

Water Affordability in California: Linking Affordability Indicators to Policy Decisions

Laura Feinstein

Senior Researcher, Pacific Institute



Take-Home Points

- Some affordability indicators are better than others, but all reflect at least some subjective choices and simplifying assumptions.
- We need to understand water affordability to answer questions about management of water: rate setting, cost management, identifying feasible new sources of supply.
- We need to understand poverty to answer questions about how to run an a customer assistance program: who is struggling to meet basic needs?
- Low-income bill discounts aren't the only tool in the box for improving affordability.

Section I. Why Do We Measure Affordability?

Goals & Definitions

- Water is affordable when households do not face tradeoffs between paying for basic water and sanitation needs and other essential expenses (United Nations Special Rapporteur on Water, 2015)
- “Water-cost burdened” – a household that faces tradeoffs between water and other essential expenses

Two Levels of Affordability Problems, Two Sets of Solutions

- System-level: Are a large proportion of households in a system water-cost burdened?
 - Cost- management
 - Rate-setting
 - New Investments
 - Conservation and efficiency
- Household-level: Is an individual household water-cost burdened?
 - Customer Assistance Program

Section II. Developing a Useful Set of Affordability Indicators

Improved Affordability Indicator

- Affordability Ratio (AR) =

$$\frac{\text{number of persons} * \text{cost of basic water use}}{\text{income} - \text{essential nonwater expenses}}$$

Source:
Teodoro 2018

- *Basic Water Use* includes drinking water for indoor use, wastewater, and stormwater. Excludes outdoor irrigation and leaks.
- Simplifying assumptions and calculations
 - Use available government tables to estimate cost of nonwater essential expenses on a county
- Challenge: hard to disaggregate income level and household size

Suggested Performance Indicators

Service Level	Household-Level Performance Measure	System-Level Performance Measure
Satisfactory	Basic water needs cost $\leq 10\%$ of income after nonwater essential expenses.	Fewer than 33% of households spend $>10\%$ income on basic water needs after non water essential expenses.
Moderate	Basic water needs cost $>10\%$ but $\leq 50\%$ of income after nonwater essential expenses.	Fewer than 40% of households spend $>10\%$ income on basic water needs after non water essential expenses.

Also suggest Marginal and Unsatisfactory standards.

Unsatisfactory = $>100\%$ for basic water use

Source: Feinstein (2018, forthcoming)

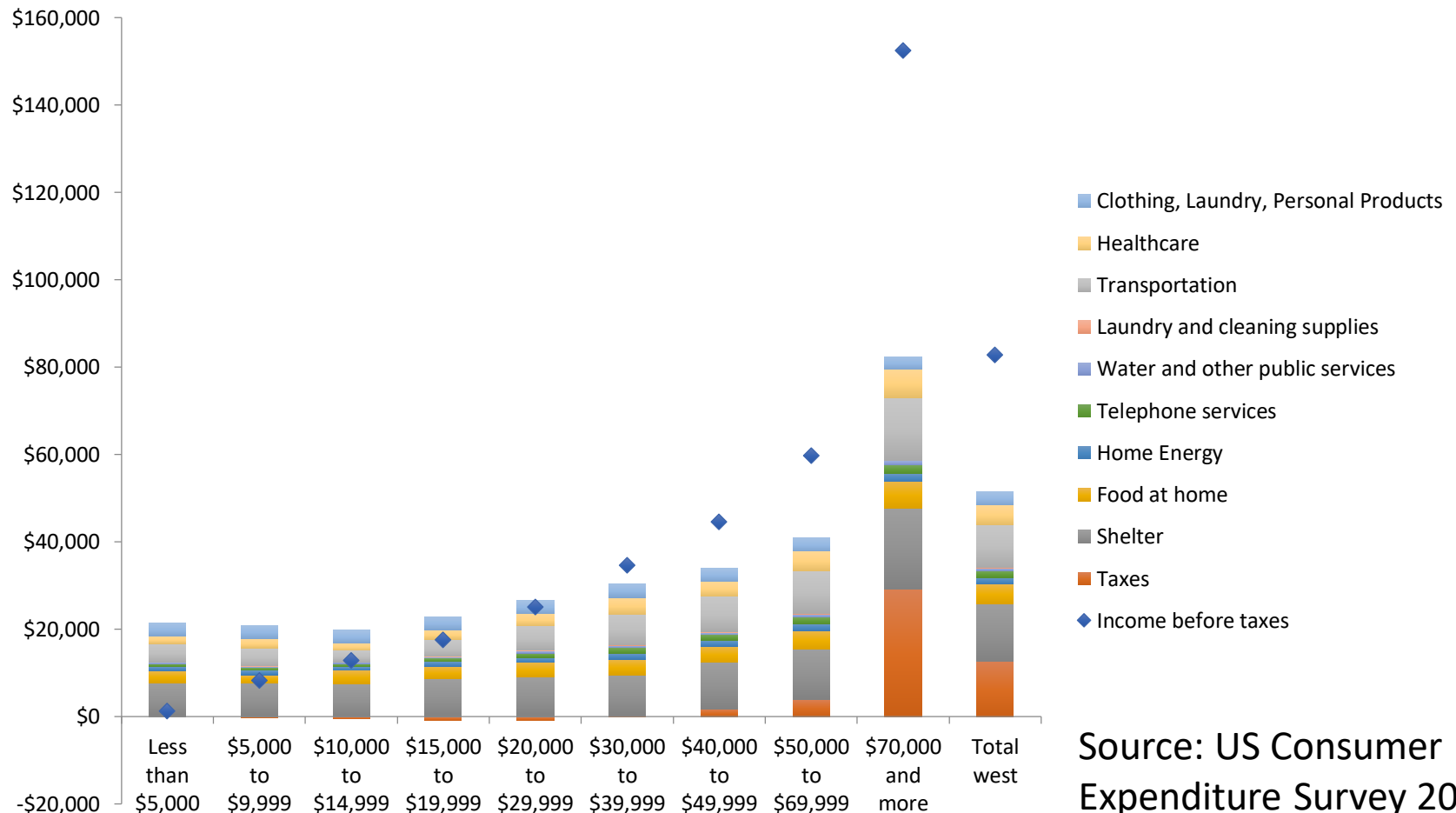
Section III. Connecting Affordability and Customer Assistance Programs

Eligibility for Customer Assistance

- Really only need to answer a simple question: is a household struggling to meet basic needs?
- Existing social assistance programs have advantage of adjusting for income by household size
- Best to avoid extensive questionnaires and identifying eligible households from scratch
- The quickest and most expedient way to enroll people in a CAP is to use an existing list

The Cost of Water Isn't a Big Determinant of Which Households are Cost-Burdened

Households making less than \$30,000 annually are typically just meeting basic expenses



Source: US Consumer Expenditure Survey 2017

Bill Discounts Aren't the only Tool in the Box to Improve Affordability

- Conservation and Efficiency Programs, especially targeted to low-income homeowners, renters, landlords, and nonprofit affordable housing
- Rate Setting: tiered rates and budget-based rates
- Choose the most economic source of new supply
 - Energy sector principle: conservation and efficiency is first in the loading order
- Consider whether regionalization or consolidation can help spread fixed costs across more ratepayers

Conclusion

- Measurements of water affordability are useful for monitoring the impact of system-level management decisions – Affordability Ratio
- Take a simpler approach to determining eligibility for customer assistance – 200% FPL/VLI
- Consider other options besides bill discounts to improve affordability.

Questions?

For a more detailed discussion, see forthcoming report,

*Measuring Progress Toward Universal Access to Water and Sanitation in California:
Defining Goals, Indicators and Performance Measures*

Laura Feinstein

Senior Researcher

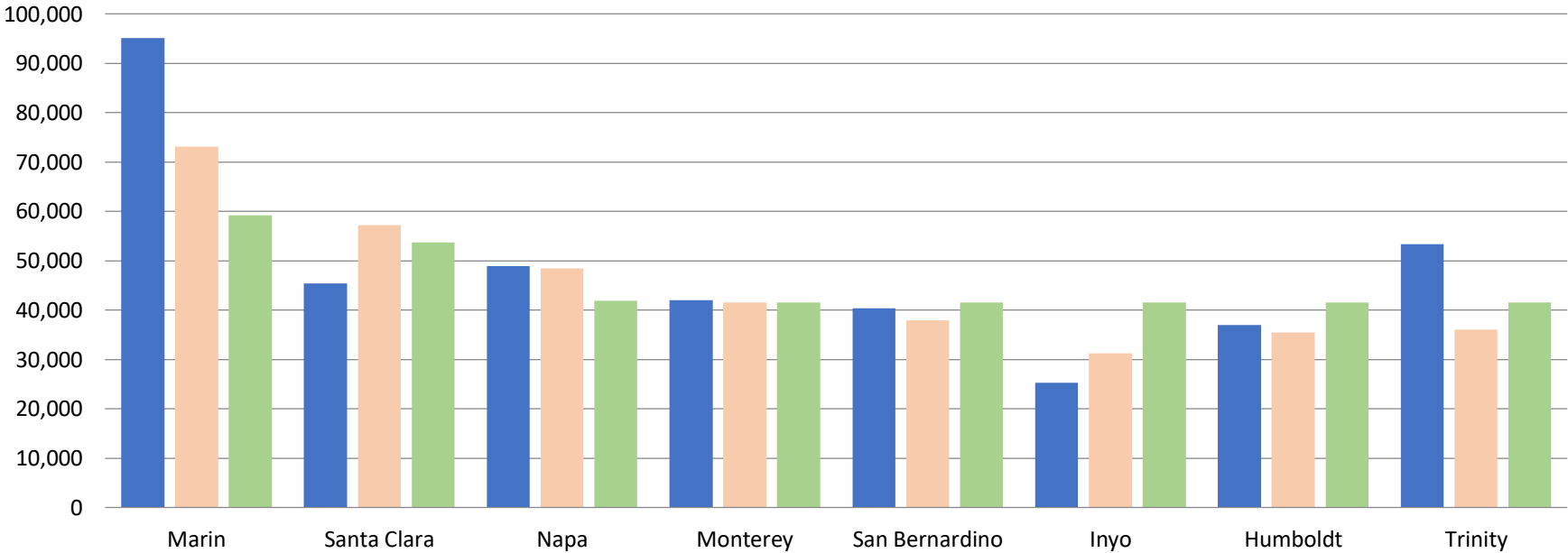
Pacific Institute

510-877-3193

lfeinstein@pacinst.org

Extra Slides

Comparing Affordability Indicators and Eligibility for Customer Assistance



- Households spending more than 1.5% of gross income on drinking water
- Households spending more than 10% of DI on basic water use (water, sewer, storm.)
- 200% FPL/VLI

