

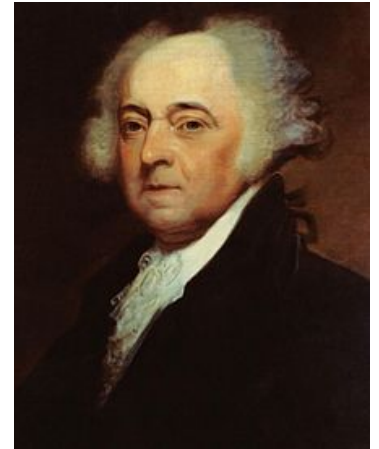
From Data Rich to Knowledge Rich: Using Data to Understand & Improve

October 22, 2012

Seattle
 Public
Utilities

“Facts are stubborn things”

(John Adams)



How can you use survey data?

- Use as support in your financial recommendations to elected officials
- Uncover issues and opportunities
- Generate lots of benefits for little cost

How do you get started?

Step 1. Decide your areas of



FOCUS

Three SPU focus areas:

1. How does my customers' water usage compare to others?
2. How do the costs of my utility compare with other utilities?
3. How do my utility's rates and charges compare to comparable utilities?

How do you get started?

Step 2. “Data Grubbing”



- Play with the data: ranges?
distribution? averages?

Side note: don't ignore the median!

“Middle of the Pack”

- Test hypotheses:
 - Does O&M % for labor + benefits depend on # lines of business? **NO!**
 - Does water usage depend on region? **YES!**

Three example analyses

Ex. 1: Water usage comparisons

Ex. 2: System Development Charge (SDC) comparisons

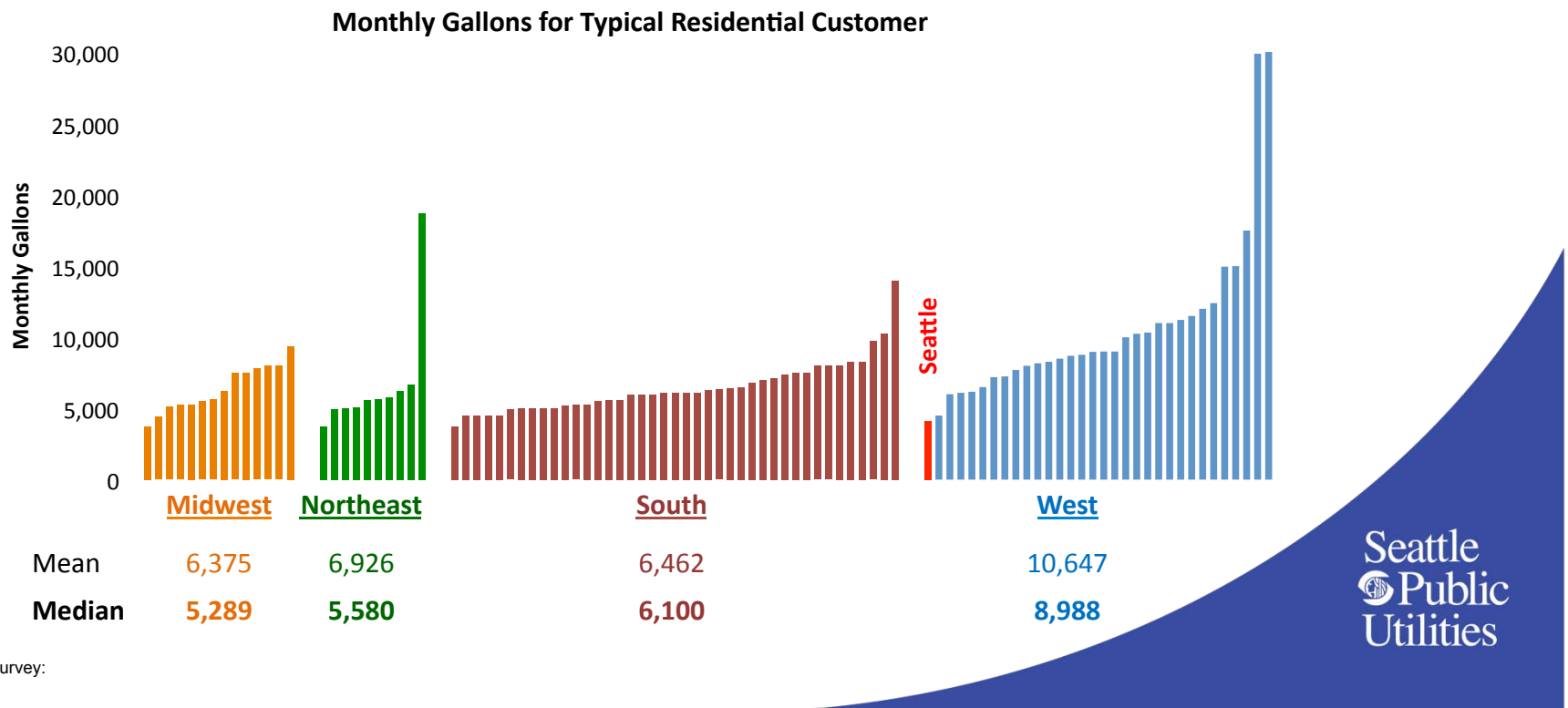
Ex. 3: ~~Rate~~ **BILL** comparisons

For each of the examples, look at:

- What the data shows
- How to use the information

Ex 1. Water usage comparisons: What the data shows

- Western utilities have higher average consumption
- Seattle is lowest consumption in Western region (4,144 gallons/household/month*)
- In each region, mean usage is higher than median



* 2010 AMWA Survey:

Ex 1. Water usage comparisons: How to use the information

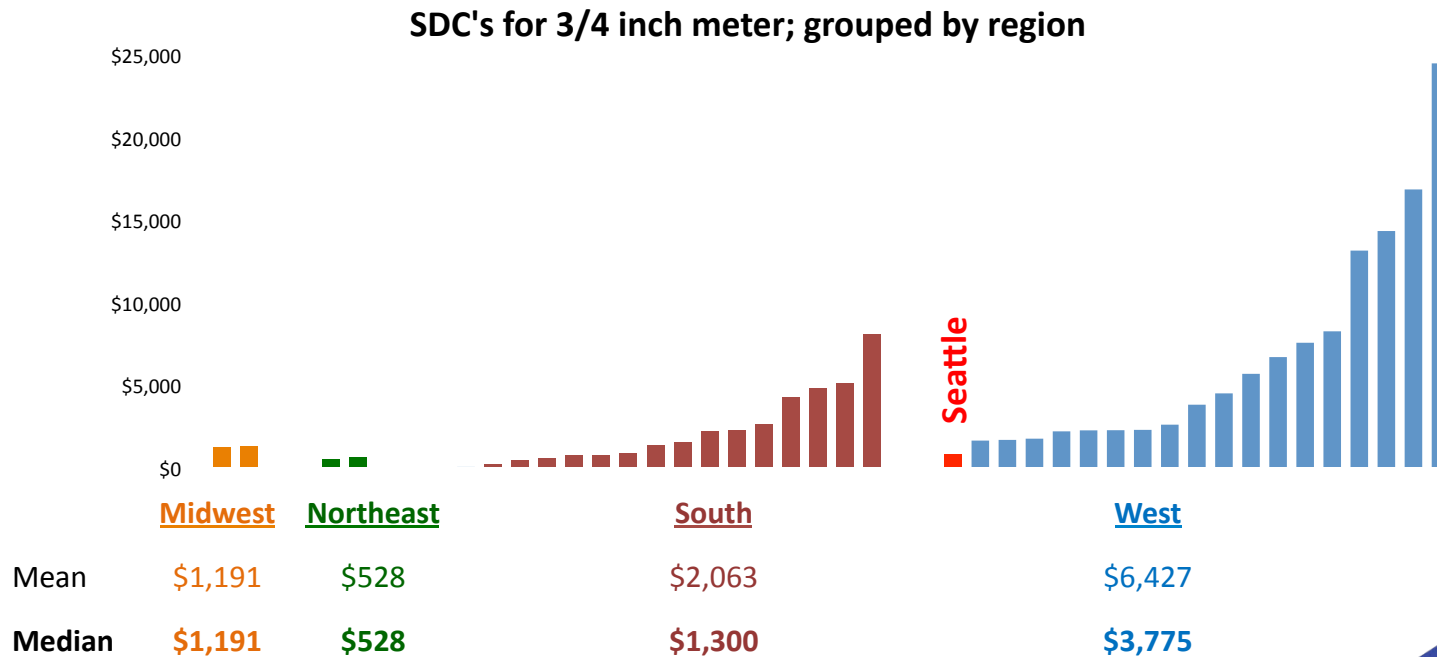
- Promote Seattle's low usage:
 - Strong conservation ethic
 - Effective conservation programs
 - Effective rate design
- Explains (partly) Seattle's higher-than-average rates (as opposed to bills)



Ex 2. Water SDC comparisons: What the data shows



- Western utilities have higher water SDCs on average
- Seattle SDC for 3/4" meter is \$743 – lowest in Western region
- Again, means generally higher than medians

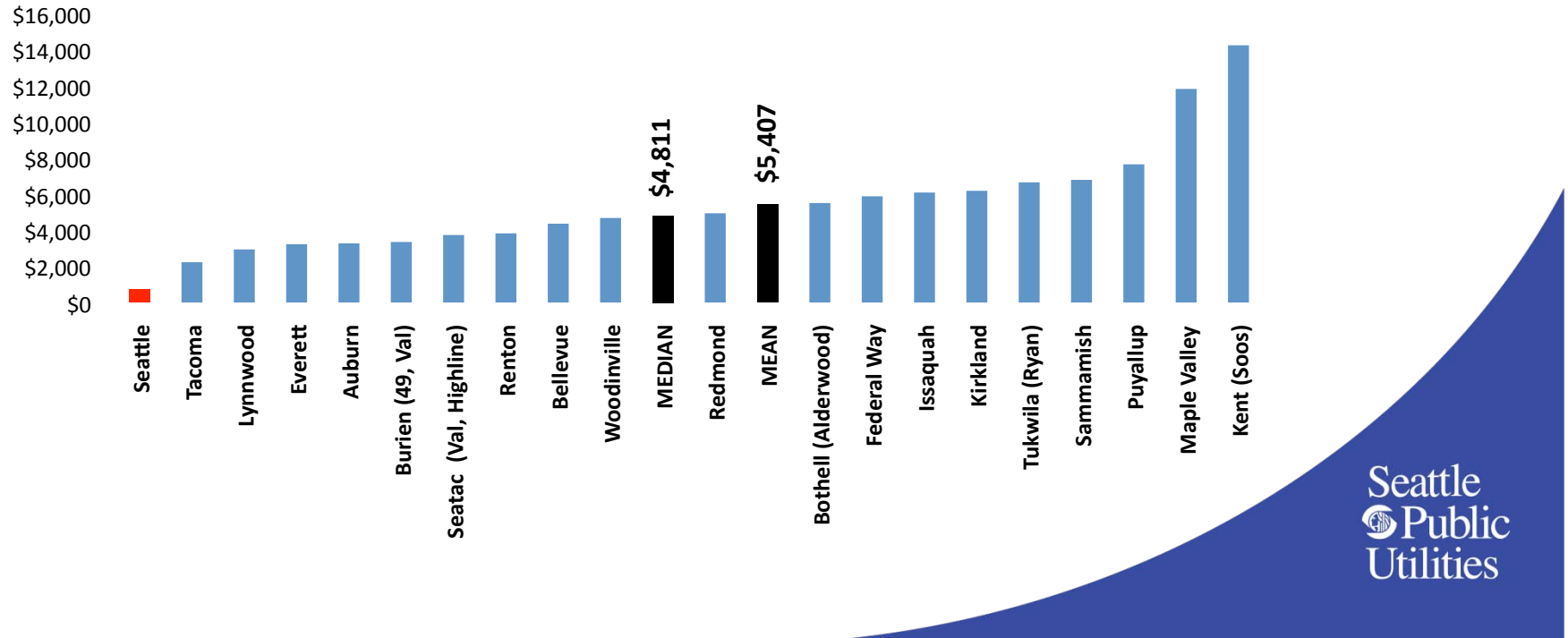


Ex 2. Local Combined SDC comparisons: How to use the information

Supports increasing SDCs:

- Helps keep general rates lower than otherwise
- More equitable way to spread costs of development
- Local data also critical – see below for SDC charges in Seattle area

Local Water/Sewer/Drainage SDCs

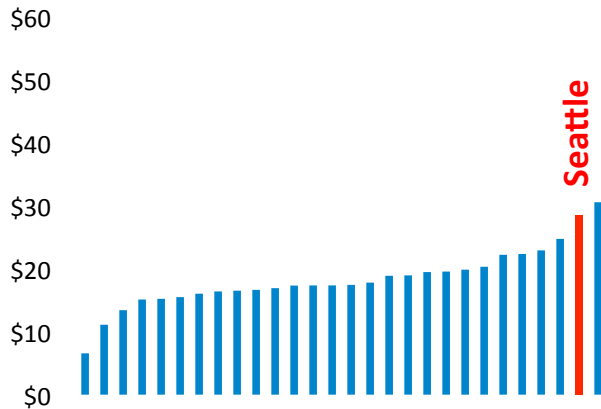


Ex 3. Bill comparisons: What the data shows – Part 1

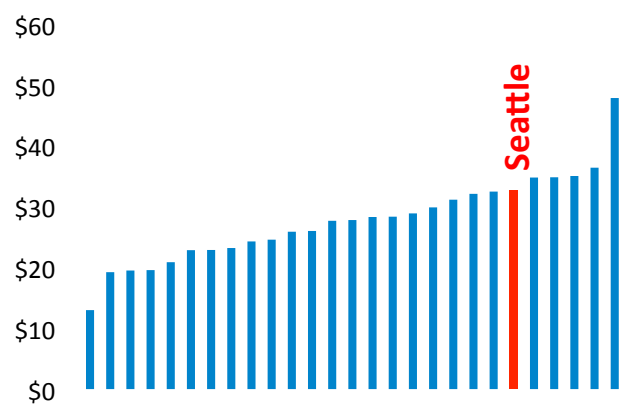


Monthly Water Bill

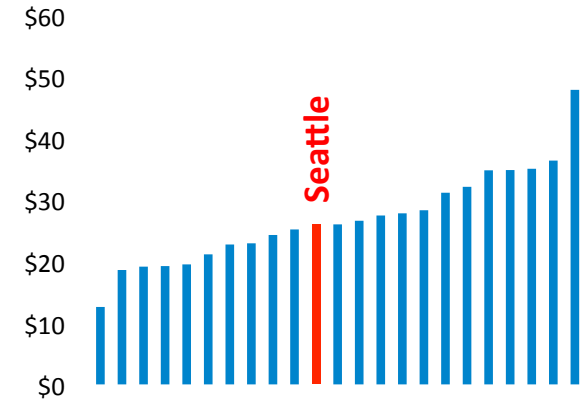
@ 3,750 gallons/mo.



@ Average Consumption



@ Avg Consumption Excluding Taxes



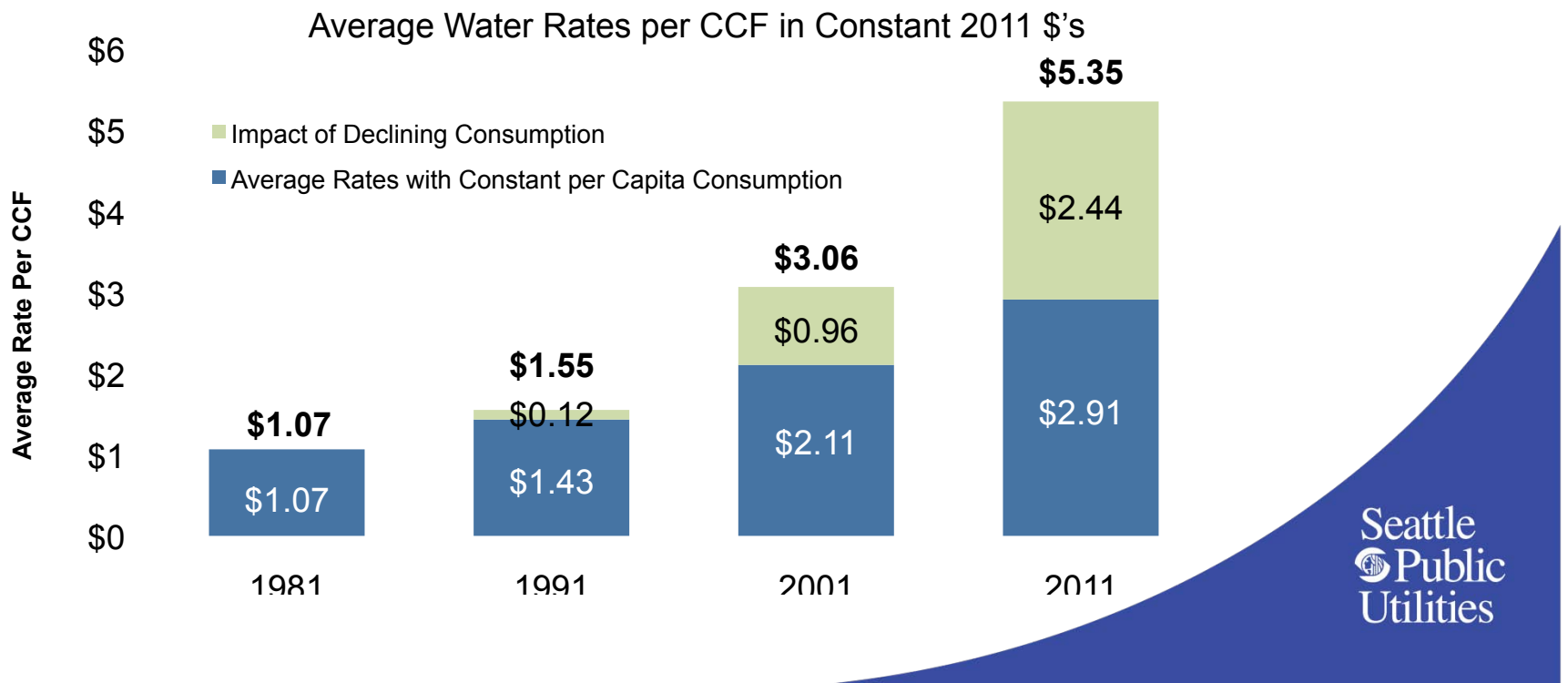
NOTE: data gathered by SPU staff

- Seattle water **RATES** are among the highest, **BUT**
- Seattle water **BILLS** are more reasonable, **AND**
- Seattle water PRE-TAX **BILLS** are even more reasonable!

(Source: 2009 Black & Veatch Survey)

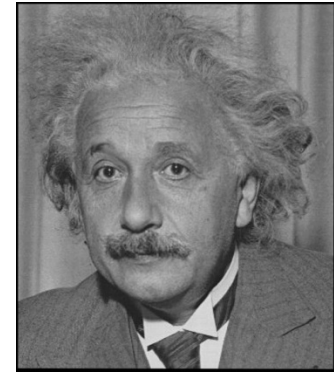
Ex 3. Bill Comparisons: What the data shows – Part 2

- Linking different information sets can lead to useful insights
- Example: We linked rate data with consumption data, to show effect of declining consumption on rates
- Finding: Over the past 30 years, almost half (46%) of the water rate increase was caused by declining consumption



Ex 3. Bill comparisons: How to use the information

*“Everything should be made as simple
as possible, but not one bit simpler”*



(Albert Einstein)



- Helps fight headlines
- Helps our elected officials ability to understand and explain to constituents the real story

Questions?