

WATER DEMAND: RESEARCH AND ENGAGEMENT DECISION CENTER FOR A DESERT CITY



Urban Water Demand
Roundtable
Feb 9th and 10th 2015



Demand Research

- Economics
- Behavior
- Structure
- Uncertainty / Forecasting

Economics

➤ Elasticity

- Klaiber, H. A., V. K. Smith, M. Kaminsky and A. Strong. 2014. Measuring price elasticities for residential water demand with limited information. *Land Economics* 90(1):100-113.
 - new method for estimating price elasticities that can accommodate the complexities of increasing block pricing structures

➤ Economic Development



Behavior

➤ Education Effectiveness

- Cutts, B. B., S. T. Shuttles and T. A. Munoz-Erickson. In Press. Evaluating the effect of educational partnerships on access to water information in Phoenix, Arizona. *Society and Natural Resources*
- Larson, K. L. and E. N. Redman. 2014. Water education for sustainability: A critique and recommendations. *Society and Natural Resources*
- Cutts, B. B. 2013. Spatial interactions among organizations and the symbolic landscapes created by water information campaigns in central Arizona, USA. *Water Policy* 15(1):61-78.



Behavior

► Culture

- Larson, K. L. and J. Brumand. 2014. Paradoxes in landscape management and water conservation: Examining neighborhood norms and institutional forces. *Cities and the Environment* 7(1):Art. 6. ([link](#))
- Neel, R., E. Sadalla, A. Berlin, S. Ledlow and S. Neufeld. 2014. The social symbolism of water-conserving landscaping. *Journal of Environmental Psychology* 40:49-56. DOI: 10.1016/j.jenvp.2014.04.003.

► Values

- Sadalla, E., A. Berlin, R. Neel and S. Ledlow. 2014. Priorities in residential water use: A trade-off analysis. *Environment and Behavior* 46(3):303-328.



Demand Structure

- Outdoor
 - Lawns: Boston
 - Landscape –
 - Remote Sensing
 - Relationships
- Climate – Heat Island - Drought
- Land Use
 - Multi Family
 - Density



Emerging : Demand Uncertainty / Forecasting

- Uncertainty research
- Anticipatory Governance
- WaterSim – Regional Supply and Demand Model
 - Supply models to explore factors of uncertainty
 - Demand model based on uncertainty factors
- Quay, R. 2015. Planning for demand uncertainty in integrated water resource planning. Journal – American Water Works Association (JAWWA) 107(2):32-41.



More Info and Contacts

➤ Articles and Past Demand Roundtables

- DCDC.ASU.EDU -
 - Publications - Articles
 - Outreach – Workshops

➤ Research Partnerships

- Contact Ray Quay ray.quay@asu.edu

