Overview of Water Use Trends: Goodyear 2016
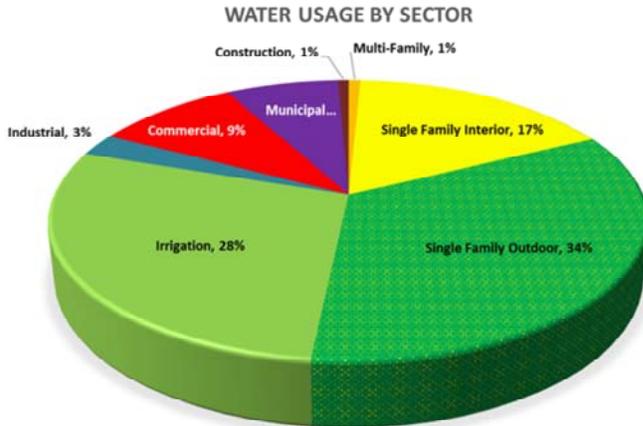
November 15, 2016

Water Conservation Committee

28% by commercial irrigation meters. These include usage by city parks, for right of way, for all common areas, and for business landscaping.
Note that residences accounted for 51% of the usage and about 2/3 of that occurred outdoors as well.

Outdoor context: Pools

INSTALLATIONS AND IMPACT

- Municipal pools 1+
- 4109 private installed pre-2013 in service area
- 362 new private in service area 2013 –2015
- Community HOA owned-limited

Evaporation will empty the average private pool in Goodyear each year so minimum use will be the volume of the pool.

There are a number of studies of water use by pool owners. Pool owners in Goodyear study area used about 3000 gallons per month of water on average more than non-pool owning households during the first decade of this century.

New pool installs are concentrated in the newer development areas of the city. Equal number were installed in Liberty service area 2013-2015 and 76 in EPCOR service area.

Outdoor context: HOAs

LANDSCAPE GUIDELINES, CC&RS, COMPLIANCE

- HOA landscape guidelines influence water use
- Turf requires more water
- Interpretation and enforcement of guidelines will also influence water use

Homeowner associations also influence water use at home through regulations. The developer establishes covenants, codes and restrictions (CC&Rs) for a new community as part of the planning process. They are recorded in the county and legally binding. Landscape guidelines are more readily changed. Most guidelines in Goodyear identify a **minimum** number of plants or area of plants that must be placed in the front year and list prohibited and preferred plants.   Requirements of turf require homeowners to use more water outdoors than those specifying low-water using species. In the city's water service area only one HOA requires turf in the front yard, while more in the area served by Liberty Utilities do.
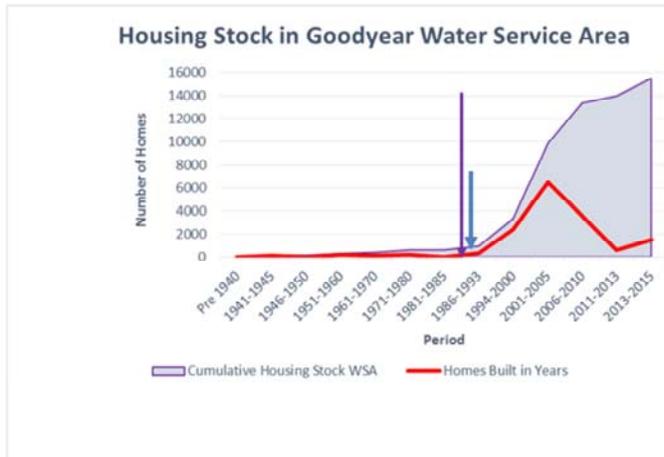
Tactics:
Reduce water demand by plant selections

Context: Housing stock age

Indoor savings potential from fixtures programs

Housing Stock in Goodyear Water Service Area

- 94% of Goodyear homes were built after 1993
- 95.7% were built after 1990
- **Federal** (1993) and **City** (1990) low flow plumbing fixture requirements
- Retrofits will have little impact on GPCD

1990 City adopted low flow requirements for domestic fixtures. The U.S. adopted the same ones in 1993 and current plumbing codes incorporate those.
Pre low flow toilets used 3.5 or 5.0 gallons each time they were flushed.
Low flow toilets use 1.6 gallons per flush.
Newer WaterSense rated toilets use at least 20% less—1.28 or 1.03 gallons per flush.

Plumbing higher efficiency WaterSense rated toilets in homes at time of construction of the next 15,500 homes would have the same impact as replacing the 95.7% of Goodyear toilets installed after 1.6 gpf became our standard.
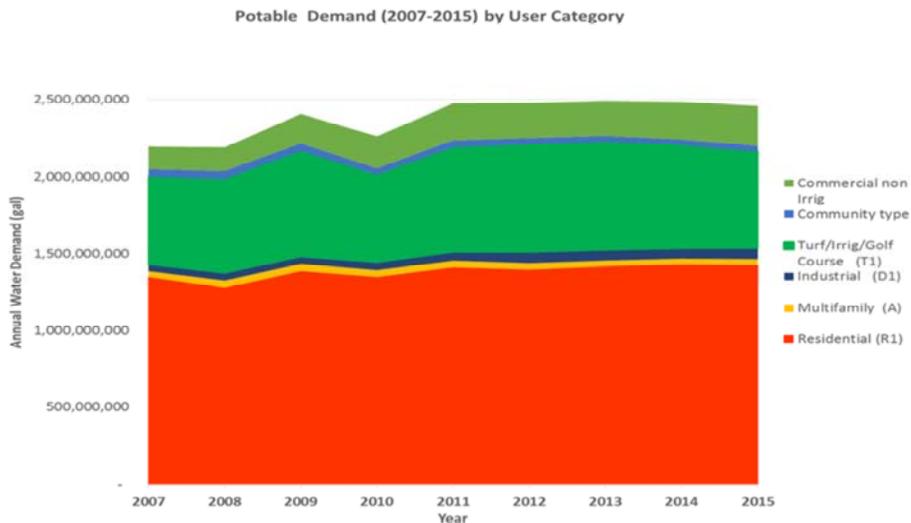
Tactics:
Substitute more efficient technologies

Since 2007 the amount of water the city has sold to customers has increased by 12%. This chart helps see where the most growth has occurred.

	Volume sold	
Use	2007	2015
Single family residential 5.8%	1.346 billion gallons	1.425 billion gallons
Irrigation (turf and other) 9.2%	570 million gallons	622.8 million gallons*
Other commercial 75%	147 million gallons	257.9 million gallons

If population and use at homes drives the overall demand, the red band would flare while others remained a steady width.

- The Goodyear Ballpark used remediated water for the first time in 2014 and relied upon it for 84.7 million gallons of water in 2015. That non-potable water was provided by Phoenix Goodyear Superfund Site South at no cost.
- Direct reuse water is also excluded.
- From all sources combined, the city service area used xxx million gallons of water on outdoor irrigation in 2015. (updating ADOT portion)

Questions?