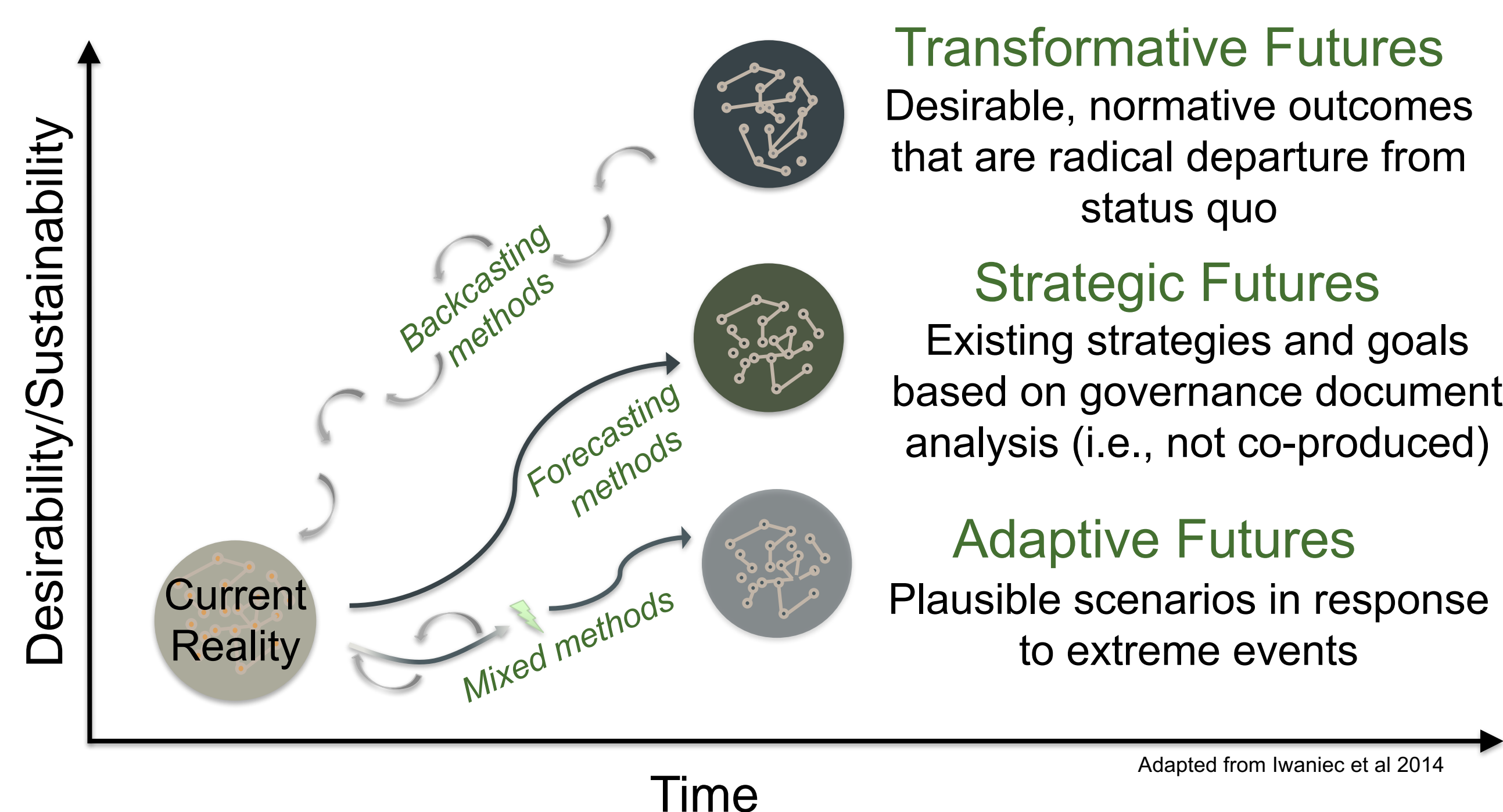


Why future scenarios?

Scenarios are an important tool for assessing potential social-ecological change for a location, and can be explored across a region, city, or neighborhood.

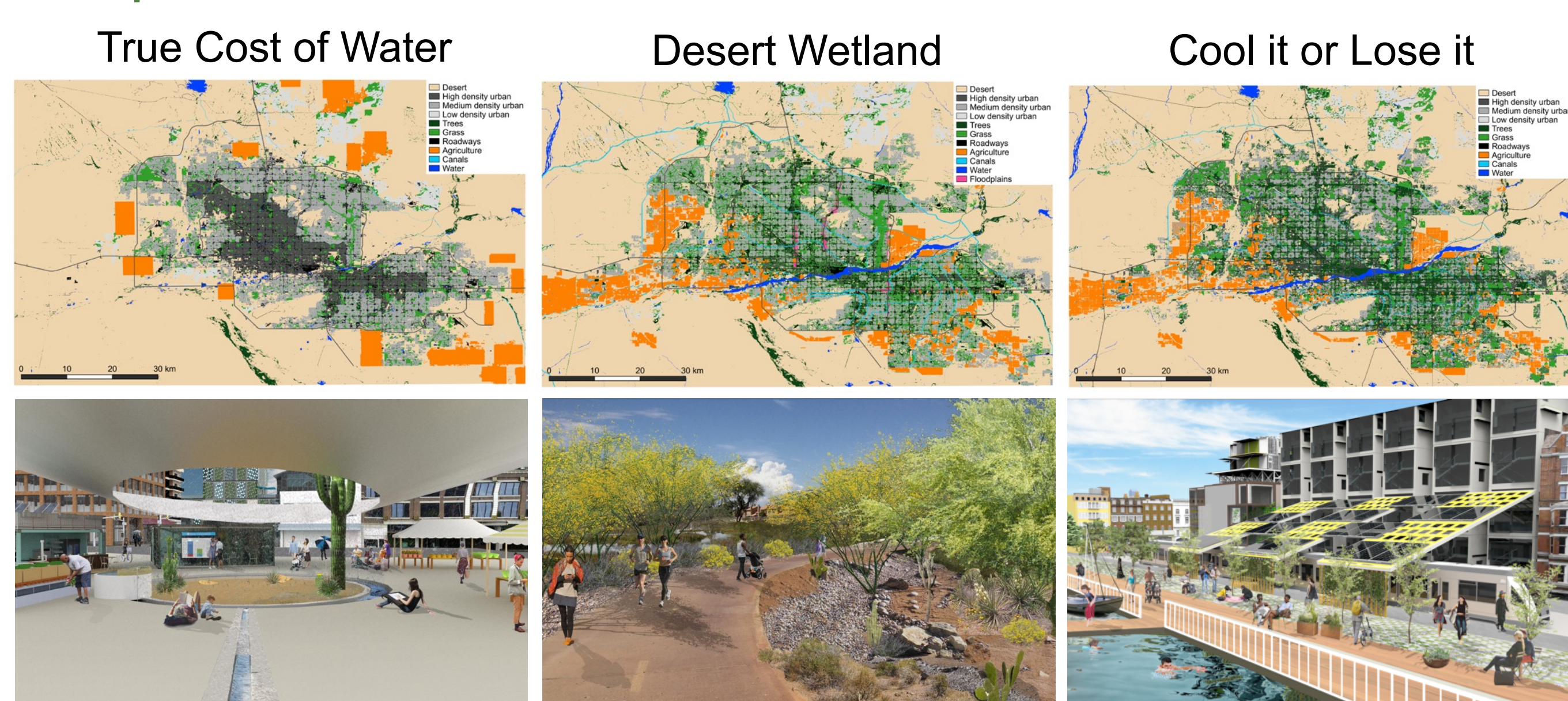
Scenario approaches vary based on diverse planning and decision support needs and objectives. CAP LTER uses three distinct scenario logics.



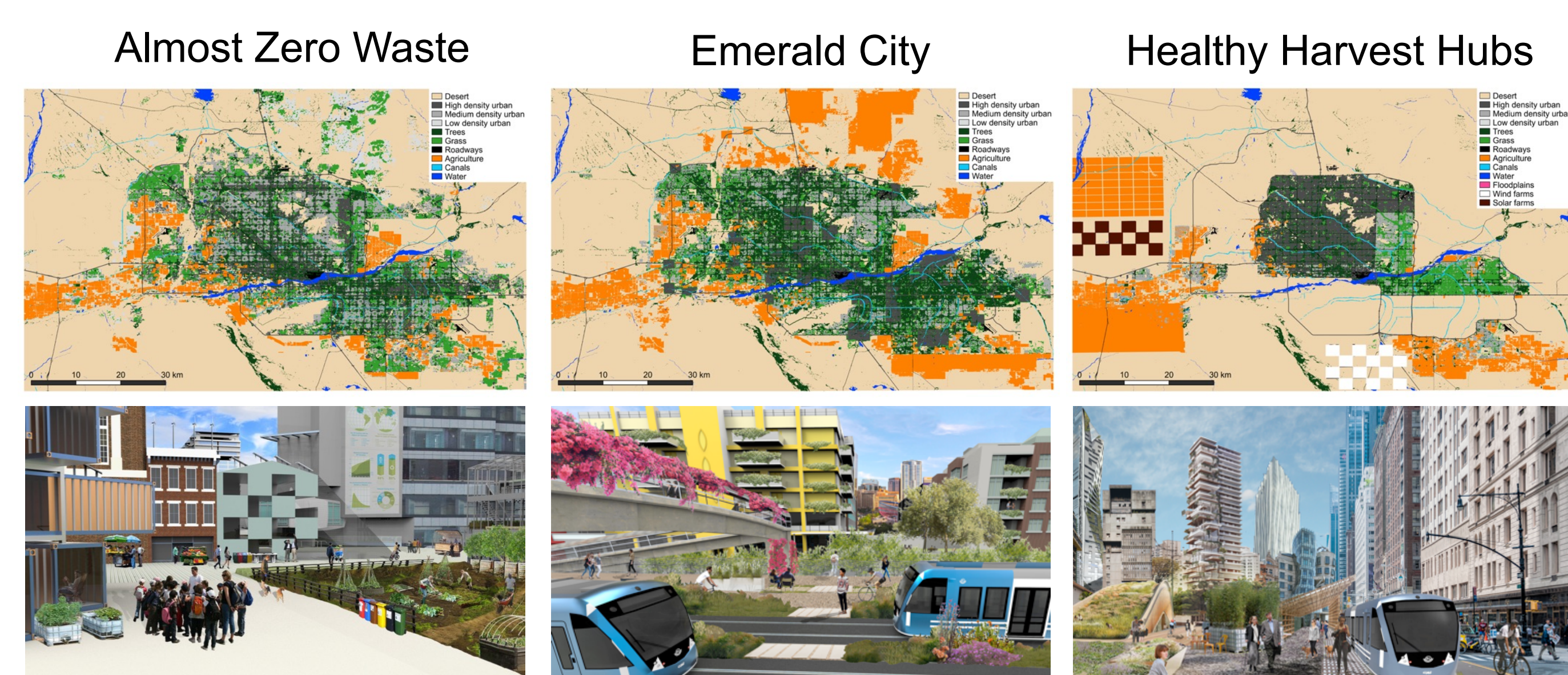
Existing CAP scenarios: Regional futures

From 2014-2016 a group of diverse stakeholders developed 3 adaptive and 3 transformative futures for the Phoenix region.

Adaptive Futures



Transformative Futures

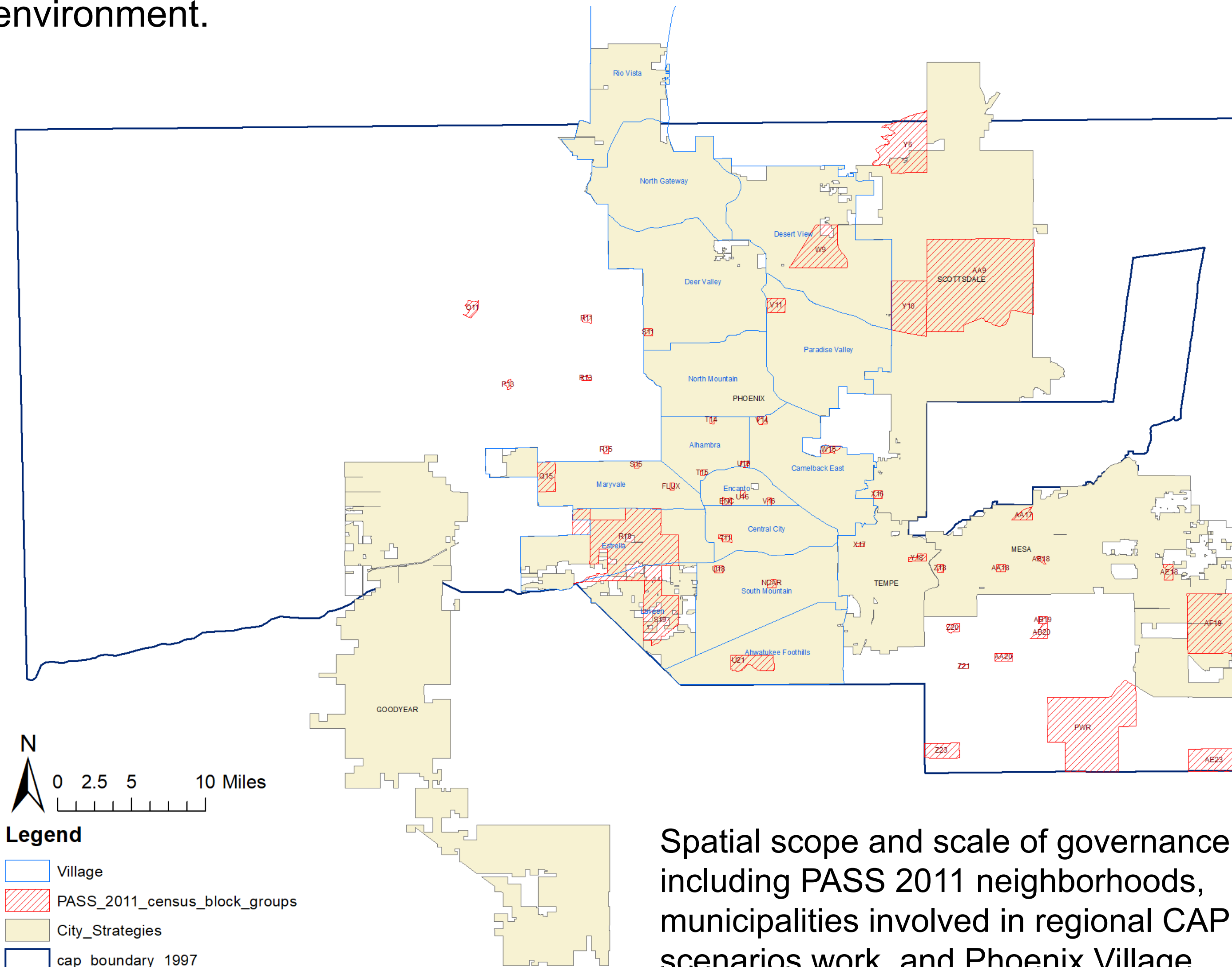


Visit www.sustainablefutures.asu.edu for more information

Regional to local futures

Regional scenarios are useful to explore larger scale change with a broad range of stakeholders, but may not reflect solutions and values preferred at local levels.

The Phoenix Area Social Survey (PASS 2011) provides a unique opportunity and resource to explore how local stakeholders perceive and value their environment.

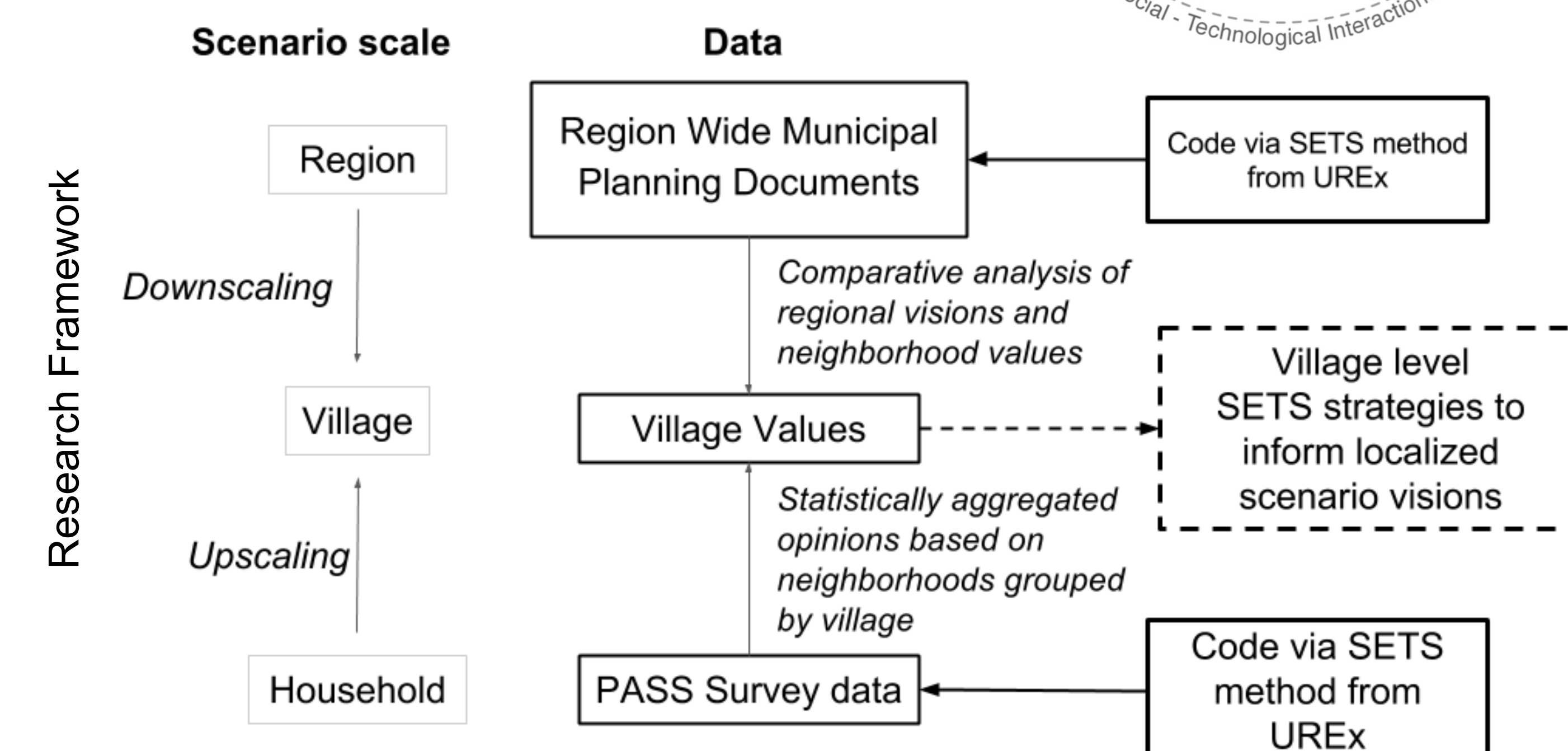
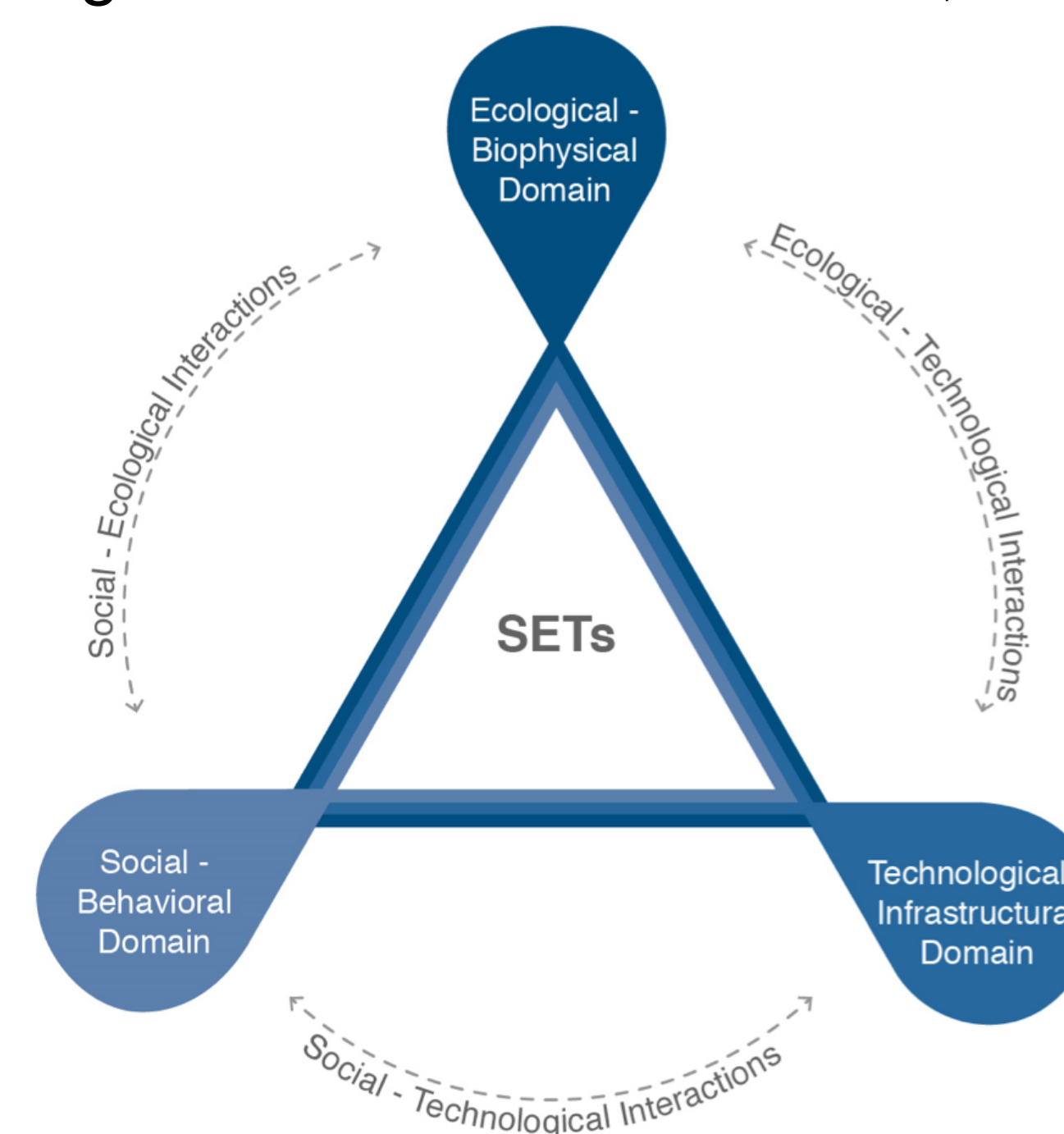


Spatial scope and scale of governance including PASS 2011 neighborhoods, municipalities involved in regional CAP scenarios work, and Phoenix Village boundaries.

Methods

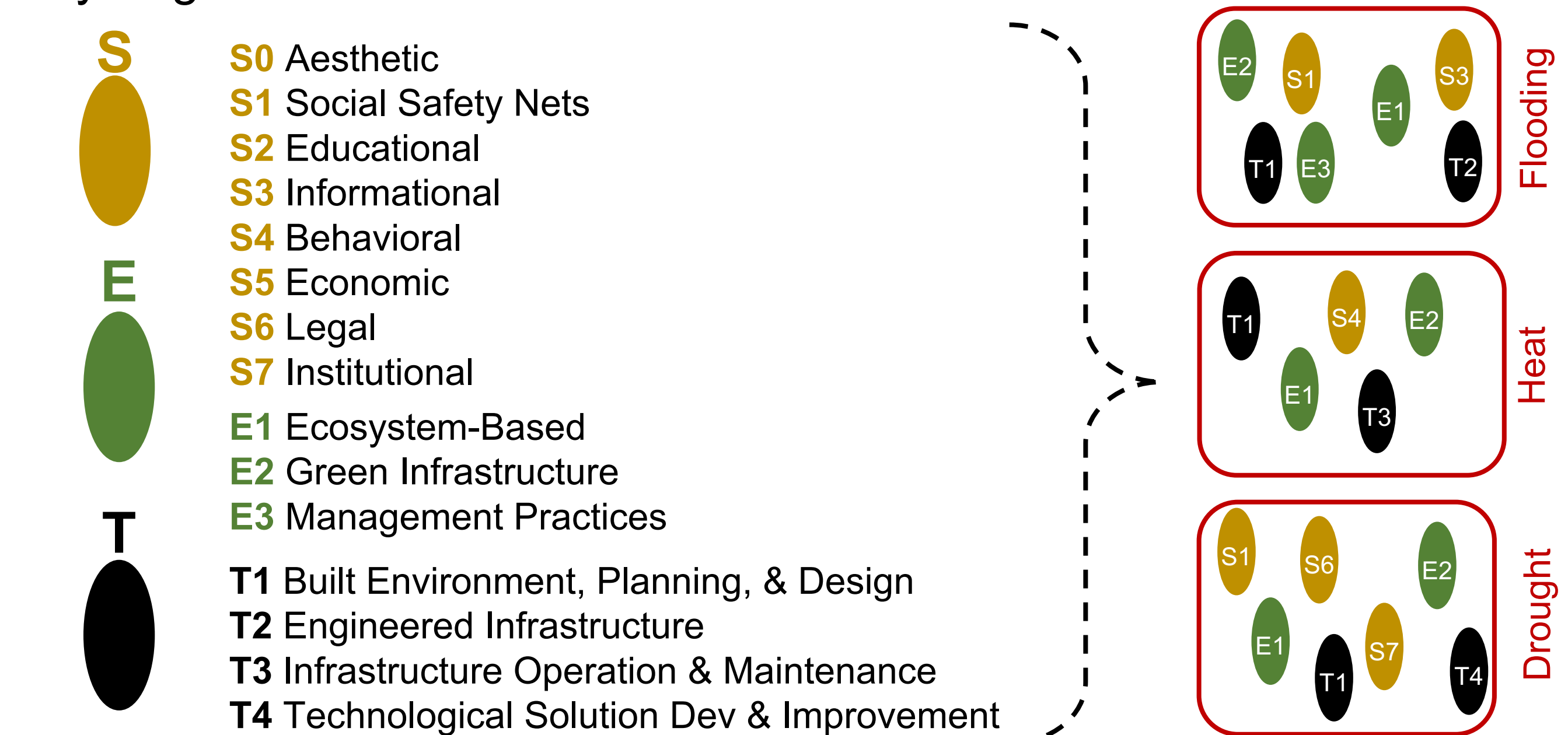
Focusing on adaptation strategies addressing climate risks such as heat, drought, and flood, we explore what strategies are being promoted at different scales of governance and how they may vary within the region.

The social-ecological-technological systems (SETS) approach allows us to elucidate the range of adaptation perspectives in regional planning documents and the Phoenix Area Social Survey (PASS).



Results

By comparing and contrasting bottom-up strategies from PASS and top-down strategies from municipal plans, we are able to explore the spatial heterogeneity of adaptation perspectives and isolate potential synergies and conflict.



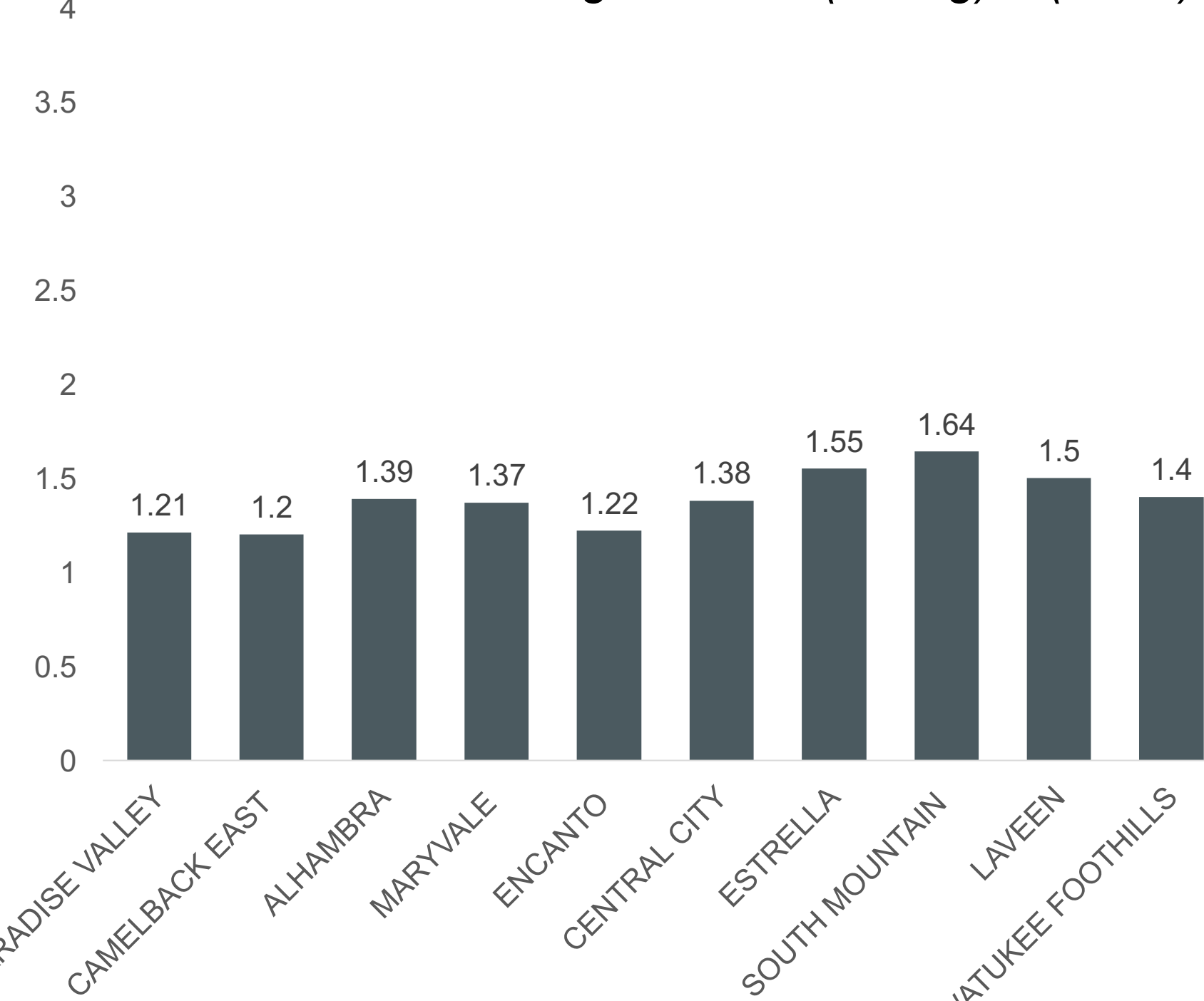
Engineering strategies (T2) to address **heat** are promoted at the city level (left) and supported widely across Villages (right).

Municipal heat strategies:

Adopt thermal comfort and sustainability standards for building form in Downtown to **increase thermal comfort, minimize heat gain, and enhance air flow**

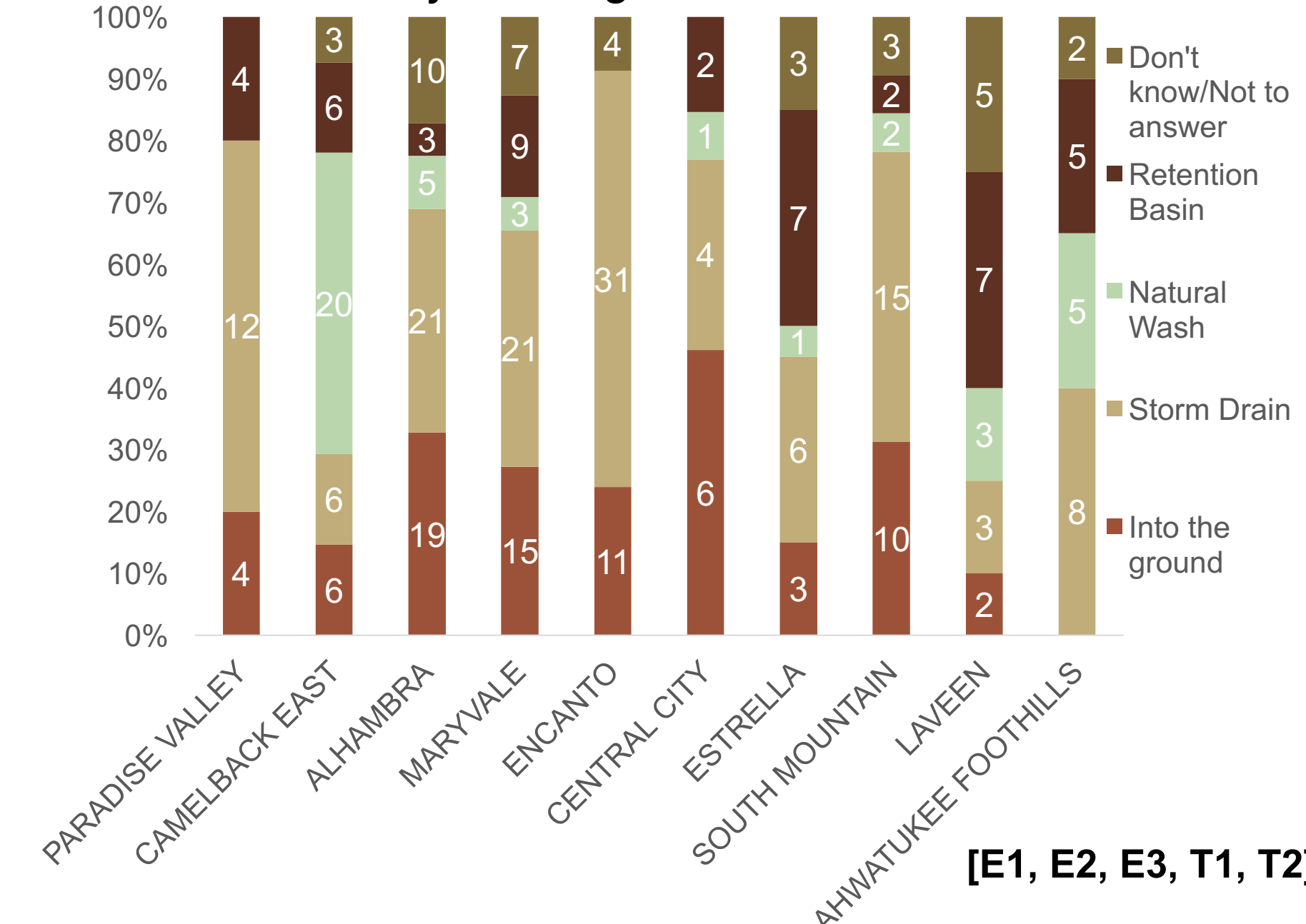
Engineered shade standards should be incorporated in the current zoning ordinance to require structures to be **designed with non-heat loading construction materials**

Support for Engineering new paving materials that absorb less heat in village scale. 1(strong)-4(weak)



Flood infrastructure knowledge at the local level (left) may not align with strategies to address flooding at the city level (right)

What happens to water during heavy rain in your neighborhood?



Municipal flooding strategies:

[S7, E1, E2, T4] Pilot open space projects to increase retention capacity with silva cells, orchards, rain gardens, and other water harvesting and retention mechanisms

[S6, T4] Renegotiate the MS4 permit to allow next-generation stormwater solutions in the District

[T4] Reduce stormwater loads and harvest water on-site

Next steps

The results of this work will be used to inform initial scoping and framing of upcoming UREx SRN / CAP LTER participatory scenario workshops for South Phoenix in May 2018.