

Cost of Service Rate Study

Board of Directors Workshop #1

March 21, 2018

WATER
OUR FOCUS
OUR BUSINESS
OUR PASSION

 **carollo**
Engineers...Working Wonders With Water®

Agenda





Review of Scope of Services

Scope of services is based on a series of technical memoranda to be compiled in our final report

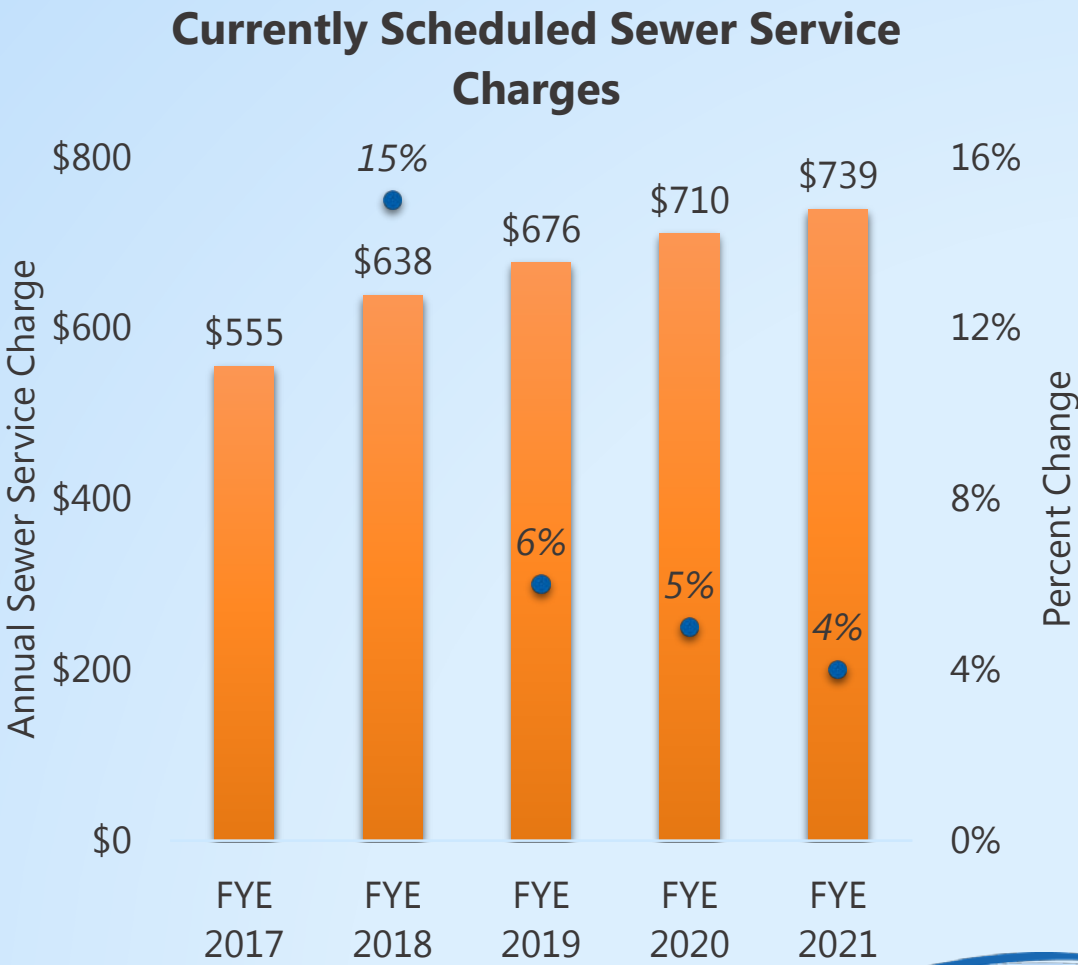
1. Customer Data Analysis
 2. Financial Plan Review
 3. Cost of Service Analysis
 4. Billing Procedures Review
 5. Capacity Charge Analysis
 6. Sewer Service Charge Analysis
- } *Today's focus*



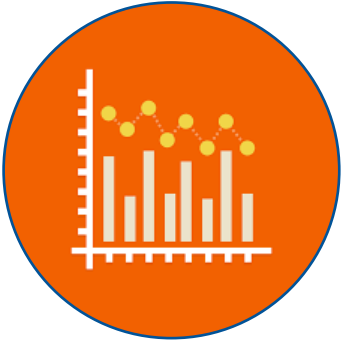
Financial Plan Review

NapaSan currently has rates planned through FYE 2021, with inflationary increases beyond that

- 2016 Rate Study outlined needed revenue adjustments
- Carollo reviewed the projected revenues against planned O&M and CIP



Carollo's financial review looked at three tests of financial performance for NapaSan's rates



Cash Flow Test

- Do revenues exceed O&M and rate-funded capital needs?



Bond Coverage Test

- Do revenues exceed established bond coverage thresholds?



Reserve Fund Test

- Are all end-of-year reserve fund targets met?





Preliminary Cost of Service Findings

NapaSan requested that Carollo review cost of service appropriateness of current rate structure

Allocation to Customer Classes

- Are updates to residential water usage assumptions appropriate?
- Are updates to EDUs for commercial and industrial customers appropriate?

Allocation to Cost Categories

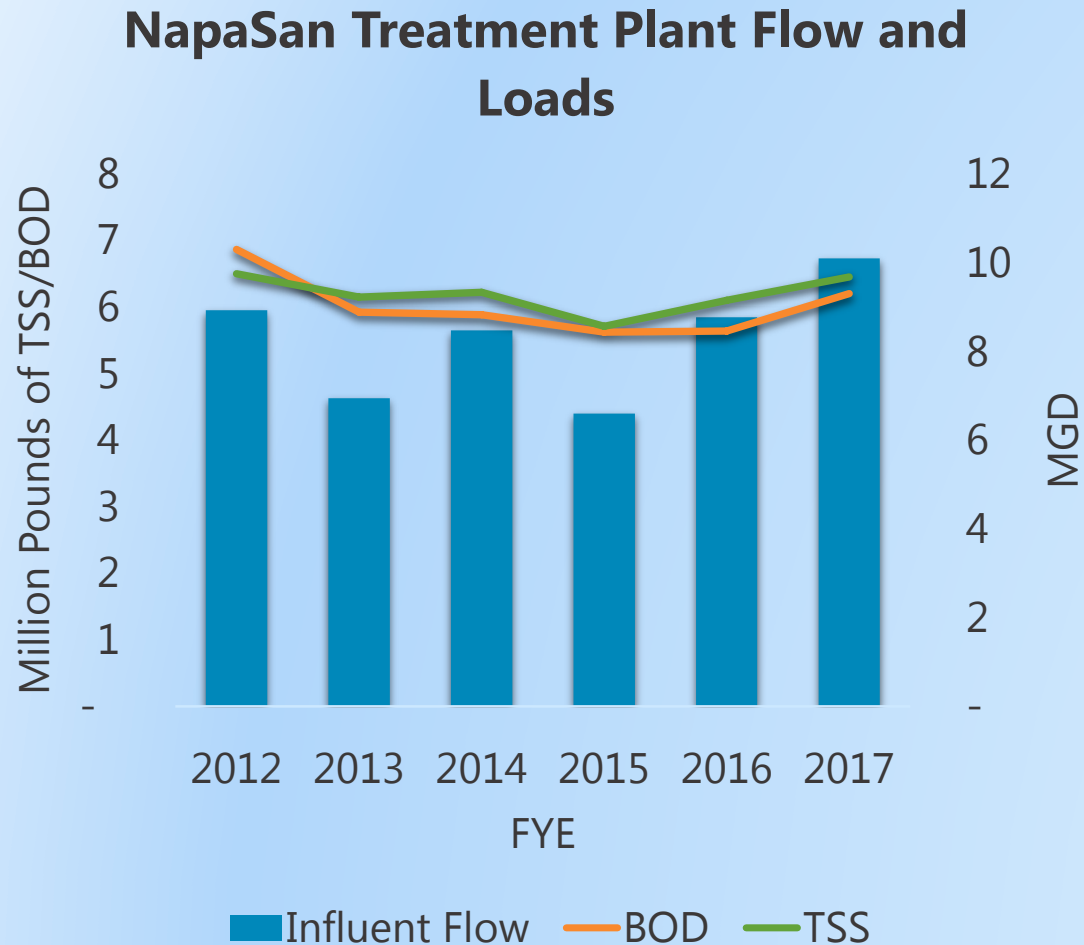
- What costs are fixed and not dependent on the amount of flow or solids discharged to the sewer system?
- What costs are variable?

Allocating to classes: The current allocation of costs to each class is based on an Equivalent Dwelling Unit approach

- Current approach assumes single family residential usage at 210 gpd
- EDU approach benchmarks each class flow and strength relative to a SFR home
 - i.e. Commercial Laundry at 1.4 EDUs
- Data utilized to review assumptions
 - City of Napa and City of American Canyon winter water usage records
 - NapaSan household sampling data

Treatment Constituent	Rate Structure Assumption	Current Data
Flow	210 gpd	120-150 gpd
BOD	175 mg/L	315 mg/L
TSS	200 mg/L	510 mg/L

Changing the EDU calculations based solely on the change in flows would not adequately account for BOD & TSS changes



- Plant flows have fluctuated drastically,
 - But pounds of BOD and TSS have been relatively steady
- While household flows have decreased, concentrations of BOD and TSS have actually increased
 - Consistent with steady pounds received at plant
 - EDU calculation is based on mg/L, not pounds

Allocating to cost categories: are revenues collected in line with cost drivers, and what alternatives are available?

Current Rate Structure

- Fixed for all residential customers
- Hybrid fixed/variable for commercial customers
- Variable for industrial customers

Hybrid Rate Structure

- Combination of fixed service charge with volumetric charge based on usage
 - Similar to current commercial

Variable Rate Structure

- Bill is determined completely based on usage
 - Similar to current industrial

Carollo reviewed cost drivers to determine if there is data to support a variable rate component

What costs are fixed, and what costs are dependent on the flow and loads received at the plant?

Variable Cost Categories

- Waste Disposal Services: \$50k
- Gas, Electric, & Water Utilities: \$890k
- Chemical Purchases: \$960k
- **Total: \$2.0m – 10% of total O&M**

Fixed Cost Categories

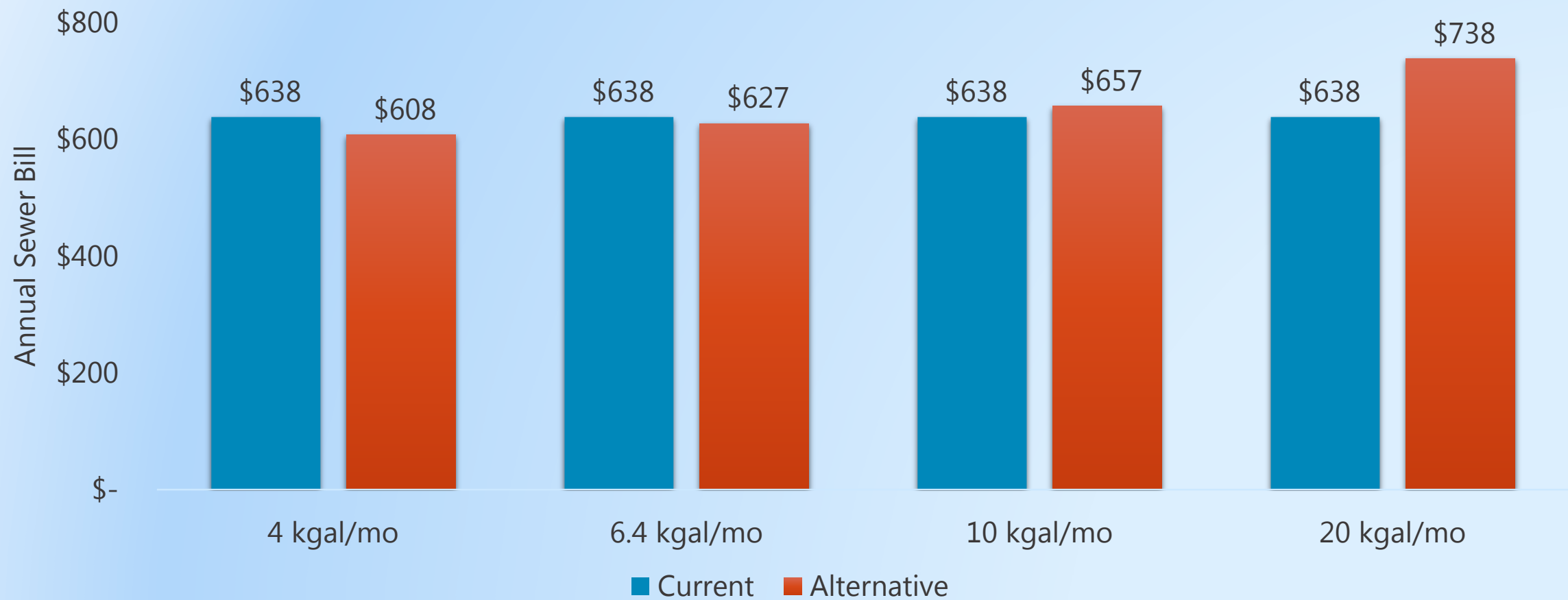
- Labor: \$9.6m
- Services & Supplies: \$3.8m
- Debt Service: \$4.8m
- **Total: \$18.2m – 90% of total O&M**

How do the rate structure options compare?

Criteria	Fixed Rate	Variable Rate
Legal Compliance & Cost Allocation Detail	Most closely aligns with how costs are incurred	Most costs are not variable
Ease of Understanding	Already in place	Slightly more complex to bill and explain; need support from City; greater staff time
Affordability	Twice per year, but same amount overall	If billed bi-monthly, smaller bill fits in low-income budgets better
Revenue Stability	Fixed revenue semi-annually	Can fluctuate by season, or with conservation
Data Analysis Needs	Data already collected and in place	Significant staff time needed already to reconcile commercial usage from City

With a variable component, many SFR customers would see little to no impact on the annual bill

Residential Bill Impact with Variable Rate Component





Preliminary Billing Procedures Review Findings

NapaSan requested that Carollo review the current billing procedures for appropriateness

Direct vs. Cities vs. Property Assessment

- Should NapaSan continue to collect via property tax?
- Or should NapaSan implement direct billing?
- Or contract with Napa and American Canyon to collect via water bills?

Annual vs. Monthly/Bi- Monthly

- Should NapaSan continue billing annually?
- Or convert to a monthly or bi-monthly billing frequency?

Analysis is still ongoing, but initial research has shown some consistent findings

- Direct and contracted monthly billing are both more expensive
 - One agency reported approx. \$1.30 per monthly bill
 - NapaSan currently pays \$13k (approx. \$0.50 per account per year)

Cost



- Customer service needs would increase
 - Currently NapaSan receives limited calls after property tax bills are mailed
 - Direct billing requires billing staff, cashier, CSRs

Staff



- Customers could benefit from an affordability standpoint
 - Outreach
 - One agency CFO reported learning more about service area under direct billing

Customers




Policy Direction Requested

- Carollo's Likely Recommendation
 - Fixed Rate approach
- Is the Board interested in pursuing various options for rates that include a variable component?



Next Steps

Next Steps

- 
- Finalize cost of service review based on feedback
 - Complete billing procedures research and deliver TM covering findings
 - Calculate any revisions to the sewer service charge
 - Outline alternatives and calculate capacity charge based on selected methodology
 - Begin outreach and stakeholder engagement following Board direction



Q&A