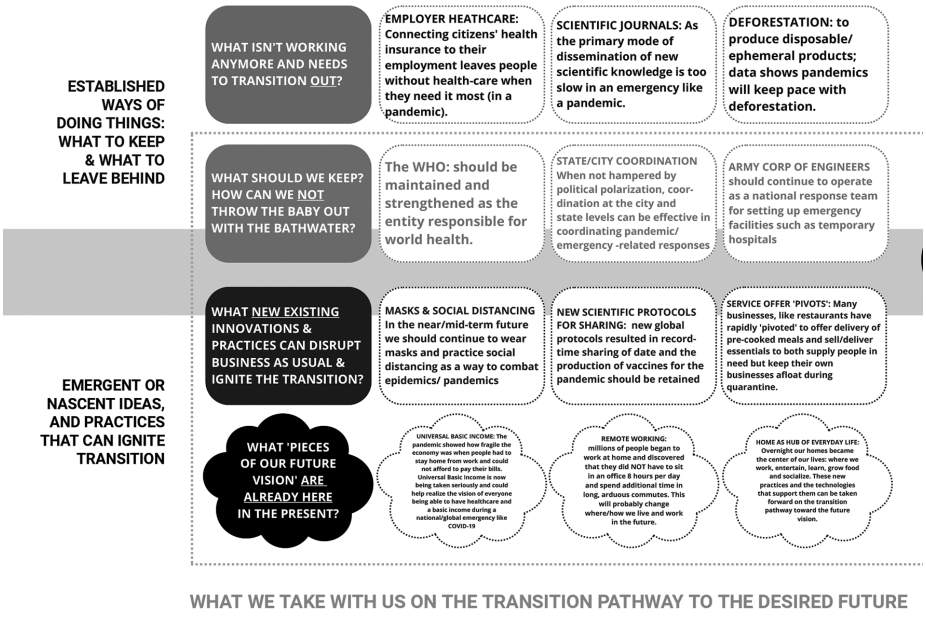

Figure 7.1. Details from a Designing for Transitions Map for the Wicked Problem of COVID-19 in the U.S. Transition Map Research and Design: Terry Irwin and Gideon Kossoff.

The matrix above challenges stakeholders to undertake a rigorous assessment of the present situation in order to prepare for a decades-long transition.

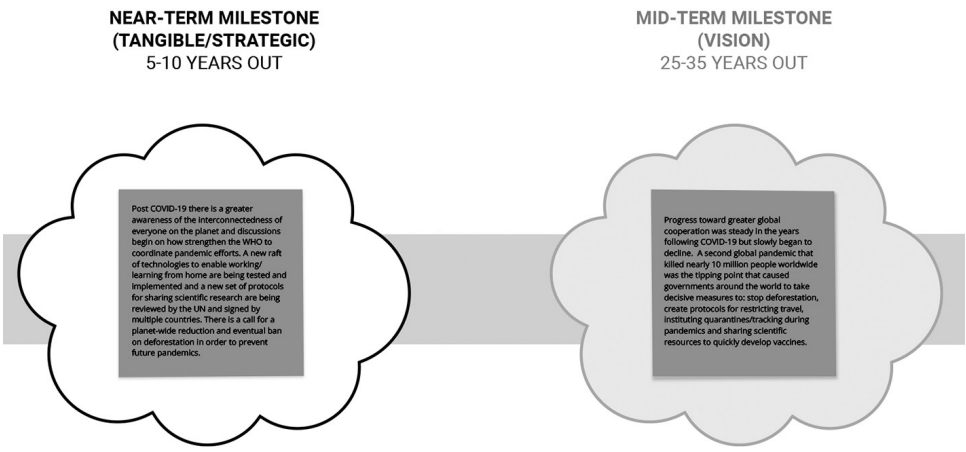

Figure 7.2. Details From the "Transition Pathway" From the Problematic Present to the Long-term Desired Future (the Vision) for the Wicked Problem of COVID-19 in the U.S. Transition Map Research and Design: Terry Irwin and Gideon Kossoff.

The two narrative milestones above attempt to illustrate the overall situation as society transitions from a pandemic to a future in which zoonotic viruses are rare and contained as opposed to common and pandemic.

6. Designing System Interventions

The last step in the applied, Transition Design approach calls for the design of entire "ecologies of systems interventions" –multiple solutions that are connected to each other and the long-term future vision and milestones. These interventions are situated at multiple levels of scale and in different societal sectors (the five categories from the problem map) and are often conceived to be of different time durations. Further, only solution clusters such as these will have enough traction to destabilize a wicked problem enough to begin the long process of resolution. Transition Design also argues that addressing wicked problems in this way is a strategy for shifting current socio-technical transitions toward long-term futures that are sustainable, equitable, and more desirable.
In this way, the Transition Design approach resembles Chinese acupuncture. Acupuncturists look for "points of intervention" that have the greatest potential to transition the system back into balance and health. Where the needles are placed can seem wildly counter-intuitive, but is actually based upon a deep understanding of the body's systems dynamics.
Only an ecology of systems interventions will have enough traction to "transition" a system (a wicked problem, an organization or entire societies), over time, toward new, sustainable/preferable futures. Because we can never predict how a complex system will respond to these interventions (because of their self-determining dynamics), periods of design/action must be balanced with periods of waiting/observing to see how the system responds. This will challenge our dominant paradigms that call for quick, decisive action that yields quick, profitable results. For this reason, Transition Designers will need to create compelling communications and narratives that explain why both action and observation are crucial to designing over long periods of time.

Designing for systems interventions (as opposed to single, one-off solutions) is crucial for several reasons:
1. Wicked problems are systems problems that cannot be solved by any single solution. It took wicked problems a long time to become wicked, and it will take multiple years or even multiple decades of solutioning to resolve a wicked problem.
2. Wicked problems are always connected to other wicked problems and because their issues are interconnected and interdependent, they are more complicated to address, but these same dynamics of interdependence mean that these solution clusters also have the potential to solve for multiple issues simultaneously, igniting positive, systems-level change.
3. Because issues related to wicked problems manifest in the five societal sectors of the problem map, solutions must also be situated in and connected across sectors in order to amplify and scaffold each other. These solutions are often very different and might appear to be unrelated—their connections result from the problem being mapper and a long-

term future vision being developed, which informs these interventions in the present. *Figure 8* shows the Miro template used in Transition Design seminars to challenge participants to conceive "ecologies of systems interventions."

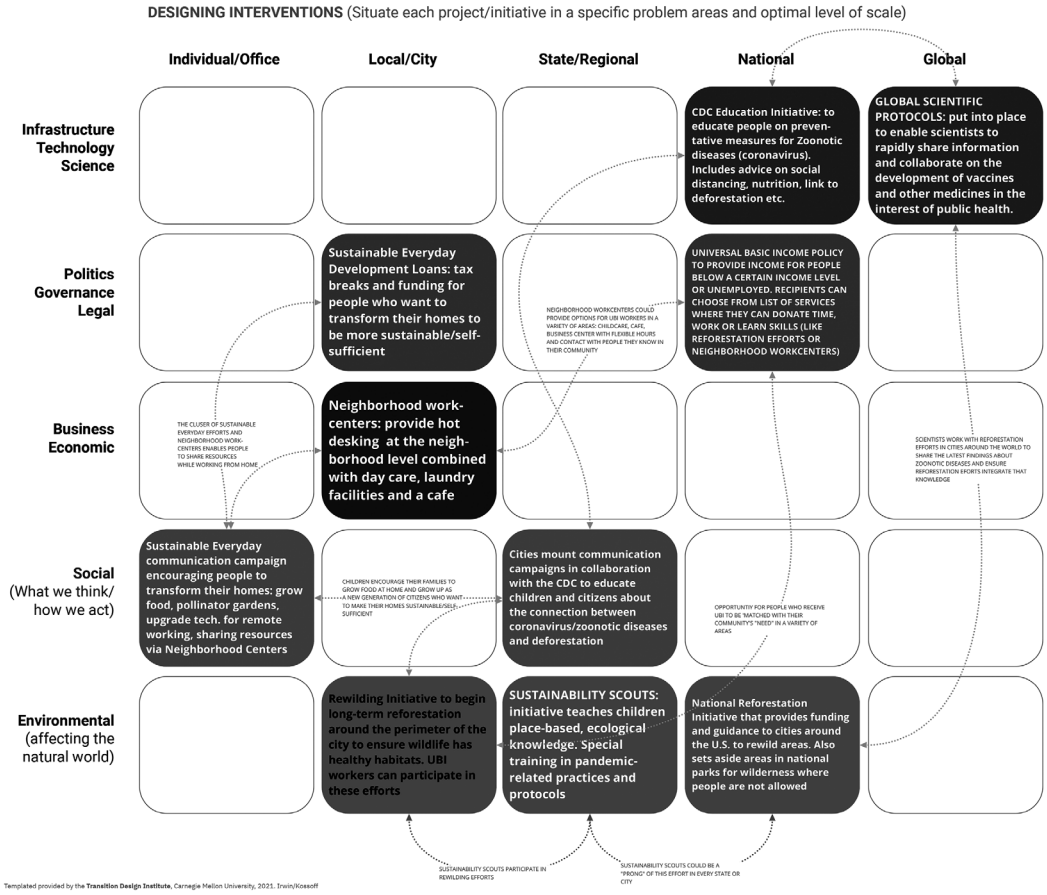

Figure 8. An Example of an 'Ecology of Systems Interventions' Aimed at the Wicked Problem of COVID-19 in the U.S. Transition Map Research and Design: Terry Irwin and Gideon Kossoff.

The above Miro template is used in Transition Design online workshops and challenges participants to think rigorously about solution clusters that are interconnected and interdependent that amplify and scaffold each other. Participants must consider in which of five societal sectors the solution would be most effective and describe its symbiotic connection to other solutions in the cluster.

About Transition Design Workshops

Between July, 2020 and August, 2021, we ran a series of online workshops in Transition Design that were delivered to faculty, students, and members of both nonprofit and for-profit organizations in the U.S., U.K., Canada, Argentina, and Mexico as well as several countries in Eastern Europe. The workshops fell into two categories:
Educational workshops whose primary objective was to teach systems thinking and introduce the applied Transition Design approach.
Research workshops related to a wicked problem, whose objective was to gather stakeholder perspectives and leverage knowledge related to problem resolution.

Workshop Format and Technology

The workshops were conducted entirely online using Zoom and the Miro collaborative platform and participants in workshops sessions were often in different geographic locations. Both educational and research workshops used the same six steps previously outlined in this paper. A comprehensive workshop manual, which provides information about the technology, the course schedule and the Transition Design process, was sent to the participants a week ahead of the first session. Figure 9 illustrates the workshop technology used during the sessions. More specifically, it explains the array of technology used and the steps participants should take prior to the workshop, how lectures and discussions will take place during the sessions, and the ways in which they will interact with instructors during the work sessions with their team, which takes place in Zoom breakout rooms.

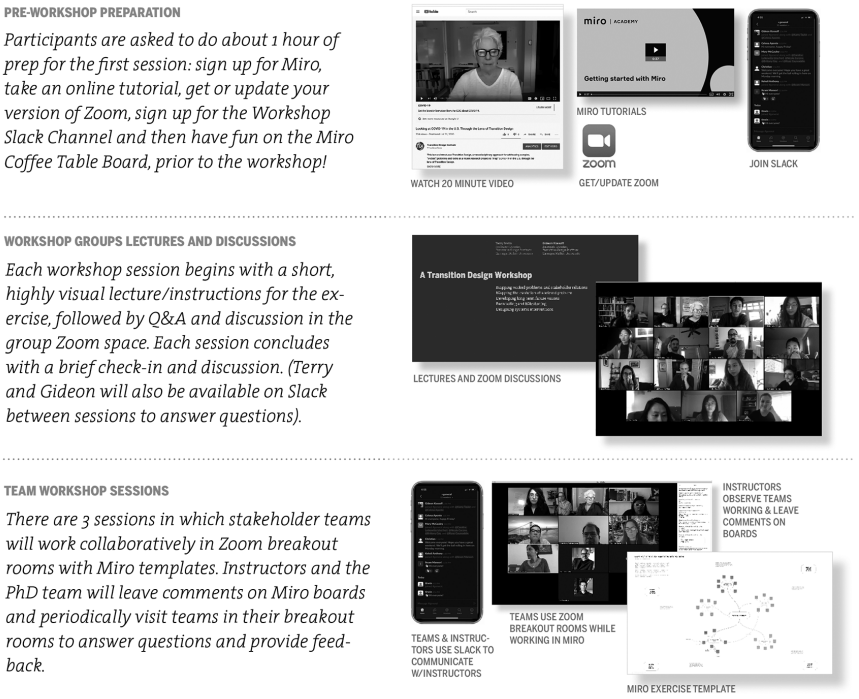

Figure 9. An Excerpt From a Workshop Manual, Which is Sent to Participants One Week Prior to the First Session. Manual and Workshop Design: Terry Irwin and Gideon Kossoff.

Transition Design workshops ranged in size from 15 to 80 participants. Workshop sessions comprised lectures and discussions that take place in the group Zoom space, but participants spent a majority of their time in zoom breakout rooms, working collaboratively with their team using pre-populated Miro templates (described on the following pages) in Zoom breakout rooms. Workshop teams ideally had 5-10 participants in order to spark lively discussion and systems-thinking. This was because too few people result in too little data from which to draw educational or research insights, and groups larger than 10-12 people can become unwieldy and inevitably result in some participants feeling left out of the conversation.

During the working sessions, participants primarily used post-it notes on the templates and are encouraged to draw connecting lines among related issues and concepts. We spent a significant amount of time in introductory lectures and in the workshop manual emphasizing the need for participants to write in complete, clear sentences on all notes and to include only one idea per note.

Workshop Schedule and Pacing

Workshops in which participants undertake all six steps in the applied Transition Design approach typically take place over the course of five sessions of between 2.5 and four hours each. These sessions can take place within four contiguous days or more ideally, over the course of three contiguous weeks. Because of the online format and the need to keep Zoom sessions short with at least one break during a multi-hour session, we opted for multiple sessions over the course of days or weeks. A typical schedule is shown in *Figures 10.1 and 10.2* below. Ideally, a kick-off or introductory lecture explains the Transition Design approach and provides participants with a detailed account of how the sessions will work and how instructors will be interacting with them over the course of the coming days/weeks. For educational workshops, participants are provided with instructions for how to conduct internet-based research on the wicked problem that they will be working with in the sessions.

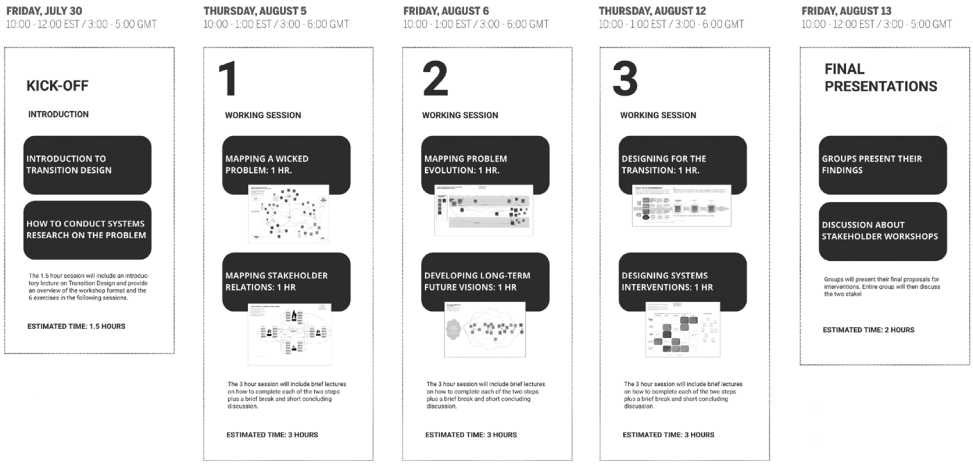

Figure 10.1. An Excerpt From a Workshop Manual Showing the Schedule for a Research Workshop in Transition Design. Manual and Workshop Design: Terry Irwin and Gideon Kossoff.

In this workshop, actual stakeholder teams, connected to a wicked problem, worked together in five sessions over the course of three weeks. Here, three of the five sessions focused on mapping exercises connected to the six steps in the Transition Design approach.