Future Drivers of Urban Water Demand

Peter Mayer, P.E.
Principal, WaterDM
Forecasts are Prepared with Different Objectives

- **Water supply planning** – Will there be enough water in the future? 1 – 100 years, typically 30 years.

- **Regulatory** – Federal, state, and local permitting requirements for large infrastructure. 50 – 100 years

- **Water conservation planning** – 10 – 30 years

- **Water rate making** – 1 – 10 years

- **Peak demand and other short-term forecasts** – week, day, hours
“It’s tough to make predictions, especially about the future.”
~ Yogi Berra

- Climate change will impact water systems differentially.
- More efficiency, further demand reductions.
- Water loss control
- Water budgets/targets/allocations
- Cost of water and wastewater services will continue increase, faster than other sectors.
- Affordability issues
- Technology
- Conflict & cooperation
- Water still flows downhill
How much more efficiency?

- A lot.
- We’re ... half way there!
- Water loss control
- Outdoor efficiency
- Leak detection
- Advanced metering
- Right-sizing of plumbing and meters

San Francisco, CA – Leak Alert Program

- 27,087 notifications sent to 6,580 accounts
- 6% of single-family homes
- 46% reduction in SF residential leak volume
Drivers of Urban Demand

- Population
- Climate (or weather for short-term)
- Codes, standards, WaterSense
- Indoor efficiency
- Water loss control practices
- Bottom line water bills, rate structure
- Landscape and irrigation
- CII
- Metering, AMI, leak alerts
- Growth patterns
- Asset management and replacement planning
- Conflict or cooperation

---

**US Public Supply Withdrawals and GPCD**

- **Source:** USGS Estimated use of water in the United States (2010, 2015).

---

**Public Supply Withdrawals (billion gallons per day)**

- **gpcd (gallons per capita per day)**
Thank You

Peter Mayer, P.E.

peter.mayer@waterdm.com

www.waterdm.com