Water Wise Gilbert

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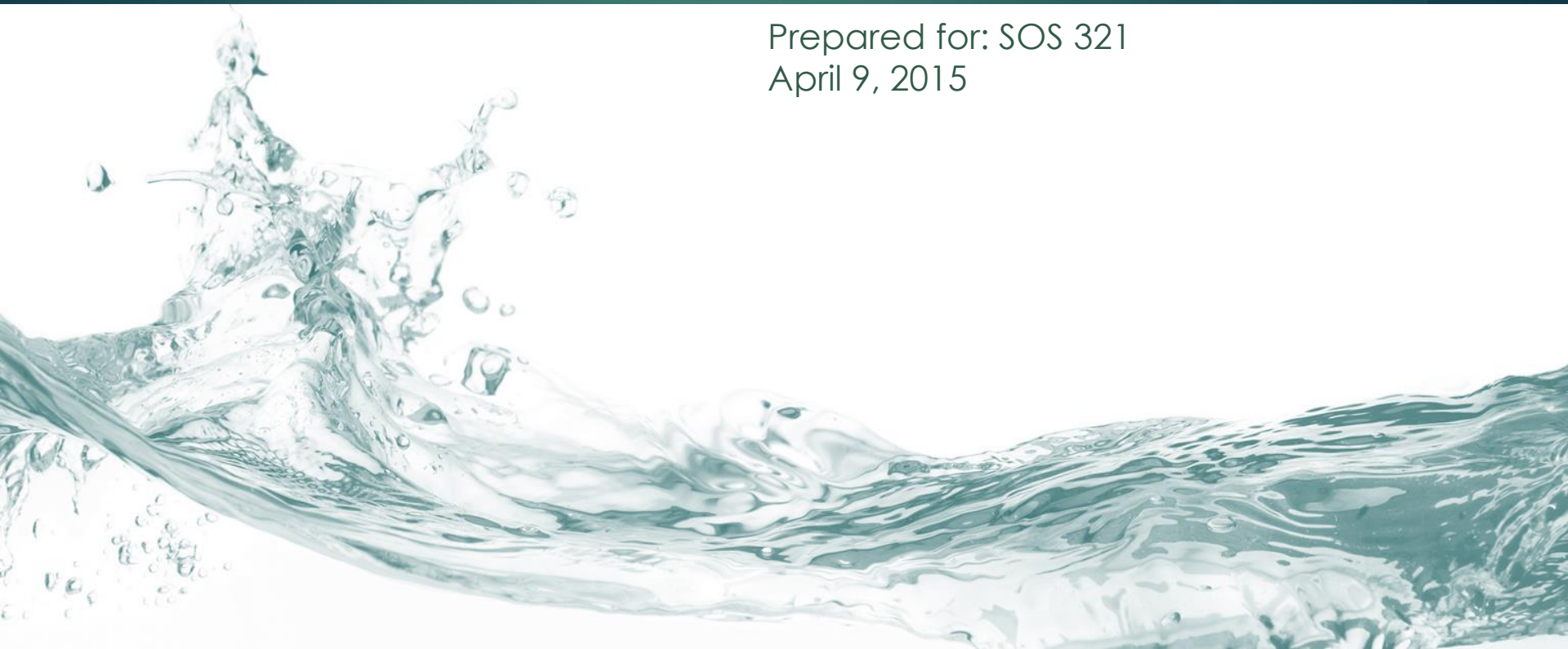


Why water?

- Current population ~230,000. Doubled every 5 years since 1980.
- ~93% of Arizona counties face risks of water shortages by mid-century. Demand > Supply by 2050.
- Average, national cost of water/1000 gallons is $1.50

"This challenge to sustainability is unprecedented in scope and scale. Never before have water supplies in the arid West been so severely strained with the potential to affect so many people."

~The Mirage in the Valley of the Sun

Sustainable Water Management Definition

"Sustainable water use would permit maintaining the benefits to all current users, without reducing benefits to natural ecosystems or future generations"

~ Peter Gleick, Pacific Institute Scientist

Problem Overview

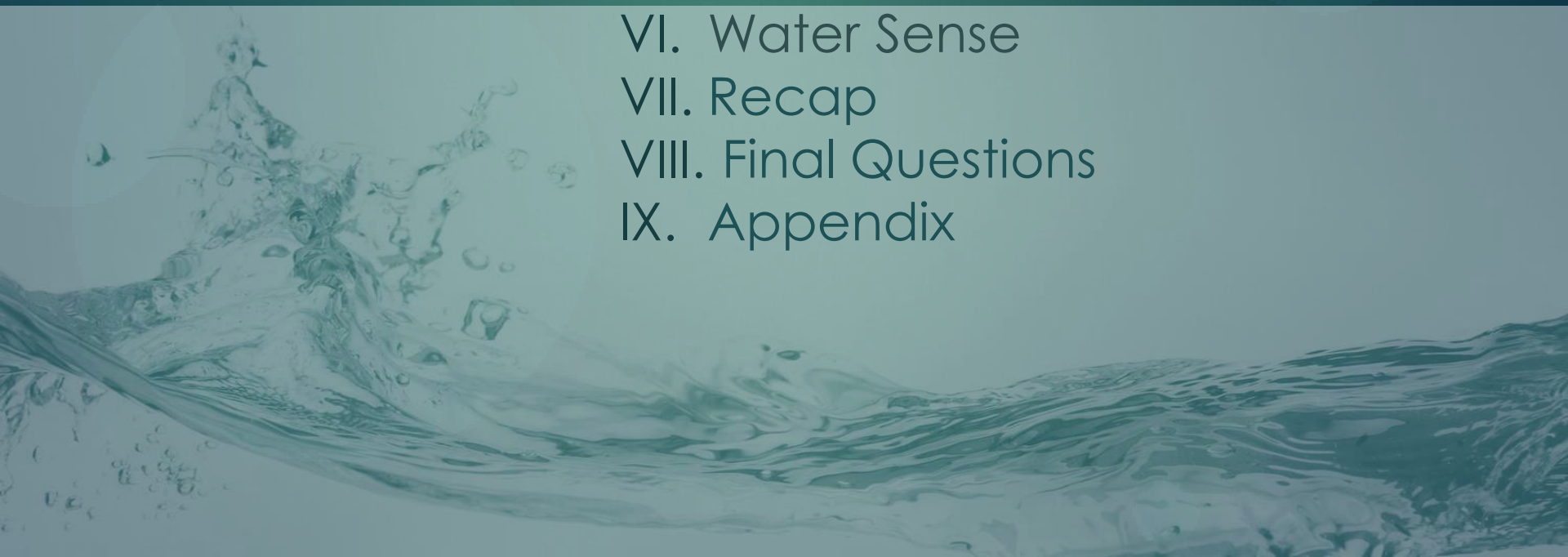
The town of Gilbert, Arizona is looking to encourage local businesses to conserve water. So far, the city has had problems getting businesses to sign up for the Water Wise Gilbert program. Gilbert is in desperate need to find a solution that will incentivize businesses to join the Water Wise Gilbert.

Our Objective

Using policy and governance along with key concepts of sustainable practices, our goal is to transform the Water Wise Gilbert program into a hit success that other neighboring cities can use as a future template for governance.

Outline

I. Interview
II. Adopters
III. Current Rate Comparisons
IV. Proposal
V. Economic Profile
VI. Water Sense
VII. Recap
VIII. Final Questions
IX. Appendix



Interview: Matthew Scholz

Major drivers:

1. Leadership commitment
   - Are the CEOs into water conservation?
2. Consumer perception
   - Are consumers concerned with water use?
3. Cost and savings
   - *But* water is so cheap that it is hard to motivate and there is seemingly little monetary incentive.

"If you want to affect change in businesses, pass more laws."

Potential Early Adopters

Restaurants

- Joe's Real BBQ
- Joe's Farm Grill
- Liberty Market
- Snooze

Government Buildings

- Schools (39 total in 2012)
- Military

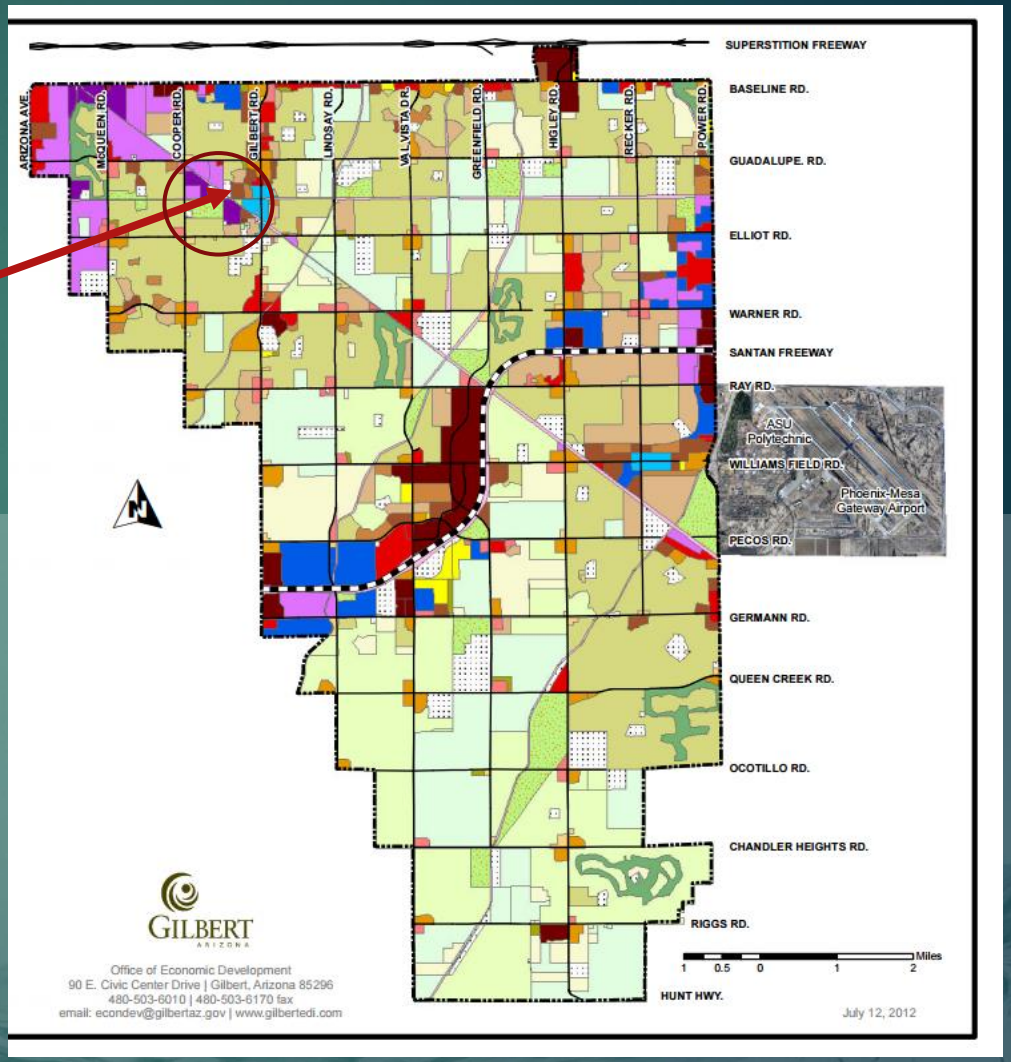
Other

- Office Buildings
- Hospitals
- Laboratories
- Hotels

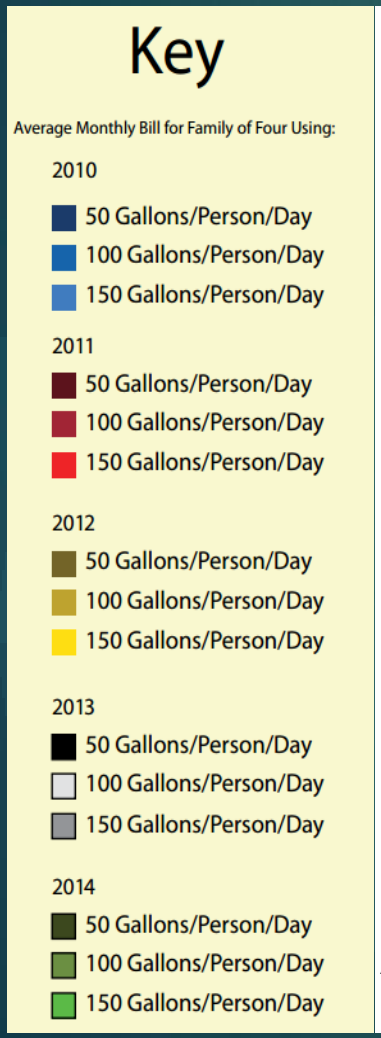
Xeriscape Landscaping Example

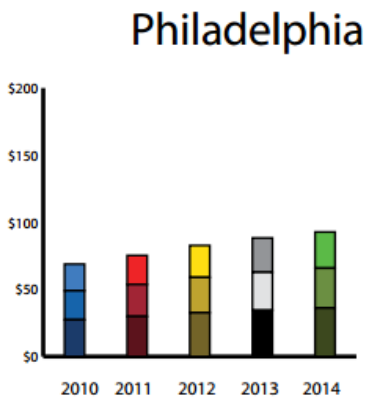
Potential Survey Locations

1. NW Gilbert
   - Light industrial and general commercial
   - Downtown
2. East Gilbert
   - General commercial, business park, light industrial, regional commercial
3. Along the Santan Freeway (202)
   - Regional commercial, business park, general commercial, etc.

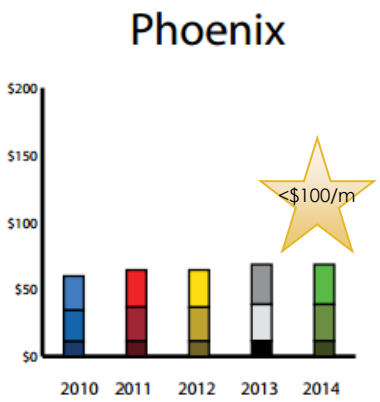


Average Monthly Bill (Res.) and Annual Rainfall

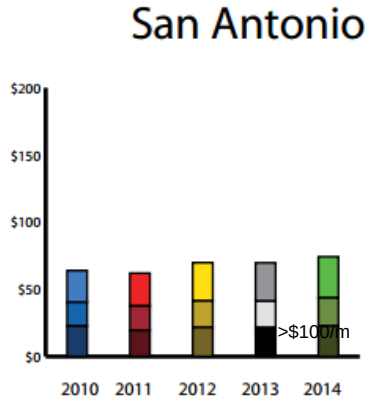




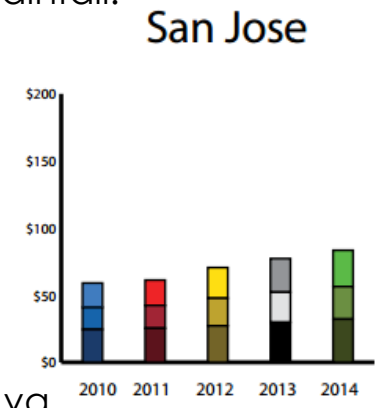
Avg. Rainfall: 41.45 in/year



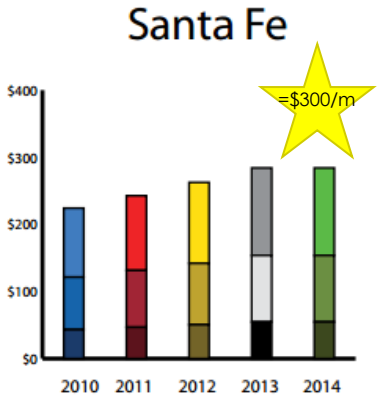
8.04 in/year



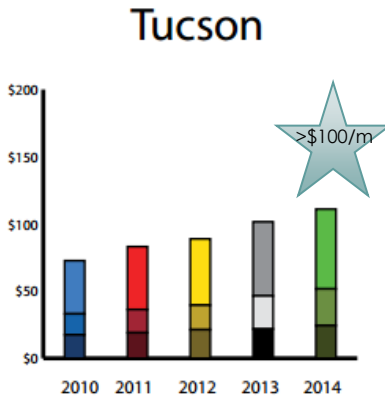
32.91 in/year



Avg. Rainfall: 15.09 in/year



14.21 in/year



11.92 in/year

Change the Tiers

Increase cost of water to reflect its importance as a resource

- Provides a further economic incentive
- Differentiate the tiers between residential and non-residential use

Model Tucson:

- Prices increased more than 50% over 5 years, yet water consumption fell 8%

To implement:

- Resistance is a given
- Provide limited, temporary rebates for early adopters so they can adjust to the new prices
  - Should help the business, but should also be invested
  - Provide only to interested businesses who are willing to be audited
- Those who are approved for the water rebate can also gain the Water Wise label

April is Water Awareness Month→ tie in events to make businesses more water-conscious

Proposed New Rates
(2009 vs Proposed)

Water Rates- Meter size

Monthly Base Rate Based on Meter Size	Current Rate (as of 2009)	% Increase from 7/1/09 to Proposed Rate	Proposed Rate
¾"	$14.63	8%	$15.80
1.0"	$21.09	8%	$22.78
1.5"	$41.34	8%	$44.65
2.0"	$72.72	8%	$78.54
3.0"	$116.60	8%	$125.93
4.0"	$178.40	8%	$192.67
6.0"	$329.34	8%	$355.69
8.0"	$494.17	8%	$533.70

Water Rates- Non-residential Consumption

Non-Residential Consumption	Current Rate ($ Per 1000 gallons) as of 2009	% Increase from 7/1/09 to Proposed Rate	Proposed Rate
0-10,000 Gallons	$1.08	7%	$1.16/1000
10,001-20,000	$1.14	7%	$1.22/1000
20,001-30,000	$1.52	7%	$1.62/1000
>30,000	$1.80	7%	$1.93/1000

Economic Profile

Gilbert Profile:

- Highest median and second highest average household income in Arizona (2012)

Household Data	Median Household income	Average household income	Average yearly water bill
Gilbert	$76,574	$85,672	~$355.62-437.70*
Scottsdale	$76,124	$96,048	$458.04
Phoenix	$46,876	$62,884	$453

- Nearly 45% of Gilbert can be classified as "up and coming"
- Commercial consumers can afford a rate increase, especially when they are not paying sewage fees on 70% of their water bills.
- Water costs might go up, but with the rebates added, there are potentially no costs and commercial consumers will save water and go down a tier to pay a lower rate.

*Based on: Meter size of ¾" andrange of 10,000 -18,000 gallons/month And current rates as well as including sewage fee

Rebates

Examples

1. Scottsdale
   - Plumbing, turf removal, hot water recirculation, landscape irrigation controls
   - Reimburse changes for up to a set amount of money
2. WaterSense
   - Rebate finder

Recommendations

1. Offer rebates to 'innovators' to help ease the transition to higher water prices
2. Provide relevant rebates for water fixtures in businesses
   - Toilets, sinks, etc.
   - Turf removal
   - Weather-based irrigation controllers
3. Use a "Rebate Finder" feature on the Water Wise website for ease of use

WaterSense Framework

Voluntary EPA Program Benefits:

- Achieve cost savings
- Increase competitive advantage
- Reduce Risk (water variability)
- Demonstrate leadership

Water Management Planning Steps:

1. Make a commitment
2. Assess facility water use
3. Set & communicate goals
4. Create an action plan
5. Implement the action plan
6. Evaluate progress
7. Recognize achievement

Recommendations

1. Educate Businesses
2. Partner with a marketing company to "speak their language"
   - Incorporate a new catchy slogan such as "Every Drop Counts"
   - Revamp the Water Wise Gilbert website
3. Provide an easy & effective way to monitor water usage
4. Change the tiers
   - Further economic incentive/a political backbone
5. Interdisciplinary approach
   - Partner with other departments, Energy Star, etc, to enhance promotion
6. Reinvent new ways to operate daily business functions

Conserving water is a no-brainer for businesses once the cost savings are communicated effectively!

Closing Remarks

Recap our proposed solutions:

With these new implementations, we are positive that the Water Wise GIlbert program can be extremely successful and draw in not only businesses, but encourage consumers to promote the program to laggard businesses as well.

Conserving water is not hard at all; it just takes a little effort and knowledge. If history has taught us anything, it is that water conservation needs to be a priority for not only residential households, but for businesses alike. After all, we all consume water, no matter who we are or where we come from; water helps keep the planet and the people living in it alive.

Final Questions

- How can the water pricing tiers be changed--would it depend on a vote, a referendum, or can it simply be done?
- Who are the large water users in Gilbert? Is the largest user overall the same as the largest user within the commercial sector? Is there one business who uses significantly more water than others?

“The least expensive gallon of water for tomorrow is the one we save today.”

- http://www.azwater.gov

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Appendix Outline

I. Full Interview: Matthew Scholz
II. Interview Questions
III. Gilbert General Plan
IV. Case Studies

Full Interview with Matthew Scholz

Q: What is the mission of the Sustainability Consortium and what is your roll?

A: Overall mission is to make consumer products more sustainable. Look at all different product categories. We use research to evaluate the most sustainable process and use of products. We ask, 'where are the main impacts in the supply chain and production?' We also use and distribute surveys with all suppliers, about 10-15 questions. An example question may be, "What do you do with your waste water?".

Q: The heart of what we are trying to get at: What drives business to be sustainable? To care about saving water? Is 'the bottom line' the end all be all or is there chance for other motivations?

A: Major drivers:

1. Leadership commitment, Are the CEOs into water conservation?

2. Consumer perception: Are consumers concerned with water use?

3. Cost and savings are driver, but do not pop up as much. No reason to go above and beyond the regulations if savings aren't made clear. (e.g. advertise water audits)

→ Water is so cheap, it's hard to motivate. There is little monetary incentive.

→ A big barrier is that businesses have limited time and resource to address sustainability issues. It's hard to commit. Even many of the really big companies have only one person committed to sustainability.

→ If you really want to affect change, pass more laws.

Full Interview with Matthew Scholz (cont.)

Q: What role do/can consumers play in commercial water conservation?

A: It's as simple as consumer preferences and decisions driving business actions. As stated earlier, are consumers concerned with water use? If they are, businesses will change to accommodate that.

Q: Do you know of any specific businesses that are implementing water conserving practices? If so, what motivates them?

A: Look into CSRs - corporate sustainability reports. Water is usually very high up. Most big companies are tracking their water use. The driver is supply risk, as well as public pressure through NGOs.

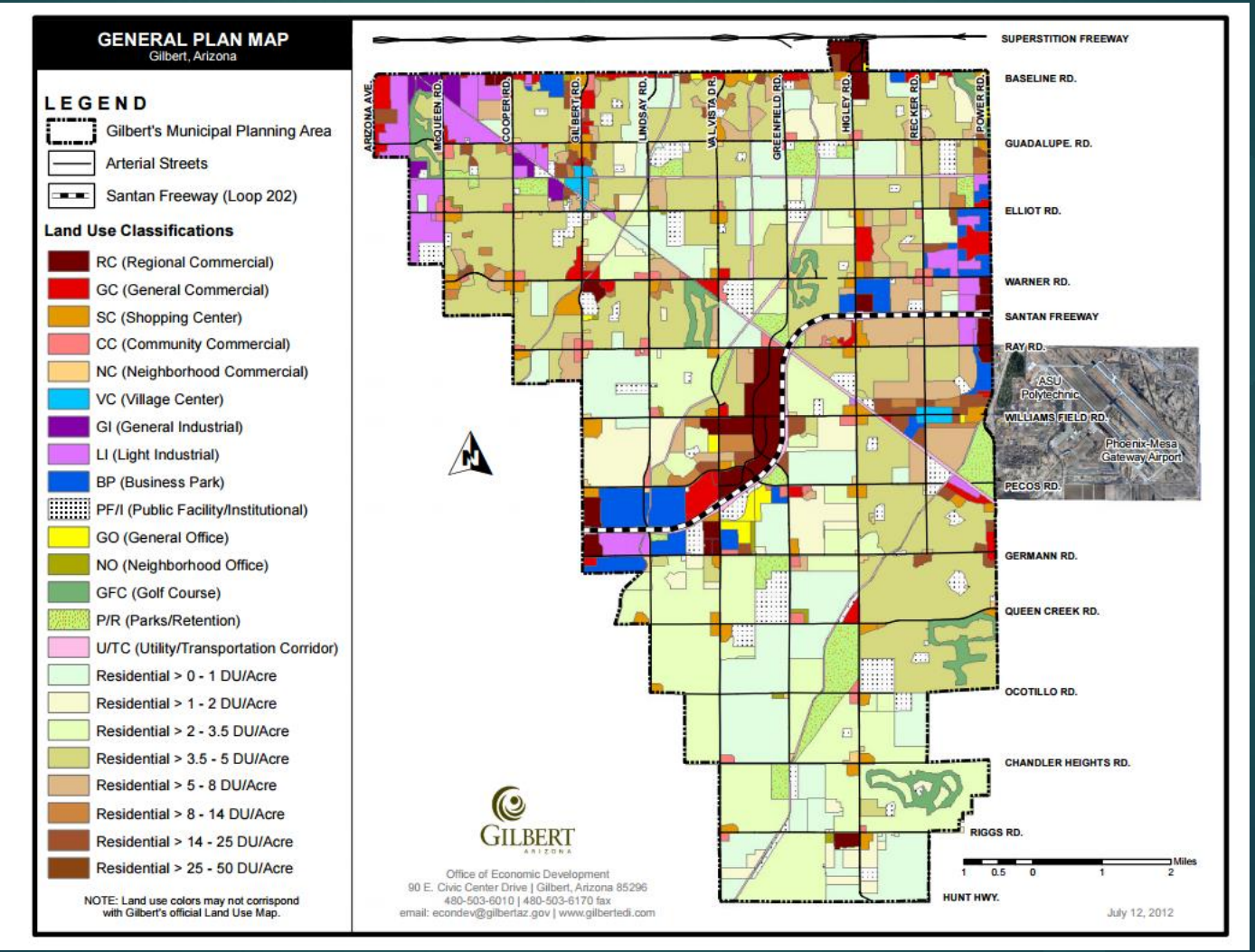
Q: Are there any ways water conservation can be made easier for businesses?

A: Make savings clear.

Interview Questions for Businesses

1. Are you interested in marketing sustainability initiatives?
2. Can you identify all the ways in which your business uses water? Do you know potential sources of excessive water use within your business?
3. On a scale of 1-10, how efficient would you rate your water use? (1 being least efficient).
4. What prevents you from implementing more efficient practices?
5. Is your water bill considered a financial burden? What percentage of the total costs does water make up for your business?
6. Why do you see water as deserving little (or a lot) of attention?
7. Which practices are you aware of that can save your business water (and $)?
8. Are you willing to be "audited", and let the city come and inspect your water use?
9. Given the tools, would your business pursue water conservation initiatives?

Gilbert General Plan Map



Case Study #1

During the early 1990's, parts of Southern California experienced severe droughts, which required "almost two-thirds of the water used within the Metropolitan Water District of Southern California (MWD) to be imported" (Morris & Lund 12). To combat the ongoing water scarcity problems, the state of California created "the 1991 and 1992 Drought Emergency Water Banks, which acted as a reserve for municipal cities that experience any future droughts. This provided the opportunity "to learn by doing" and "to learn from mistakes"" (Morris & Lund 17).

Case Study #2

Another place to look would be the city of Goodyear, Arizona, which is located in the western portion of thePhoenix Metropolitan area. Their "Fix a Leak" program is designed around households, but the same principles can be applied to businesses located within the city of Gilbert. "The program incentivizes household residents to reduce the amount of water they use by fixing a leak (or taking shorter showers, replacing turf with desert land-scaping, etc.) and in return, customers receive free spring training baseball tickets and other undisclosed gifts from the city of Goodyear" (Water Use It Wisely). The qualifications for receiving free baseball tickets are quite simple, "check your monthly water bill. If you use less water this January or February of 2015 than you did in January and February of 2014, you win. The community response is astonishing, about 2,000 households already qualified in January 2015" (Water Use It Wisely).

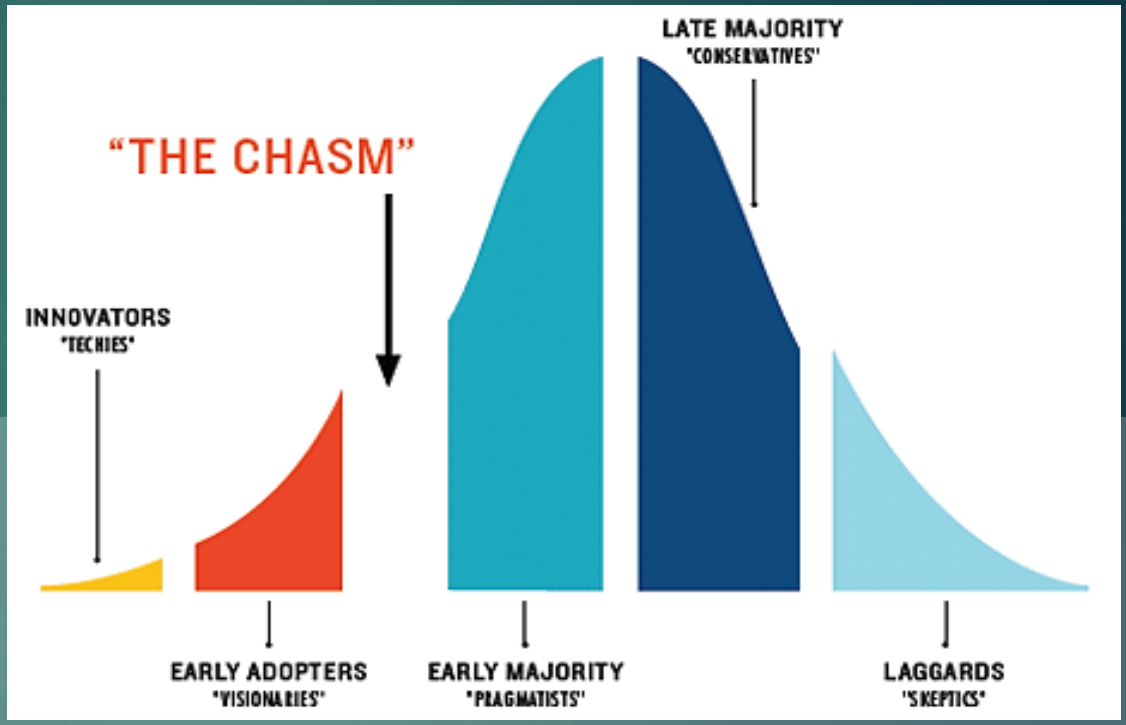
Case Study #3

California Imposes First Mandatory Water Restrictions to Deal with Drought

- Governor implemented an executive order imposing mandatory water restrictions, a first in CA history
- 25% Reduction for 400 Agencies over the next year
  - Serves 90% of residents
  - Reduction for residential and non residential consumers
- The final option in dealing with a imminent water crises

Idea Adoption

- Basics of getting people on board!
- Innovation: is the idea we want others to adapt
- Innovators and early adaptors are who you want to target
- "The Chasm"



Good resource: http://www.indiana.edu/~t581qual/Assignments/Diffusion_of_Innovations.pdf

Steps to Diffusion of Idea/Innovation

5-Step Process:

(1) Knowledge – person becomes aware of an innovation and has some idea of how it functions

(2) Persuasion – person forms a favorable or unfavorable attitude toward the innovation

(3) Decision – person engages in activities that lead to a choice to adopt or reject the innovation

(4) Implementation – person puts an innovation into use

(5) Confirmation – person evaluates the results of an innovation-decision already made