

# Scenario design through interdisciplinary community-research-teaching collaborations.

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## Introduction

Scenario planning results in nuanced, multidimensional visions of the future. In order to capture the richness of these visions, visual depictions of a desirable future state are valuable because they connect easily with a variety of audiences. In this poster, we present the process of co-creating design vignettes for scenario visions created with city and community leaders in South Mountain Village (SMV), Phoenix, around the themes of heat resilience, eco-hydrological connectivity, social connectivity, equity, and green gentrification.

## Scenarios

*Some Like it Hot:* Residents envisioned a future that addressed issues of heat equity and community health.

*Equity District:* Residents envisioned a future that leveraged their legacy of organizing around justice issues.

*Just Green Enough:* Residents envisioned a future with greening efforts that combated gentrification.

*Connected and Mobile:* Residents envisioned a future with more equitable transit.

*Mountain to River:* Residents envisioned a future that re-establishes connectivity between South Mountain and the Salt River [see detail to the right].

**Mountain to River:** [examples below]

SMV is the land between the mountain and the river. Yet connectivity of people, water, organisms across this land has not been well developed. The mountain is a desert remnant, while the river has two established 'restoration' projects (Tempe Town Lake and Rio Salado) and 'accidental wetlands'. Participants in this scenario identified the following priorities:

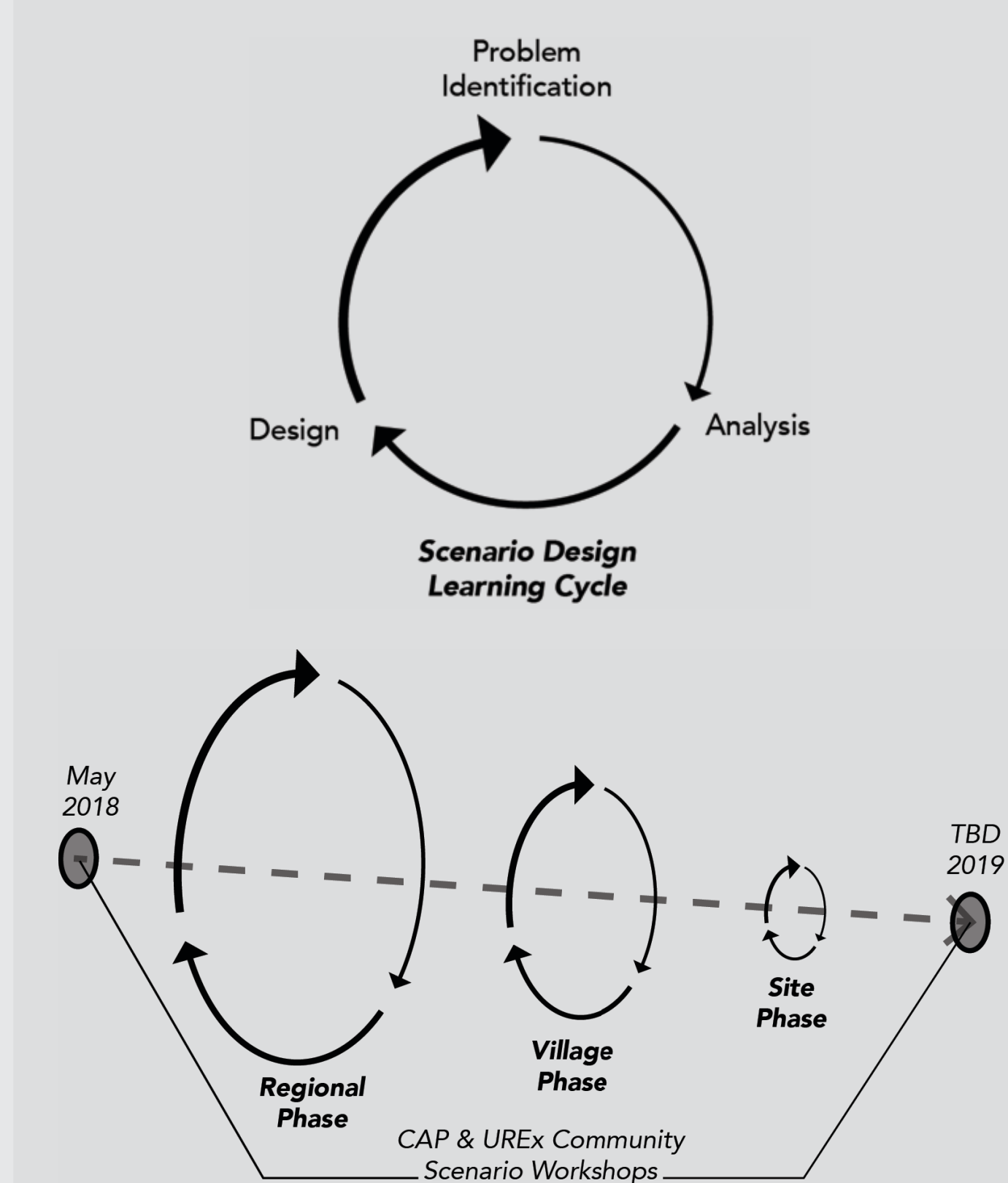
- Development recognizing community-held, environmentally, historically, culturally sensitive vision;
- Create a healthy watershed;
- Integrated systems approach to watershed management reducing risk and providing benefits;
- Eco-hydrological connectivity aligns with human mobility;
- Access to mountain and to the flowing Salt River;
- People of South Phoenix are water-aware.

## Pedagogical Model

A 4th year landscape architecture studio at The Design School was engaged to further develop five scenario visions into landscape designs for SMV. To deepen students' understanding of the SMV's social-ecological system, we developed an iterative pedagogical model (figure 1) that included the following sequence of phases:

1. Problem identification
2. Analysis
3. Design
4. Problem re-examination at a smaller scale

This process of conceptual design development is unique in that it involved collaboration between researchers from the Central Arizona-Phoenix Long-term Ecological Research (CAP LTER) project, Urban Resilience to Extremes Sustainability Research Network (URExSRN) (figure 2) and an upper level landscape architecture studio in a process that combined hands-on and experiential pedagogical approaches, research, and community outreach.



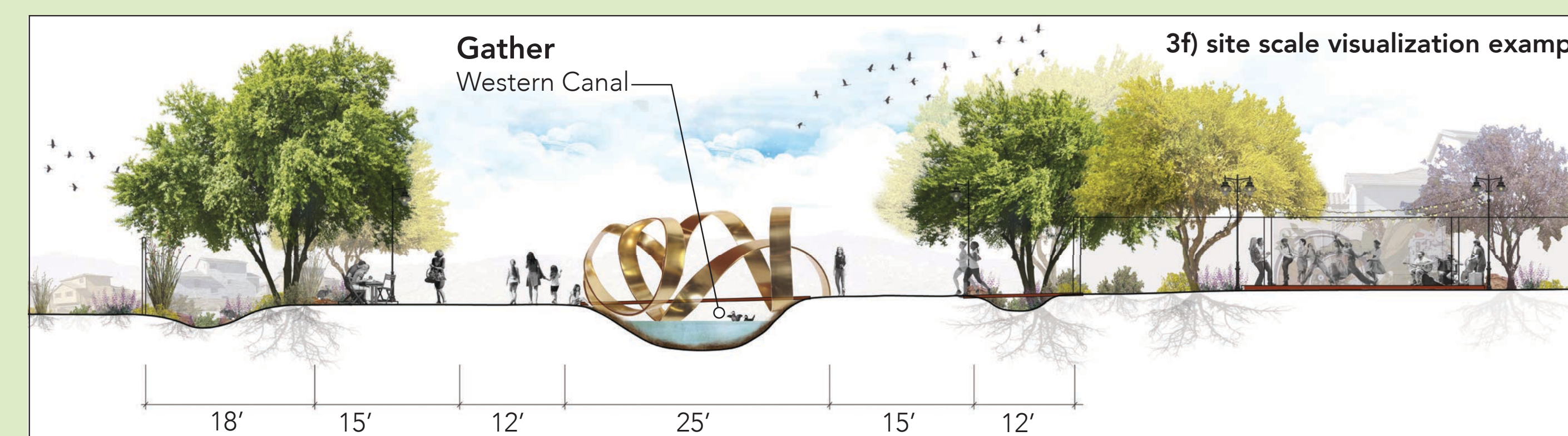
**Figure 1:** Above illustrates the Scenario Design Learning Cycle pedagogical approach to deepen the students' understanding of how to approach problem identification, analysis, and design. This is a cyclical and iterative approach that deemphasizes traditional linear approaches to design. Below, illustrates how we used this model process through the semester to examine the nested social-ecological system from region to Village to site scales. A CAP & UREx community scenario workshop that took place in May 2018 provided community data and ideas for the Fall 2018 semester. Outputs from the studio are intended to feedback in future community workshops.

## Scenario Example

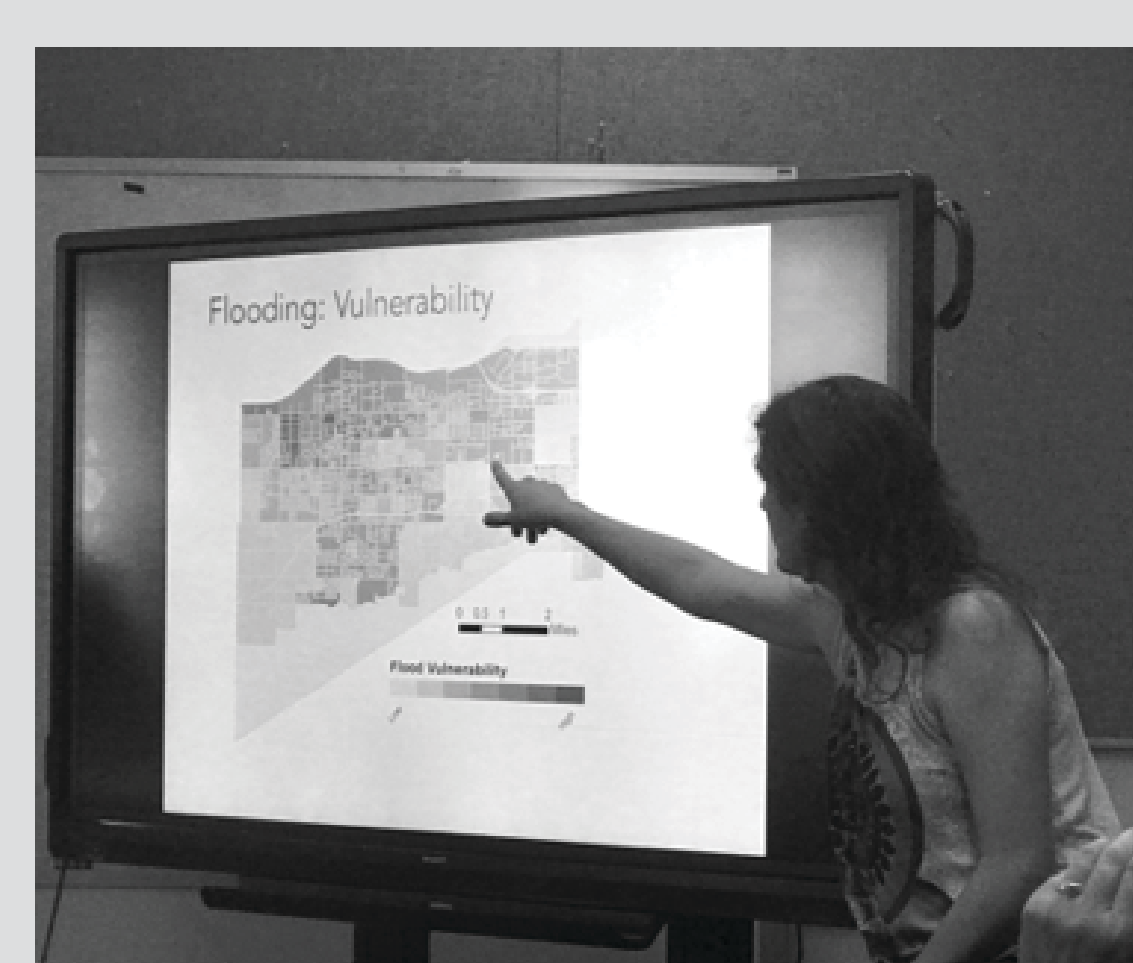
**Figure 3:** Students created visualizations and maps (3a) to illustrate the importance of mountain to mountain regional ecological connections within the Salt River Valley. They then created additional ideas, analysis, and visualizations for the SMV Mountain to River scenario. The students conceptualized the scenario as **Warp + Weft**, a reference to weaving fabric (3b). The **Warp + Weft** master plan aimed to connect South Mountain to the Salt River through green threads of trails, green streets, and other connective green infrastructure strategies as outlined by the community workshop in May 2018. The students then drilled down on a variety of sites and infrastructure to re-imagine those site scale infrastructure inspired by the **Warp + Weft** master plan (3d, 3e, and 3f).

## Conclusion

- Using this pedagogical model, students benefited from access to expertise, data, and future scenarios.
- Researchers benefited from an infusion of new ideas, deepening of scenario narratives, and visualization.
- The outputs of the collaborative studio will feed back into future CAP LTER & URExSRN scenario workshops, informing participants on alternate futures.
- The studio trained designers to actively participate in scenario workshops more broadly.



Illustrations by: Brett Cordova | Yifan Li | Zac Pekala | Katryn Squyres | Denise Torloni



**Figure 2:** CAP and UREx researchers presented their research work that was developed from a community scenario workshop in May 2018. Researchers participated in weekly group discussions and one-on-one interactions with design students to enrich their perspectives on resilience, environmental and social justice and facilitate translation of complex concepts into visual and physical form.

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