ORANGE WATER AND SEWER AUTHORITY

A public, non-profit agency providing water, sewer and reclaimed water services to the Carrboro-Chapel Hill community.

MEMORANDUM

TO: Finance Committee

THROUGH: Ed Kerwin

FROM: Stephen Winters, CPA

DATE: November 30, 2018

SUBJECT: Finance Committee Meeting, December 5, 2018. Discussion of Analysis of Operating Expenses and Fiscal Year 2020 Budget Calendar and Assumptions

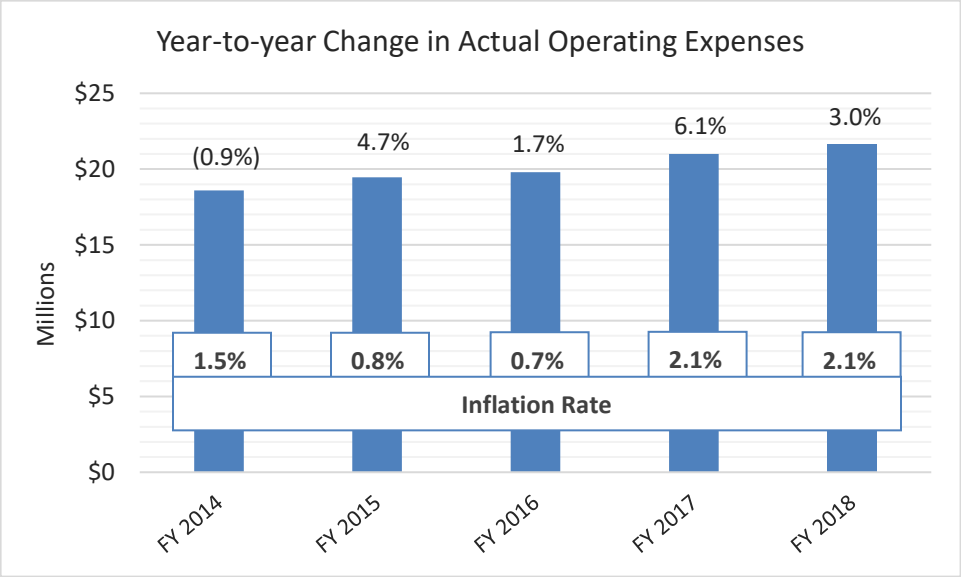
Purpose

The OWASA Board of Director's Finance Committee will meet at 5:00 PM on December 5, 2018 in the Board Room in OWASA's offices at 400 Jones Ferry Road in Carrboro. The following topics will be discussed:

1. The Board of Directors wants to explore alternatives for reducing operating expenses. Staff has provided information to facilitate a discussion by the Committee.
2. At its meeting on January 24, 2019, the Board is scheduled to discuss the Fiscal Year (FY) 2020 budget calendar and budget planning assumptions. The Committee will provide guidance that staff will incorporate into the material to be discussed on January 24.

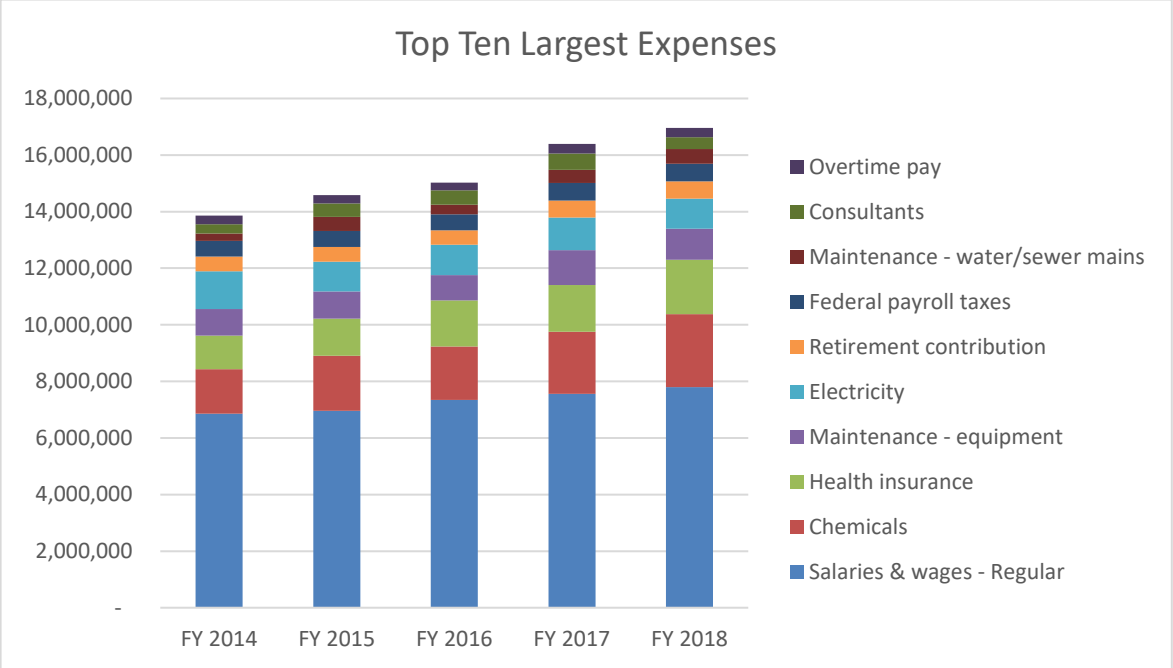
Operating Expense Analysis

On average, OWASA's operating expenses have increased by about 3% per year over the last five Fiscal Years (FY).



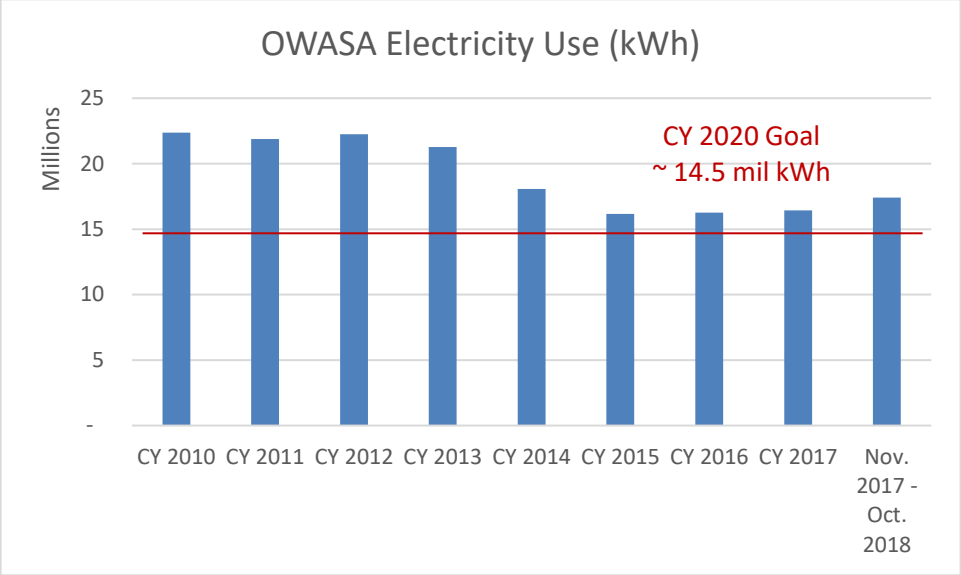
Each year, ten expense items comprise about three-fourths of total operating expenses.

Operating Expenses	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY18 % total
Salaries & wages - Regular	6,863,364	6,966,000	7,343,784	7,564,689	7,799,169	36%
Chemicals	1,567,914	1,934,688	1,888,608	2,190,143	2,576,433	12%
Health insurance	1,183,049	1,312,418	1,631,609	1,654,664	1,922,043	9%
Maintenance - equipment	938,082	961,766	890,594	1,235,064	1,096,049	5%
Electricity	1,345,378	1,062,455	1,075,155	1,148,288	1,061,802	5%
Retirement contribution	515,183	519,888	510,262	598,984	617,219	3%
Federal payroll taxes	550,789	557,019	569,007	619,190	615,629	3%
Maintenance - water/sewer mains	266,695	506,518	331,459	465,747	521,595	2%
Consultants	320,404	467,490	514,344	583,365	418,381	2%
Overtime pay	309,038	300,974	267,682	339,114	329,755	2%
Top 10 expenses total	13,859,896	14,589,216	15,022,504	16,399,248	16,958,075	78%
Total operating expenses for FY	18,764,701	19,588,099	20,054,246	21,291,854	21,877,244	100%
Additional information						**Decision-Maker**
Funded positions	129.0	130.0	127.5	132.5	134.0	OWASA Board
Cost of labor adjustment	1.0%	NA	NA	1.5%	1.0%	OWASA Board
Merit adjustment	1.5%	2.0%	3.0%	1.5%	3.0%	OWASA Board
Health insurance adjustment	6.4%	8.2%	21.4%	15.0%	6.8%	OWASA Board and Insurer
Retirement system contribution	7.07%	6.67%	7.00%	7.31%	7.50%	LGERS Board
Payroll taxes - soc. sec. & medicare	7.65%	7.65%	7.65%	7.65%	7.65%	Fed. Govt.
Drinking water treated (MGs)	2,477	2,522	2,441	2,397	2,463	
Wastewater treated (MGs)	3,028	2,954	3,149	3,095	2,843	
Number of customers	21,105	21,239	21,385	21,526	21,585	
Miles of water and sewer pipe	737	740	741	743	744	



Observations

1. Employee compensation, taxes and benefits account for about 56% of our annual operating expenses.
    a. Regular salaries and wages make up about 36% of annual expenses. Over the last five years, the average annual increase in salaries and wages has been between 2% and 4%. Based on the Board's stated intentions, future merit increases will be at least 2.9%. Cost of labor will be determined based on market data.
    b. Health insurance makes up about 9% of annual expenses. Health insurance rates are a function of benefits offered and claims experience.
    c. Mandatory employer contributions to the Local Government Employees Retirement System are currently 7.5% of total employee wages. (While not an OWASA expense, employees are required to contribute 6% of wages.) OWASA's contributions average about 3% of total annual expenses.
    d. Employer-paid federal payroll taxes are 7.65% of total wages and also average about 3% of total annual expenses.
2. Chemicals expense averages 10% to 12% of total expenses each year. The unit price of chemicals is somewhat volatile, and the quantity used by our drinking water and wastewater treatment plants is impacted by the volume and condition of the water entering the plants. Recent levels of organic compounds in our raw water supply have required the use of more chemicals in treating drinking water. Increased flows from rain events have also required higher volumes of chemical-use to treat wastewater.
3. Total maintenance expenses make up about 13% of annual expenses. We separately track maintenance for different types of assets. Maintenance of equipment (everything other than pumps, reservoirs and tanks, buildings, pipelines, and vehicles) is the largest maintenance line-item and averages about 5% of annual operating expenses.
4. Electricity costs average about 5% of total annual expenses. The Board has set a goal to reduce purchased electricity by 35% by the end of Calendar Year (CY) 2020 compared to the CY 2010 baseline. In 2017, we used 5.9 million kWh less than in 2010 (a 27% reduction), which avoided over $400,000 in annual expenses.



5. In FY 2018, we transferred approximately 498 million gallons of treated drinking water to Durham which resulted in higher than normal energy and chemical use and expense. However, the additional costs were more than offset by the $1.3 million Durham paid OWASA for the water transferred.
6. For FY 2018, maintenance on water and sewer mains, consultants, and overtime were each about 2% of total expenses.
7. For 2018, no other expense line-item represented more than 1% of total operating expenses. In aggregate, these expenses were about $4.9 million or 28% of the total for the year.

Continuous Improvement Initiatives

Over the years, OWASA has continued to evaluate and implement measures to improve the efficiency and effectiveness of our operation and business practices. Some examples include:

- Water treatment optimization through the Partnership for Safe Water (ongoing)
- Wastewater treatment optimization through the Partnership for Clean Water (ongoing); energy efficiency improvements (2014); modified nutrient removal process (2010); and rotary press for biosolids dewatering (2008)
- ADP payroll, time and attendance (2015)
- Comprehensive Asset Management (ongoing)
- Agua Vista/Advanced Metering Infrastructure (AMI) (2018/2019)

These efficiency/effectiveness measures were initiated and evaluated in a variety of ways. The Partnership for Safe/Clean Water optimization was initiated by staff soon after these programs began by the respective professional organizations. Other projects such as the rotary press and energy efficiency improvements were initiated by staff during the annual development of the Capital Improvements Program. The Agua Vista project was initiated by our 2014 Strategic Plan.

Each year during the development and review of our operating expense budget and our Capital Improvements Program (CIP), staff evaluates opportunities for improvement for the Board to consider. Staff believes this process has worked well and plans to continue it.

Operational Innovations

On October 8, 2018, the Finance Committee discussed John Young's memo: "Preliminary Ideas for How to Conduct a Strategic Cost Review" (attached). The committee and staff agreed that a periodic strategic cost review of OWASA expenses is desired and that staff will conduct an initial analysis to help identify areas for further review.

Our initial assessment of the major expense categories in our operating expense budget did not reveal areas of significant cost-saving opportunities (e.g. nothing on the scale of savings expected from the Agua Vista project). Given the need to focus our time and attention on the reliability and resiliency of our operations and business practices, staff currently does not have the time and resources for an in-depth review of potential operational innovations. However, we want to make sure we are doing the right things, the right way, throughout our operations and business practices for the customers and community we serve. As John Young's memo noted, the Board and staff share the goal of delivering high-quality and reliable services to customers at the lowest costs and we want to improve where we can.

Possible Next Steps for Discussion

Here are a few staff observations for discussion as we work together to plan our next steps.

- Continue to place our highest emphasis on the reliability and resiliency of our operation
- Determine if we are using the best Key Performance Indicators to measure whether we are doing the right things, the right way (e.g. valve maintenance program)
- Benchmark against other high-performing water utilities in key performance areas such as system reliability and resiliency
- Continue regional planning and collaboration on matters such as water supply resiliency (interconnections, Jordan Lake) and biosolids management (possible regional solutions)

Budget Calendar and Assumptions

Budget Calendar

The following is a schedule of the key dates related to developing the budget for FY 2020.

December 2018	Distribute templates for the preparation of operating expense appropriations, capital equipment requests and departmental budget narratives.
January 24, 2019	**Board of Directors Meeting** – review FY 2020 Budget Calendar and Assumptions.
January 24, 2019	**Board of Directors Meeting** – review FY 2019 financial report for the six-month period ended December 31, 2018.
February 2019	Staff submission of capital equipment requests, budget narratives and departmental operating budget requests to Director of Finance and Customer Service.

March 14, 2019	**Board of Directors Work Session** – discussion of *Draft Annual Budget* and, if available, staff recommendation of rate adjustment.
March 28, 2019	**Board of Directors Meeting -** discussion of *Draft Annual Budget* and staff recommendation of rate adjustment, as necessary. Set date for public hearings on budget.
April 11, 2019	**Board of Directors Work Session** – discussion of *Draft Annual Budget* and staff recommendation of rate adjustment.
April 25, 2019	**Board of Directors Meeting** – review FY 2019 financial report for the nine-month period ended March 31, 2019. Discuss FY 2020 budget and rates and authorize staff to publicize draft budget and rate information.
May 23, 2019	**Board of Directors Meeting** – public hearing on the *Draft Annual Budget* and proposed adjustments to rates, fees, and charges.
June 13, 2019	**Board of Directors Work Session** – adoption of *FY 2020 Annual Budget* and *Schedule of Rates, Fees and Other Charges*.
July 2019	Distribute *FY 2020 Annual Budget*.

Budget Assumptions

To facilitate the Board's work, the following key focus areas and possible operating expense and CIP budget impacts are noted.

Key Focus Area	**Budget Impact for FY 2020+**
A. Reliable and resilient services:	
i. Complete independent consultant review by end of December 2018 on why pipe in front of water plant broke on November 5, 2018 and why it took eight hours to stop the loss of water. As needed, implement action plan to address consultant findings.	Possible additions will be needed to operating expense and CIP budgets, pending review of consultant's findings. Additional resources will be proposed at the December 13, 2018, Board Meeting.
ii. Fast-track reliability improvements for water distribution piping leaving the water treatment plant as it pertains to the November 5, 2018 water main break.	New CIP Project
iii. Develop new water main replacement/renewal prioritization model. The scope of this work may include system redundancy and resiliency work.	Existing CIP project, but its scope may be expanded
iv. In coordination with (A)ii) and (A)iii), evaluate options to improve the reliability and resiliency of the water distribution system with community input and involvement.	Possible operating expense and CIP budget impacts

Key Focus Area	Budget Impact for FY 2020+
v. Fast track priority action items recommended in the water and wastewater treatment plants reliability and risk evaluation.	Possible operating expense and CIP budget impacts
vi. Enhance distribution system valve maintenance and related component program and propose needed resources to the Board.	Possible operating budget impact
B. Agua Vista – AMI	With new Agua Vista fully implemented, operating expense savings related to meter reading will be achieved.
C. Energy Management	Budget impact uncertain as this time. The Energy Management Program underway is designed to promptly pursue cost-effective clean energy strategies.
D. Long-Range Water Supply Plan (LRWSP) expected to be completed in FY 2020	Continued consultant assistance will be needed in FY 2020. Future operating expense and CIP budget impacts will depend on future Board decisions guided by findings and recommendations in the LRWSP.
E. Forestry Management – path forward for sustainable forestry management expected to be determined in FY 2020	Budget impacts to be determined. Board has existing goal that forestry management should be revenue neutral and self-sustaining over the long-term.
F. Diversity and Inclusion work continues	Ongoing consultant support expected in FY 2020.
G. Employee 457 deferred compensation and retiree health insurance plans to be evaluated in FY 2019	Future operating expense budget impact TBD.
H. Communications and Community Engagement Plan expected to be completed in FY 2019	Additional operating expenses and resources may be needed depending on Board decisions about future communications and community engagement work.
I. Banking Services will be evaluated in FY 2019/2020 and may result in new service provider(s)	Operating expense budget impacts, if any, TBD.

Additional assumptions

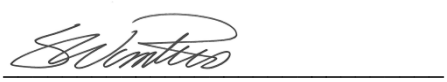
The following will also be considered as we develop the FY 2020 budget.

- The budget will be developed to meet the financial performance objectives stipulated in our Financial Management Policy.
- Current service levels will be maintained (but new expenses for system reliability and resiliency may be needed).
- Cost of labor adjustments for employees will be based on market analysis.
- Merit pay adjustments, according the Board's policy, will be at least 2.9% greater than the cost of labor adjustment.
- Drinking water and reclaimed water sales are not expected to increase or decrease significantly.
- Wastewater treatment nutrient removal requirements in the Jordan Lake Rules have been delayed by the NC General Assembly until 2024.
- The regulatory environment will remain the same.
- Construction costs in CIP are expected to continue to increase as a result of market conditions.

- We have not been notified of unit cost increases for energy or chemical costs but each has increased over the last few years.

Action Requested Regarding Budget Calendar and Assumptions

Provide guidance to staff. The Board of Directors is scheduled to discuss the FY 2020 Budget Calendar and Assumptions at its meeting on January 24, 2019.



Stephen Winters, CPA
Director of Finance and Customer Service

Enclosures: Operating Expenses – FY 2018 Largest to Smallest Amount
Preliminary Ideas for How to Conduct a Strategic Cost Review (Memo from John Young)

Operating Expenses – FY 2018 Largest to Smallest Amount

Operating Expenses	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY18 % total
Salaries & wages - regular	$6,863,364	$6,966,000	$7,343,784	$7,564,689	$7,799,169	36%
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Retirement contribution - employer	515,183	519,888	510,262	598,984	617,219	3%
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Maintenance - mains	266,695	506,518	331,459	465,747	521,595	2%
Consultants	320,404	467,490	514,344	583,365	418,381	2%
Salaries & wages - overtime	309,038	300,974	267,682	339,114	329,755	2%
Legal	243,925	251,452	258,420	280,300	287,796	1%
Financial services	216,435	233,580	251,042	233,949	262,756	1%
Laboratory expense	187,188	177,856	229,663	233,071	247,944	1%
Maintenance - pumping equipment	245,315	255,468	189,509	336,491	239,682	1%
Maintenance - Buildings	237,457	305,651	311,601	263,701	238,353	1%
Insurance	220,214	287,203	232,404	230,788	226,495	1%
Maintenance - reservoir and tanks	355,388	122,106	148,619	153,520	226,114	1%
Waste disposal (biosolids)	206,690	480,254	534,313	253,596	225,665	1%
Retirees insurance	157,124	170,220	209,881	198,402	196,582	1%
Workers' compensation	99,604	119,208	158,240	173,042	188,876	1%
Deferred compensation	279,453	291,867	180,045	187,565	179,845	1%
Maintenance - vehicles	230,329	176,864	177,780	201,735	175,214	1%
Fuel - vehicles	234,321	148,722	95,949	118,979	169,383	1%
Maintenance - meters	348,114	253,023	295,046	162,006	140,033	1%
Dues and memberships	49,194	41,544	43,110	37,769	135,737	1%
Telephone	93,535	109,638	110,744	106,991	125,990	1%
Education and Development	117,550	126,216	105,540	103,682	101,637	0%
Maintenance - grounds	68,944	73,557	81,547	75,289	97,616	0%
Postage and freight	111,256	103,660	105,814	79,590	93,752	0%
Part-time summer labor	30,901	25,544	80,193	158,426	91,226	0%
Fuel (natural gas)	78,253	89,270	92,310	108,749	89,042	0%
Computer equipment and parts	99,344	72,243	73,146	90,410	80,778	0%
Maintenance - Facilities	23,082	36,236	41,135	8,434	74,360	0%
Advertising	19,228	34,774	30,952	36,924	69,737	0%
Uniforms	58,552	54,927	59,251	61,125	69,087	0%
Maintenance - service lines	43,906	33,144	61,036	83,280	60,704	0%
Uncollectible accounts	36,004	31,155	23,197	27,717	59,649	0%
Rents and leases	43,986	53,903	59,351	66,171	59,374	0%
Cell phone expense	46,671	49,974	50,718	53,440	55,523	0%
Dental insurance	54,662	57,976	53,428	46,651	53,232	0%
Miscellaneous	31,851	42,824	47,397	70,740	50,637	0%
Standby pay	43,959	46,538	44,116	48,428	49,995	0%
Professional services	46,291	51,838	61,025	61,858	47,492	0%
Safety supplies	43,557	33,723	48,336	59,564	46,511	0%
Group life and AD&D	42,963	38,554	39,488	41,127	40,994	0%
Disability salary continuation	31,674	32,080	33,045	33,832	34,621	0%
Lake supplies	17,353	18,889	25,485	21,340	33,029	0%
Accounting (annual audit)	29,875	29,750	23,688	38,263	30,756	0%
Vision insurance	37,067	32,422	31,120	34,411	27,566	0%
Collection services	44,070	35,144	35,468	34,624	27,332	0%
Other material and supplies	45,281	31,611	27,328	26,476	27,060	0%
Office supplies	34,332	25,473	37,323	34,922	24,902	0%
Customer information	14,709	18,468	29,162	41,575	22,852	0%
Small tools	13,710	15,701	31,586	16,270	22,733	0%
Other employee expenses	16,527	31,383	34,320	17,724	21,740	0%
Maintenance - hydrants	21,234	21,618	18,733	37,695	16,867	0%
Forest management	6,062	87,178	43,960	(560)	12,280	0%
Per diem (Board of Directors)	17,400	14,050	12,750	11,550	11,900	0%
Trustee services (bonds)	20,800	22,425	17,050	11,561	11,900	0%
Land application (chemicals)	50,218	75,699	25,265	54,340	11,634	0%
Other communications	5,009	7,959	11,454	12,980	8,699	0%
Engineering	6,727	86	1,550	970	4,794	0%
Board expense (meals, etc.)	2,251	2,274	2,743	3,378	3,721	0%
Unemployment tax	38,931	11,586	1,486	1,968	3,290	0%
Wellness program reimbursement	1,893	2,080	2,421	2,074	2,087	0%
Conservation (low-flow fixtures, etc.)	4,436	2,295	1,459	3,703	1,595	0%
Total	$18,764,701	$19,588,099	$20,054,246	$21,291,854	$21,877,244	100%

Preliminary Ideas for How to Conduct a Strategic Cost Review

John Young, October 6, 2018

Goals

Earlier this year, when the Board approved the FY2019 budget and the first rate increases in 7 (?) years, some Board members expressed interest in looking at the organization's medium- to long-term cost structure.

Board and staff members share the goal of delivering high-quality services to customers at the lowest possible cost to them. Routine budgeting approaches tend to focus on continuous improvement and short-term costs. (See Appendix, *Why Routine Budget Approaches Won't Address Long-Term Expenses*, for further explanation.) Therefore, we should deploy new tools and focused problem solving to identify operational *innovations* that achieve and sustain long-term affordability for our customers.

The outcomes of a strategic cost review might include special initiatives designed to improve the recurring operating expenses (the cost structure), or new budgeting practices, or both.

For example, major recurring operating expenses include the labor and vehicle costs that are tied to meter readings, activations, and deactivations. The AMI initiative is a strategy that will reduce these recurring expenses (and provide other customer benefits). Are there other strategic business *innovations* we could implement?

Ideas on How to Conduct a Strategic Cost Review

A strategic cost review is appropriate on a periodic basis, but not annually.

A strategic review considers the possibility of business model innovation. It is different than continuous improvement efforts, which generally is a more incremental approach.

We could consider a 3-phase approach:

1. **Perspective**: build a shared understanding that will serve as our platform for generating and evaluating ideas
2. **Possibilities and proposals**: identify potential innovations; select the most promising innovations
3. **Performance**: develop programs to implement the innovations; track progress and improve

Here are some tools we might deploy in each of these phases. This is a menu for discussion; I do not recommend adopting all of the tools:

Tools for **Perspective:**

- A goal- or scenario-based 5-year budget exercise (For example, how would we allocate operating expenses if we held total expenses flat for the next 5 years?)
- "Cost driver" analysis. This means building a tree structure of total costs, then potentially performing a sensitivity analysis of individual tree leaves to find interesting areas for discussion
- A 5-year forecast of major expense line items + a 5-year history (even better to use cost driver tree leaves)
- Benchmarking other organizations (on-site interviews!, phone interviews, surveys, AWWA), especially in key categories identified by the cost driver analysis

Tools and steps for **Possibilities and Proposals:**

- Brainstorming; design thinking
- Prioritizing ideas (many tools)
- Outlining top proposals (many tools)
- Customer value and impact analysis (many tools)
- ROI and/or NPV analysis

Note: currently, we are evaluating retirement savings and health benefits

Tools for **Performance:**

- Program plans (many tools)
- Program-level KPIs, including explicit long-term expenses savings
- Program-level tracking, including long-term budget savings KPI

We are currently tracking, at a program level, the operating savings from the AMI program. Are we doing this for GIS? For Energy Management?

Operating expenses, capital investments, or both?

The review could examine both long-term operating expenses and capital investments. My own focus is primarily directed toward the operating expense cost structure, rather than capital investments, because:

- Capital investments are generally one-time decisions; operating expenses often become routine and built into the baseline of future annual budgets
- OWASA already has a rigorous, effective annual process to screen and prioritize individual capital investment projects. Presumably, the investments selected by the staff and board are required to maintain service levels or they have an attractive ROI (for example, AMI)
- In prior years, we looked at benchmark data for routine capital investments in distribution and collection; our capital investment policies and portfolio of projects are guided by this information
- Deferring a capital investment just postpones the costs; it doesn't actually eliminate them. In addition, some deferrals might increase operating expenses and/or reduce service levels during the deferral period
- Capital investments (hopefully) create assets with long-term value, similar to savings account investments. Operating expenses (hopefully) provide near-term value but generally not long-term value, similar to flying a commercial airplane, with or without passengers in the seats; the funds can't be recovered

Note that some of our innovations to reduce long-term operating costs might require new (more) capital investments. AMI is a great example of increasing capital investment to reduce operating expenses and improve service.

Appendix: Why Routine Budget Approaches Won't Address Long-Term Operating Expenses

Through the annual budget review process, board members probe and review operating expense and capital investment (CIP) budget lines in the coming FY to identify and remove any low-value expenses.

The capital investment discussions are a critical part of the annual budget process. The staff and board ensure one-time capital investments are required to maintain service levels or they have an attractive ROI (for example, AMI). As explained in the last section, *Operating expenses, capital investments, or both?*, the annual CIP probably works pretty well to address the key question: *Are there capital investment items that can/should be deferred or eliminated?*

But what about operating expenses? This portion of the annual review tends to address questions about near-term spending only, such as:

- *Are there extravagant or careless FY operational expenses to reign in?*
- *Are there individual discretionary items in the FY operational expense budget that are unnecessary?*

In OWASA's case, board members generally identify few cuts because the staff manages run-rate expenses effectively and because it is difficult for board members to have the perspective and time to tackle details of the line items.

In these discussions, we don't directly address long-term and recurring operating expenses (the operating "cost structure"). And the information and tools are not focused on the long-term operating expenses outlook.

Furthermore, any FY budget cuts that board and staff members identify generally don't make a material long-term difference. They simply don't add up fast enough and often they can't be sustained for multiple years without affecting service quality.

The annual budget process can be characterized as a continuous improvement approach, which has its merits. However, it does not provide the tools, information, time, and mind space for considering operational *innovations* that would lead to fundamental cost structure changes.