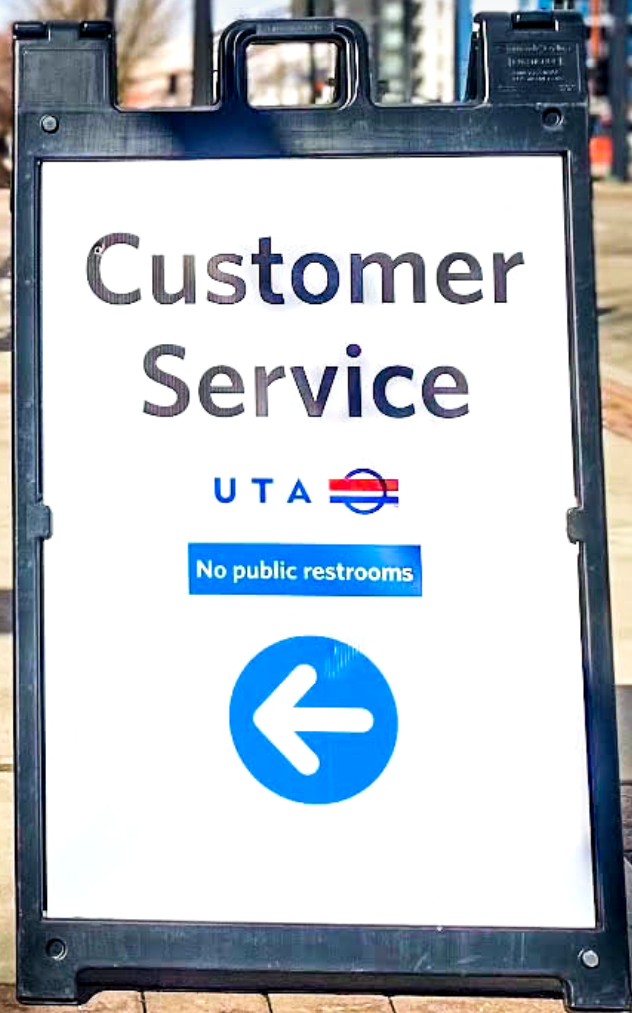
For this final form, several revisions were made. Feedback reflected that instead of including *notification strategy cards*, which were small suggestion cards I had included with ideas of how to inform people about Change Day, UTA team members would find it more useful to have a bank of strategies grouped by how or when to use them, similar to the Project Outreach Planner (POP) tool that UTA uses for large construction projects.¹⁴⁵ A bank of strategies was included on the inner wings of the cube. Other feedback reflected that the value of the activity was less in developing questions to consider about changes, and instead to determine strategies that fit within the context, as a result the flowchart questions were adjusted and validated so that they could be an established starting point for the activity. And finally, other comments showed it was important to reuse the tool, so the inner surface was formatted as dry erase.



Figures 41 & 42. Notification Strategy Activity Cube Prototype

While it was disappointing to run out of time to prototype and improve each activity in time for this academic deadline, I know that the tradeoff was moving at a speed that allowed me and my partner organization to develop trust. The success of prototyping, iterating, and co-creating alongside so many people at UTA was dependent upon honesty and openness, achieved through that trust. Their willingness to show me so much of the organization and of themselves is not something I take for granted. I credit the outcomes of this work to an interactive and collaborative process that helped me see at every step, how I could change things to develop something truly impactful for people inside an organization working to serve millions.

6 Conclusions: Implications & Future Work



"If you can't describe what you are doing as a process, you don't know what you're doing."

– W. Edwards Deming

6 conclusion: implications & future work

6.1 Implications

6.2 Future Work

This thesis has been a labor of love—one that has helped me understand in practice, not just principle, what it means to design within a complex public organization. By immersing myself in this rich environment, I saw firsthand how design and co-creation can make an impact for people inside public agencies, and those they serve.

This interdisciplinary project demonstrated that contextual, co-created design tools are an enormously valuable way for an organization such as UTA to address a challenging relationship, their interactions with the public around Change Day, while keeping concepts of equity and ethics at the forefront of the conversation.

In this work I have discussed why a project in the public sector centered on public input is important: public sector agencies are often the backbone of important infrastructure which risks disinvestment and non-use if the relationship with the public deteriorates. I have also situated myself within the body of relevant scholarship. This thesis straddles the line between the discipline of public participation and the design field, with an important equity lens to help shape goals and outcomes. And I have given an overview of the methods used to further UTA's participation practice such as research interviews and workshops.

I have shown that co-creative design strategies in a public agency setting can help develop solutions that respond to challenges and pain points faced by teams and individuals as they work to engage the public and incorporate their input. In the following section I will discuss how the outcomes of this project have implications for the field of design as well as other researchers or practitioners who inhabit the space between public sector entities and the public they serve.

6.1 Implications

In developing this project, I stood on the shoulders of many, many people who came before me. These scholars, researchers, designers, and community members lent me language and tools. In discussing the novel blueprint, framework, and approach I used, I hope to contribute something back, further building the foundation on which future practitioners might stand.

The public-agency service design blueprint represents a contribution to the fields of design and policy. Creating the blueprint was a helpful way to build on an existing design tool, service blueprints, to more clearly articulate relationship dynamics in the public sector. Although the blueprint produced here is specific to UTA, many other public agencies could use it as a starting point for investigating their own relationships with the public. The key

questions developed from the blueprint are generalizable and worth considering in many settings where policy makers are striving to improve public services. These critical touchpoints of the relationship between a public agency and the public they serve, in the context of public engagement, could be utilized to create interventions for the most influential moments. This is an example of how cross-disciplinary work can bring value to multiple fields and have influence on real challenges.

A second contribution to the body of design methods is the *Influence Matrix* workshop activity I developed and implemented. The *Influence Matrix* is a unique and effective exercise that sparked meaningful dialog between team members. By asking participants to reflect on how important decision-making factors are now as opposed to how important they should be, facilitators can initiate deep conversations about why things are the way they are, and how participants can change that. This can also result in buy-in for change, because of the agency given to participants to decide for themselves what has too much, or not enough influence.

And lastly, the follow up communication framework is a starting point for future design or communication scholars to build upon as they explore what it means to close-the-loop with members of the public in a rewarding way. For practitioners, the framework will hopefully prove a useful tool for systematically determining what to include in follow up communications. Based on my research, few, if any, resources currently fill this gap.

6.2 Future Work

The future of this work and my career beyond it are taking shape. My deep interest in public entities whose decisions impact large populations, led to this perfect opportunity to further investigate how design can be joined with topics of public policy to solve challenges. I will carry the experience of this project into future work and use it as a guide. Before that, I strive to fully complete this project and wrap up my engagement with UTA with trust and respect. There are many pieces of this work to continue building upon. Though I am unable to pursue all of them, it is also useful to note what I can now see clearly in retrospect.

6.2.1 Toolkit

Considerations for improving the toolkit include editing the workshop activities, instructions, and format for improved clarity. This research showed that it is important to have a compelling format for the toolkit activities as a way to provide something physical and “in the room” while also making the transfer to digital formats easy, seamless, and integrated—my hope is that the final iteration of workshop cubes can be just such a compelling physical manifestation. Should this be done well, process improvements can be implemented and sustained.

The decision-making activity should be reconfigured to ensure two parts are integrated into UTA processes: 1) documentation of Change Day decisions and 2) documentation and discussion of Change Day public input outcomes for each decision. As was briefly mentioned earlier, the current structure of this activity gets at how decisions are made, but less so at how public comments are then factored into decisions. By better structuring the activity to incorporate both of these prongs, UTA can communicate why decisions were made, summarize what the public thought of those decisions, and explain what did or did not change as a result of input. This will strengthen UTA's relationship with the public and create a record that UTA can refer to when necessary.

The online comment form continues to have enormous potential to be a translation tool between the public and public agencies. This toolkit has begun to unlock and unpack some of that power, but there is more to be done to develop how data is reported to UTA team members and thus used. For example, viewing a spreadsheet of responses might have very different results compared to looking over a map with important locations highlighted. Similarly, seeing a report that summarizes the response to each Change Day change and the demographics of those respondents would likely produce different results compared to a count of how many people mentioned any given topic or route. Continuing to consider how to facilitate information sharing from the public to UTA could lead to more legitimization and validation of public input.

While the toolkit was intentionally developed to cater to UTA specific needs and scenarios, there is the opportunity to consider how it could be more generalized and applied to other public sector work involving public participation. This could involve reimagining the activities to be more general or considering building other frameworks that express key ideas.

6.2.2 Follow Through

I plan to continue working with UTA to realize the last iteration of prototypes, as well as to transfer useful materials, and ensure all relevant information is passed along. Among McKercher's four key principles for co-design is to *prioritize relationships*, something I strived for throughout this project and hope to demonstrate once more with a thoughtful and collaborative exit.¹⁴⁶

In addition to UTA, members of the public were given the option to hear follow up information about this thesis project. Many opted-in to being followed up with. As a result, I plan to prepare a brief that describes the outcomes of the public workshops as it relates to the larger body of this work, using the follow-up framework I developed as a content guide.

6.2.3 Future Work

With design projects there is never a clear or clean endpoint, instead iteration must eventually end. However, throughout my future career I plan to continue working in public sector spaces as a designer of practice using participatory methodologies in a way that advances justice — a word I must continue to define and unpack.

Design organizations such as Civilla, Public Policy Lab, Civic Design Lab, and more have already begun to do work that creates better outcomes for people who interact with public systems.^{147 148 149} This work is challenging, nuanced, scary, rewarding, and everything in between. But as an interdisciplinary designer and a public policy researcher, I am especially equipped to continue dissecting public sector challenges and co-creating design interventions with purpose.

Glossary



PULL TO
DISARM
SALE PUNAL
DESARMAR

EMERGENCY
EXIT
PULL TO OPEN
EMERGENCIA
SAIDA DE
EMERGENCIA
PULL TO OPEN
PUNAL PARA
ABRIR



Priority se

You may be asked
seniors and peop

FIRE
EXTINGUISHER
HERE
EXTINGUIDOR
DE FUEGO
AQUÍ

WARNING
DO NOT
REMOVE
THIS
COVER
UNDER
PENALTY
OF
FINE

"One should not aim at being possible to understand but at being impossible to misunderstand."

– Marcus Fabius Quintilian

glossary

Relevant and Affected Parties: As an alternative to the word, stakeholder, [which holds negative connotations](#), in this paper I use the term relevant / affected parties to describe people or organizations that have a vested interest in the topic or substance of this work or could be affected by the outcomes.

Utah Transit Authority (UTA): The Utah Transit Authority is a multimodal public transportation agency serving six counties and over 80 cities along the Wasatch Front.

Long Range Transit Plan (LRTP): A 30-year long range plan, otherwise known as *UTA Moves 2050*, that is focused on understanding and responding to the future needs of the communities served by UTA.¹⁵⁰

Regional Transportation Plan (RTP): Wasatch Front Regional Council develops the Regional Transportation Plan for the Salt Lake City-West Valley City and Ogden-Layton Urbanized Areas. The RTP is a fiscally constrained plan for roadway, transit, and other transportation facility improvements over the next 20-30 years.¹⁵¹

Transportation: The general movement of goods or people.

Public Transportation // Public Transit // Transit: Refers to movement of people through publicly available systems created for moving passengers including buses, trains, subways, vanpools, and more.

Equity: Efforts to create an environment and conditions where all people have the opportunity to thrive by recognizing specific populations that may have disadvantages because of historic or contemporary systemic injustice, and acting in such a way that aims to improve conditions of these populations.

Procedural Justice Theory: The notion that people will generally be more satisfied with process outcomes and / or that outcomes matter less than process when individuals have a positive perception of the process.

Design toolkits: Tailored collections of materials, methods, and techniques that people can use to guide the design process and facilitate collaboration.

Change Day: The day three times per year when UTA implements service changes to improve transit service. The biggest Change Day that typically has the most substantial impact is in August.¹⁵²

Major Service Change: Major service change policy defines which proposed changes would require a Title VI Service and Fare Equity Analysis. All equity analyses are presented to the UTA Board of Trustees for their consideration. UTA's Major Service Change Policy states: UTA will seek public input on the following types of changes. These changes will be considered "major changes" which require equity analysis in compliance with FTA's Title VI Circular: The Addition of Service; A proposed service level reduction in miles, hours, or trips of thirty three percent (33%) or more of any route; The elimination of all set-vice during a time period (peak, midday, evening, Saturday, or Sunday); A proposed twenty-five (25%) or greater change in route alignment; A proposed fare change.¹⁵³

UTA Disparate Impact: Disparate impact refers to a facially neutral policy or practice that disproportionately affects members of a group identified by race, color, or national origin, where the recipient's policy or practice lacks a substantial legitimate justification and where there exists one or more alternatives that would serve the same legitimate objectives but with less disproportionate effect on the basis of race, color, or national origin.¹⁵⁴

UTA Disproportionate Burden: Disproportionate burden refers to a neutral policy or practice that disproportionately affects low-income populations more than non-low-income populations. A finding of disproportionate burden requires the recipient to evaluate alternatives and mitigate burdens where practicable.¹⁵⁵

UTA Minority Route: A minority transit route is one in which at least one-third of the revenue miles are located in a Census block, Census block group, or traffic analysis zone where the percentage minority population exceeds the percentage minority population in the service area.¹⁵⁶

Co-design: A design approach that has become an important way to create more inclusive and user-centered design interventions with the designer as a facilitator as opposed to an expert or researcher.

Participatory Design: A design approach that emphasizes the involvement of relevant and affected parties in the design process.

Design Toolkits: Tailored collections of materials, methods, and techniques that people can use to guide the design process and facilitate collaboration.

Appendix



“I am a brain, Watson. The rest of me is a mere appendix.”

— Arthur Conan Doyle

appendix

1. Discovery Research Interviewees
2. Discovery Research Interview Guide
3. UTA Workshop One Summary
4. UTA Public Comment Form Prototype
5. “Good” Design Resources

1 Discovery Research Interviewees

1. Eileen Barron, Utah Department of Transportation
2. Nichol Bourdeaux, Utah Transit Authority
3. Megan Waters, Utah Transit Authority
4. Curtis Haring, Utah Transit Riders United
5. Vero Zavala, Comunidades Unidas & UTA Community Advisory Board
6. Jenna Simkins, Utah Transit Authority
7. Jaron Robertson, Utah Transit Authority
8. Tracey Lin, San Francisco Municipal Transportation Agency
9. Jessica Garcia, San Francisco Municipal Transportation Agency
10. Kaitlyn Bancroft, Local Utah Reporter

2 Discovery Research Interview Guide

3 UTA Workshop One Summary

4 Public Comment Form Prototype

5 “Good” Design Resources

Costanza-Chock's Design Justice Principles¹⁵⁷

1. We use design to sustain, heal, and empower our communities, as well as to seek liberation from exploitative and oppressive systems.
2. We center the voices of those who are directly impacted by the outcomes of the design process.
3. We prioritize design's impact on the community over the intentions of the designer.
4. We view change as emergent from an accountable, accessible, and collaborative process, rather than as a point at the end of a process.
5. We see the role of the designer as a facilitator rather than an expert.
6. We believe that everyone is an expert based on their own lived experience, and that we all have unique and brilliant contributions to bring to a design process.
7. We share design knowledge and tools with our communities.
8. We work towards sustainable, community-led and controlled outcomes.
9. We work towards non-exploitative solutions that reconnect us to the earth and to each other.
10. Before seeking new design solutions, we look for what is already working at the community level. We honor and uplift traditional, indigenous, and local knowledge and practices.

Goodwill's Five Forms of Power¹⁵⁸

1. Privilege: What privileges might you have and how could this affect relationship building?
2. Access Power: Who is included/excluded and why?
3. Goal Power: How have the goals and outcomes been determined, and who has helped determine these?
4. Role Power: Who is making key decisions? Who is interpreting/prioritizing findings?
5. Rule Power: Who decides how a group will work together?

*McKercher's Four Key Principles for Co-design*¹⁵⁹

1. Share power
2. Prioritize relationships
3. Use participatory means
4. Build capacity

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