

Response to Questions Submitted to:

Rudolph S. Chow

Director

Baltimore City Department of Public Works

Testifying on the behalf of Association of Metropolitan Water Agencies (AMWA)

Regarding

Hearing on Reinvestment and Rehabilitation of Our Nation's

Safe Drinking Water Delivery Systems

March 16, 2017

The Honorable John Shimkus

1. How much money does it cost to perform an asset management assessment?

AMWA defines asset management as “an integrated set of processes to minimize the life-cycle costs of infrastructure assets, at an acceptable level of risk, while continuously delivering established levels of service.” Effective asset management therefore functions as a continuous business practice that informs capital investments and operations and maintenance protocols over time. As such, we would expect there to be considerable variability in the costs a community water system may incur to conduct asset management planning at its own utility.

The costs associated with performing an asset management assessment depends on a number of factors, starting with the degree of rigor and preciseness of results the community water system hopes to achieve. The community water system's ultimate objectives on this point will inform subsequent decisions regarding the number of utility staff or professional consultants to be involved and whether software will be used, both of which will affect the cost. Finally, the size of the utility and the age and location of its infrastructure assets will also contribute to the ultimate cost expectation of asset management planning.

In general, one might expect that the cost of a robust, multi-point assessment at a large water system could be substantial, while a less comprehensive asset management review at a smaller utility would likely cost much less. But ultimately the cost will vary.

The Baltimore City Department of Public Works (DPW) has an established Asset Management division, referred to as the Office of Asset Management (OAM), that is responsible for the inventory and maintenance of our assets and infrastructure of our water, stormwater and wastewater systems (see Water Infrastructure chart, below).

	Water	Wastewater	Stormwater
Water bodies	Water sources: 3 reservoir impoundments & Susquehanna River	N/A	40 miles of streams & open channels in City; Baltimore Harbor
Treatment plants	3 filtration plants producing up to 225 mgd* of potable water	2 treatment plants capable of treating up to 250 mgd of wastewater	N/A
Pipes	3,800 miles of water mains in Baltimore City & County; 9,100 fire hydrants in City, 13,750 in County	1,400 miles of sanitary sewers in City	1,146 miles of storm drains; 27,561 storm drain manholes; 52,438 inlets & 1709 outfalls
Pumping stations & other structures	24 pumping stations, 6 elevated tanks & 3 reservoirs; 2 major chlorinators & 16 remote chlorinators	8 major pumping stations & 10 minor installations	4 major pumping stations; 5 large debris collectors; 350 Best Management Practices
Impervious area	N/A	N/A	Remediation of 20% of impervious area by 2018 (4,291 acres)

*mgd – million gallons per day

Recognizing the value of an Asset Management program, we have increased our budget from \$8.2 million in Fiscal Year 2017 to \$15.9 million in Fiscal Year 2018 supported by 31 staff members. The program began with the City’s underground infrastructure, but is expanding to include other asset classes, including above ground facilities, above- and below-ground stormwater infrastructure, as well as solid waste and energy assets.

OAM is comprised of three divisions:

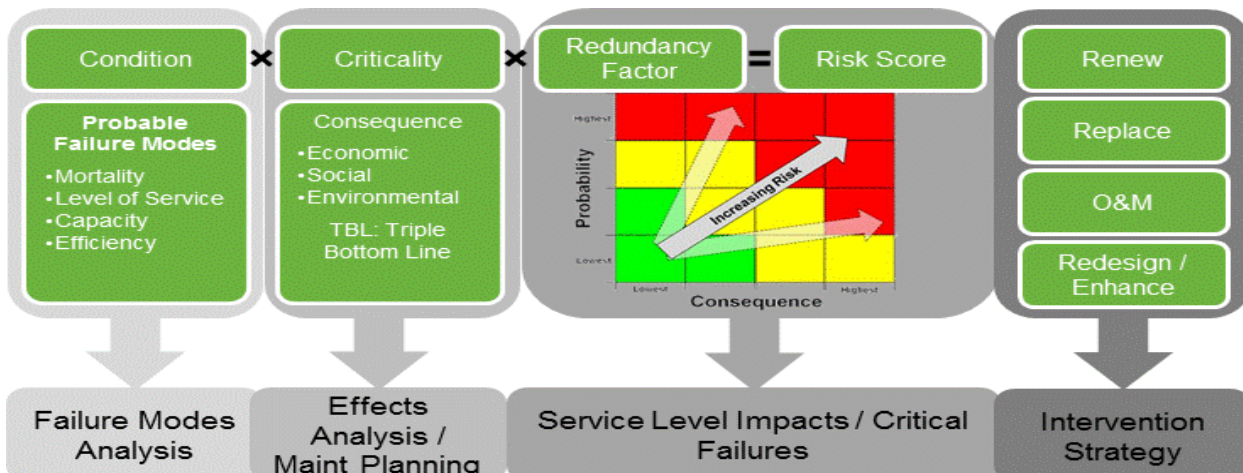
- Planning and Analysis – engineering personnel manage risk-based programs, including asset prioritizing for renewal and replacement; projects and programs associated with asset condition, capacity analysis, and enhancing service levels and reliability; recommends asset maintenance, renewal, and replacement strategies.

- Data Management – Geographic Information Systems (GIS) and other data systems professionals and business analysts manage operational data, spatial and model analysis, and operational field data analysis; program management data, system risk profiles, and project updates; recommends overall technology resources and investments needed to fully support operational and engineering decisions.
- Preventative Maintenance – focuses on preventative and predictive maintenance programs; minimizes reactive failures, maintains regulatory compliance, extends the useful life of assets through proactive maintenance; conducts asset field inspections and routine maintenance to keep assets in serviceable condition.

We believe that the structure above helps us to achieve our Six Key Components to which we attribute our success: (1) Complete Asset Inventory Record, (2) Identification of Critical Assets, (3) Level of Service Required as Established by Management, (4) Life Cycle Costs, (5) Use and Employment of Technology, and (6) Immediate and Long-Term Financing. Collectively these components provide the basis for how we plan, prioritize, fund, and manage our assets during their operation, acquisition, rehabilitation and eventual disposal.

Like many other municipalities, Baltimore has aging infrastructure that did not receive the investment it needed in the past to maintain its viability, thus the function and support of our Asset Management program becomes evident. The limited availability of funds alone places a huge responsibility on our OAM as they are critical in getting our assets on a proactive schedule of maintenance and repair/replacement to ensure system and asset reliability throughout their life cycles. By understanding asset condition and failure risk, investments in our assets are targeted on projects that will have the most significant impact on improving service level and reliability while ensuring sustainable funding.

One example of how the Office of Asset Management integrates the six components mentioned above is exemplified by our Distribution Main Risk Model shown below. This risk-based approach addresses asset renewal planning for our 1,500 miles of aging water mains. We implemented a 15 mile per year water main renewal program, using the Model to help select which assets are targeted for maintenance or renewal first.



a. Does AMWA believe these types of tests be mandated in order to receive federal funding?

AMWA believes it is a best practice for community water systems to carry out asset management planning, and that such planning should be encouraged. But we do not favor imposing additional “cross-cutting” requirements on federal infrastructure programs like the DWSRF, and we do not believe that the completion of a particular defined aspect of asset management planning should be a mandated prerequisite condition of receiving DWSRF assistance.

2. Beyond financing, what opportunities exist for the Federal Government to provide greater assistance in improving drinking water infrastructure?

Aside from adequately funding financing assistance programs like the DWSRF and WIFIA, preserving the federal tax-exempt status of municipal bond interest is the single greatest step Congress can take to promote affordable investments that will yield improvements in drinking water infrastructure. AMWA recently calculated that communities nationwide issued roughly \$38 billion worth of municipal bonds to fund water and wastewater infrastructure projects in 2016. In contrast, total SRF funding appropriated by Congress in the 2016 fiscal year totaled about \$2.3 billion.

Preserving tax-exempt municipal bond interest is particularly important as Congress considers comprehensive tax reform options, as any effort to roll back or eliminate the exemption would directly lead to higher infrastructure financing costs for communities. Today, because municipal bond interest income is not subject to federal income tax, investors charge lower interest rates than they otherwise would on municipal bonds – lower rates that directly benefit communities that are issuing bonds to finance water infrastructure projects. Imposing a new tax on interest income earned by these investors would lead them to respond by passing the cost on to bond issuers in the form of higher interest charges. Ultimately, local ratepayers would pay for these higher financing costs through increased water rates. AMWA has estimated that fully taxing municipal bond interest would increase water and wastewater infrastructure financing costs by about 25 percent – which would essentially serve as a new tax on water system ratepayers.

In Maryland, communities across the state issued roughly \$46.5 million worth of municipal bonds to fund water and wastewater projects in 2016. Fully taxing municipal bond interest would increase these financing costs by about \$20 million

over the bonds' payback periods. In Baltimore we are preparing for our 2017 Series Bond sales that will produce \$157 million in new money for water infrastructure and \$103 million in new money for wastewater infrastructure.

The federal government should also explore opportunities to reduce regulatory burdens on community water systems, or to modernize regulations that are in place. For example, as a result of a regulatory review carried out in 2012, EPA amended its interpretation of the Safe Drinking Water Act's requirement that community water systems provide their customers with a consumer confidence report each year. Under EPA's new interpretation, community water systems were given the option to deliver these reports to customers electronically, such as by posting the reports publicly online and notifying customers of their availability via notices on water bills.

While Baltimore does post its CCR on its website, we continue to mail paper copies of these reports to our customers each year to ensure that all customers have access to the information. Many other AMWA members have successfully transitioned to an electronic delivery model. Based on a 2016 survey of AMWA members, 80 percent of responding utilities used electronic CCR delivery last year. These utilities reported avoiding printing an average of more than 138,000 paper CCRs, and saved an average of \$44,205 in printing and postage costs. These savings represent additional resources that communities are able to devote to infrastructure investment.

Because these savings are the result of EPA's reinterpretation of Safe Drinking Water Act requirements, EPA could reverse its interpretation at any time. AMWA therefore supports congressional action that would codify in the Safe Drinking Water Act the ability of community water systems to utilize similar electronic distribution methods to share consumer confidence reports with the public.