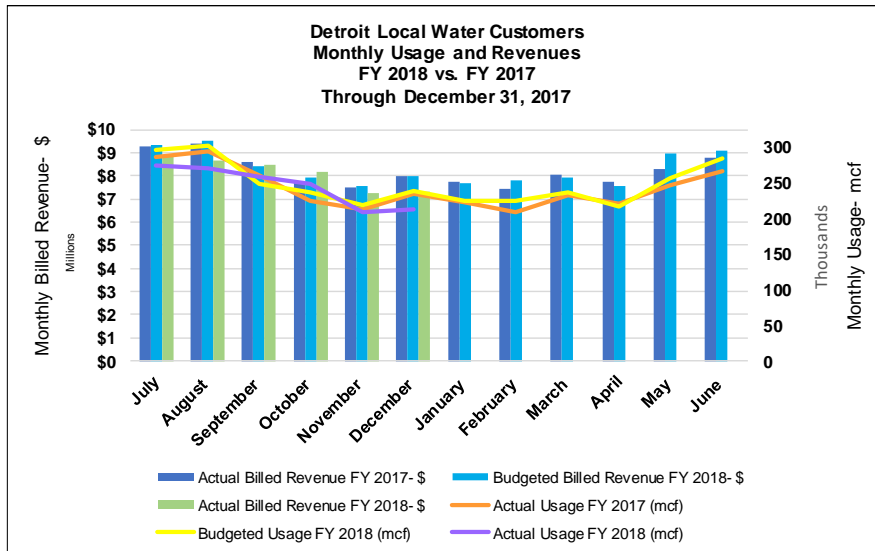


# Great Lakes Water Authority

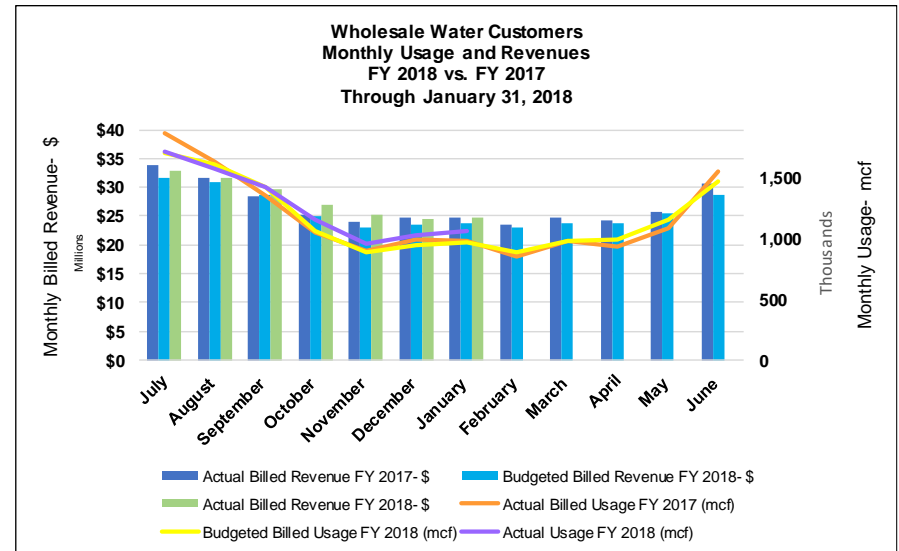
*Key Performance Indicators and  
Effective Utility Management (EUM) Metrics  
March 14, 2018*



# Financial Viability – Reliability of Water System Revenue Projections

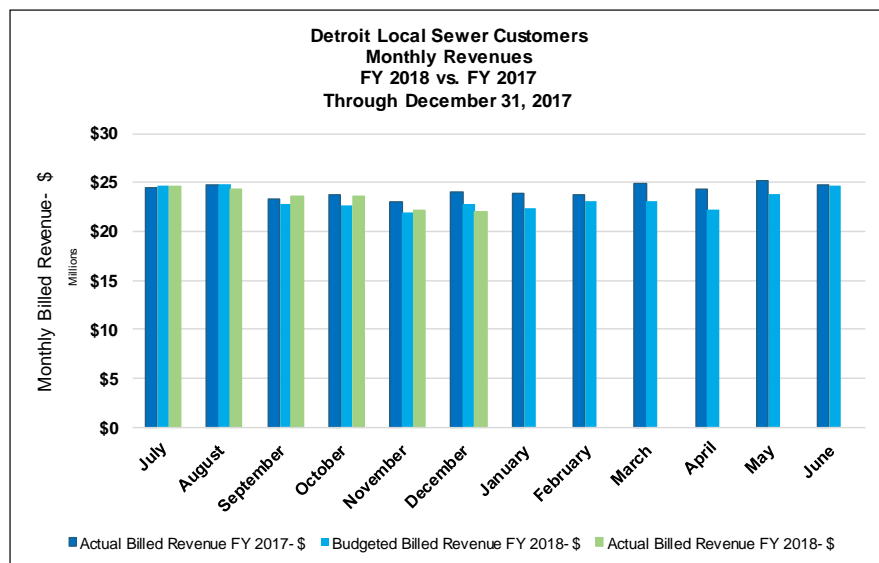


Detroit Local Water System billed revenues for FY 2018 are stable with actual billings at 95.9% of budget and actual usage at 95.6% of budget through December 2017. Billed revenue for FY 2018 was 3.7% lower compared to the same period in FY 2017.

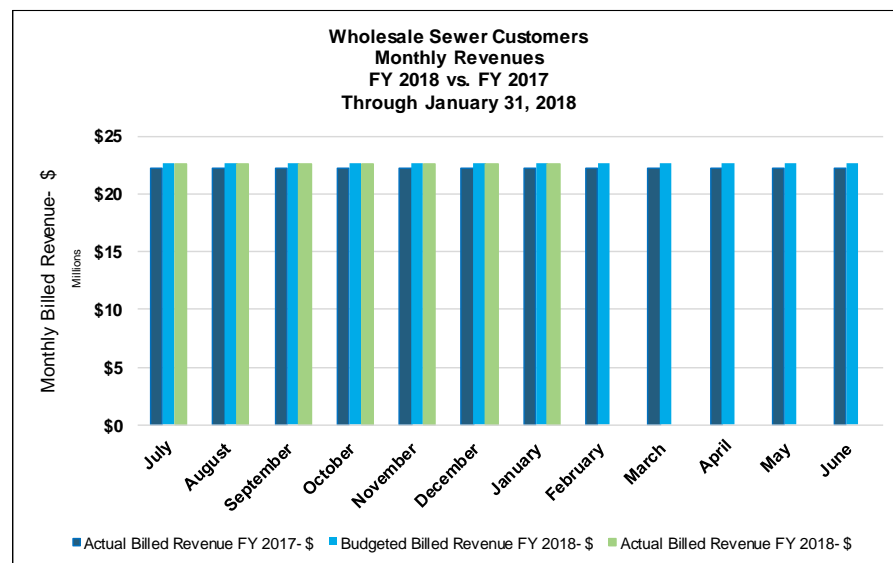


Wholesale Water System billed revenues for FY 2018 are stable with actual billings at 104.8% of budget and actual usage at 103.5% of budget through January 2018. Billed revenue for FY 2018 was 1.5% higher compared to the same period in FY 2017.

# Financial Viability – Reliability of Sewer System Revenue Projections

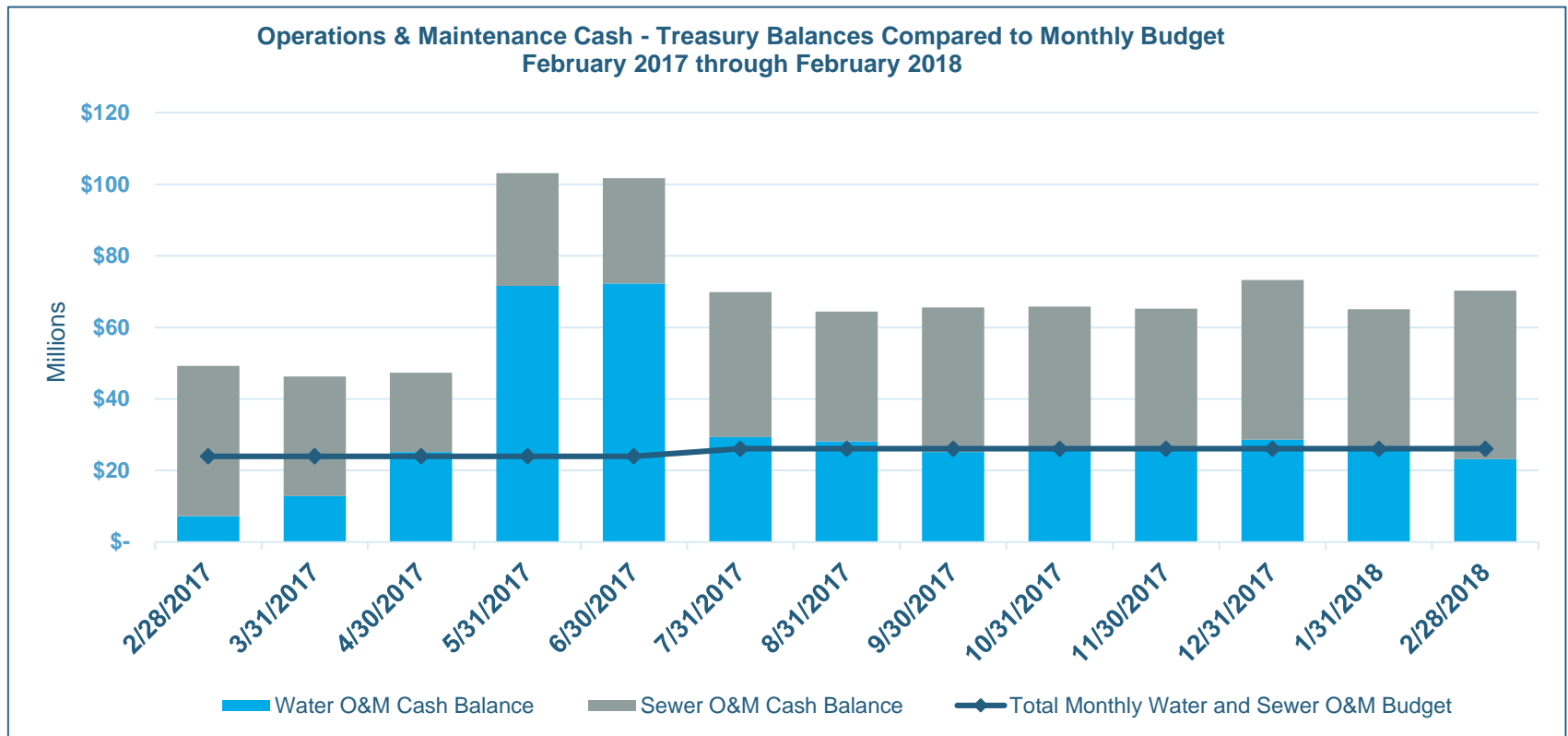


Detroit Local Sewer System billed revenues for FY 2018 are stable with actual billings at 100.4% of budget and actual usage at 98.0% of budget through December 2017. Billed revenue for FY 2018 was 2.2% lower compared to the same period in FY 2017.



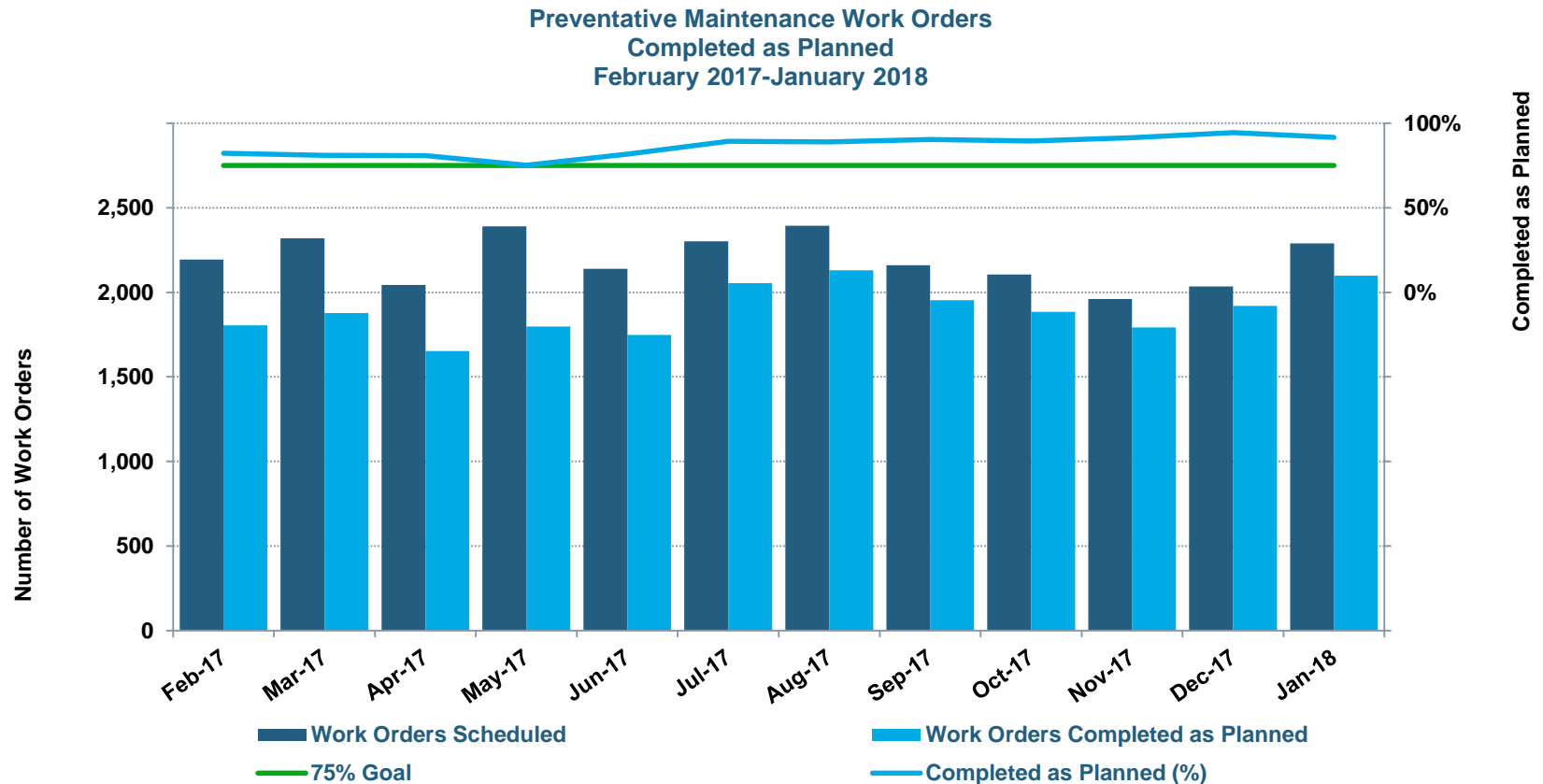
Wholesale Sewer System billed revenues for FY 2018 are stable with actual billings at 100% of budget (based on the full fixed monthly charge) through January 2018. Billed revenue for FY 2018 was 1.9% higher compared to the same period in FY 2017.

# Financial Viability – Revenue Stability and Appropriate O&M Cash Reserves



- Cash balances are appropriate to fund monthly budgeted Operations & Maintenance (O&M) with an average ratio of O&M cash to budget of 3.17x for water and 2.41x for sewer.
- Variability in cash balances for May and June 2017 is due to the settlement timing of inter-fund receivables/payables through December 2015 and continued refinement of cash management practices.

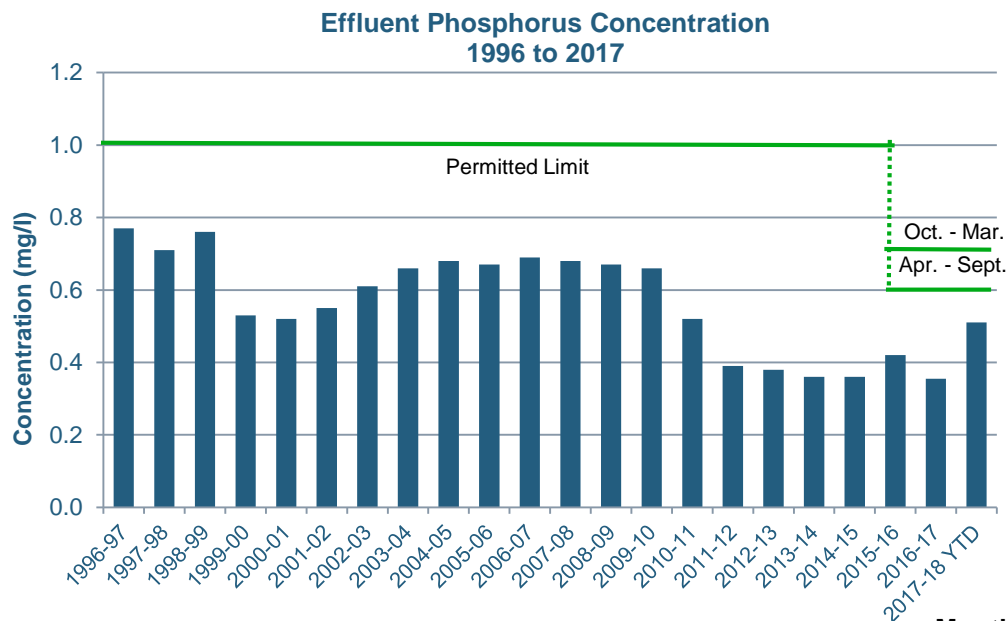
# Infrastructure Strategy and Performance – Wastewater Maintenance Management



- Timely preventative maintenance extends asset useful life and minimizes unplanned downtime.

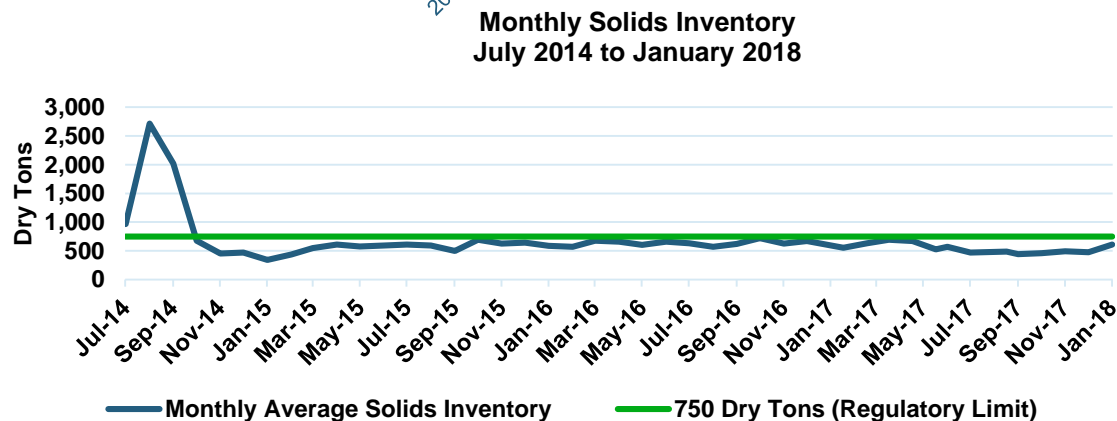
- Unplanned downtime can lead to permit non-compliance and negative environmental impacts.

# Product Quality – Wastewater Regulatory Compliance



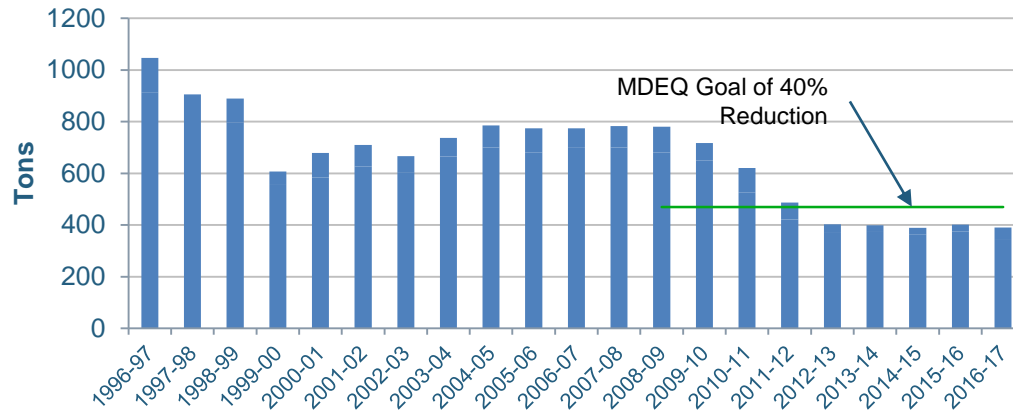
- Significant progress has been made in the reduction of effluent phosphorus.
- GLWA strives to surpass Federal and State requirements.

- Solids inventory is a measure of process performance and is regulated by the State.
- Having consistently tracked below 750 dry tons since Oct. 2014 is noteworthy.



# Community Sustainability – Watershed Health

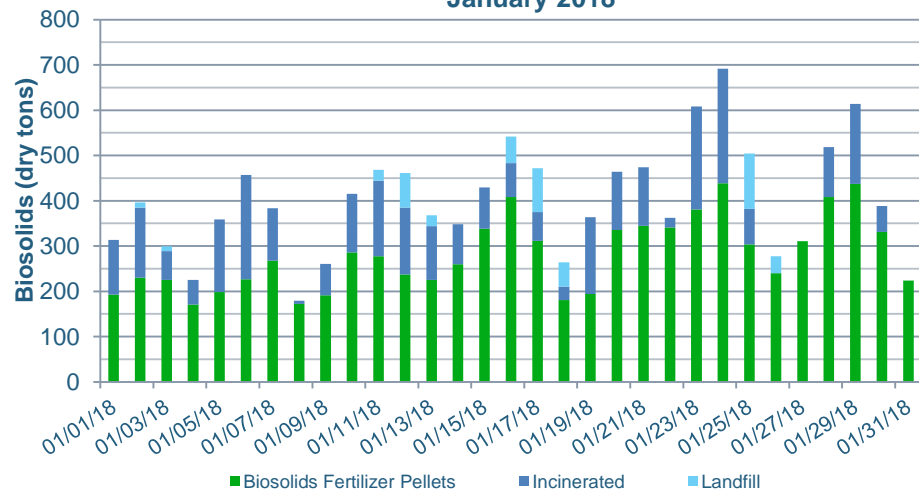
Effluent Phosphorus Loading  
1996 to 2017



- The State and Federal regulators have a goal of 40% reduction in phosphorus loading in the Western Lake Erie Basin.
- GLWA has surpassed the State and Federal goal.

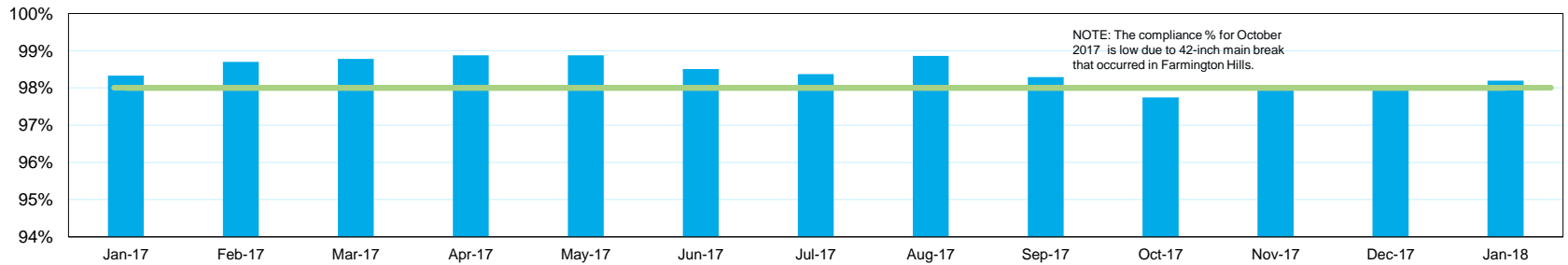
- GLWA strives to increase nutrient recovery and beneficial reuse of biosolids.
- Use of the biosolids dryer facility for solids handling is preferred because it uses biosolids for the production of fertilizer pellets.

Biosolids Handling by Method  
January 2018



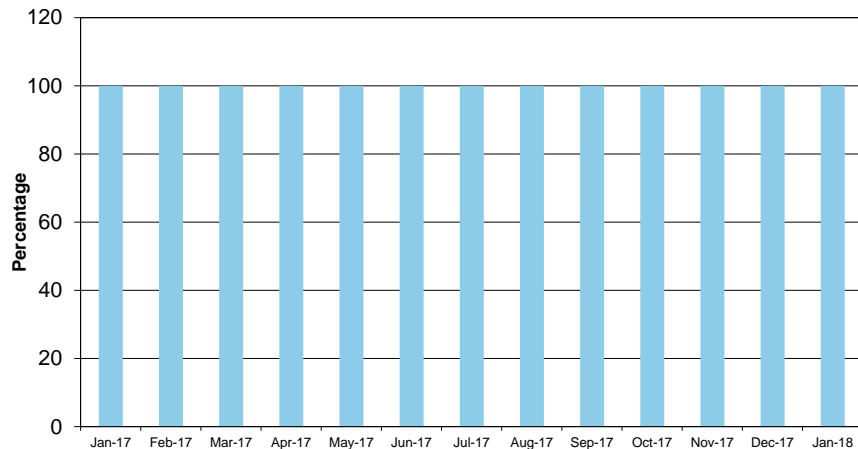
# Water & Field Services

**Customer Pressure Compliance %**



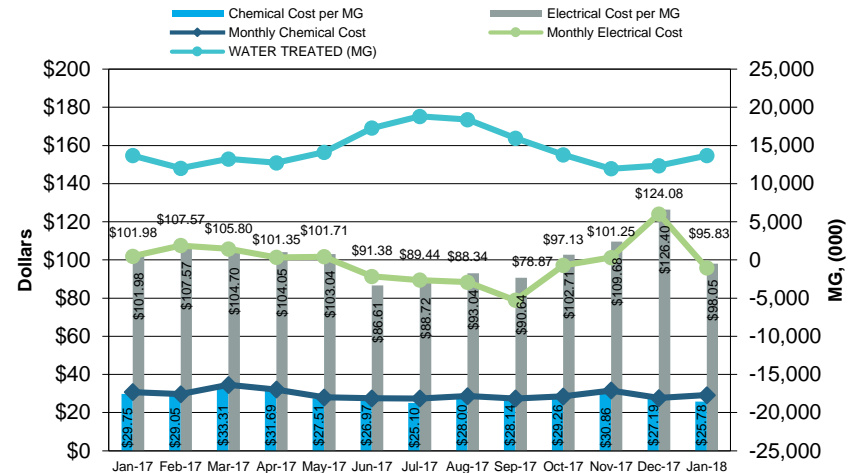
**Operational Resiliency:** To exceed customer compliance by being greater than 98% of contractual pressures.

**Percent Compliance with Safe Drinking Water Act (SDWA) by Month**



**Product Quality:** GLWA's goal is to surpass Safe Drinking Water Act requirements and this slide indicates compliance for the month.

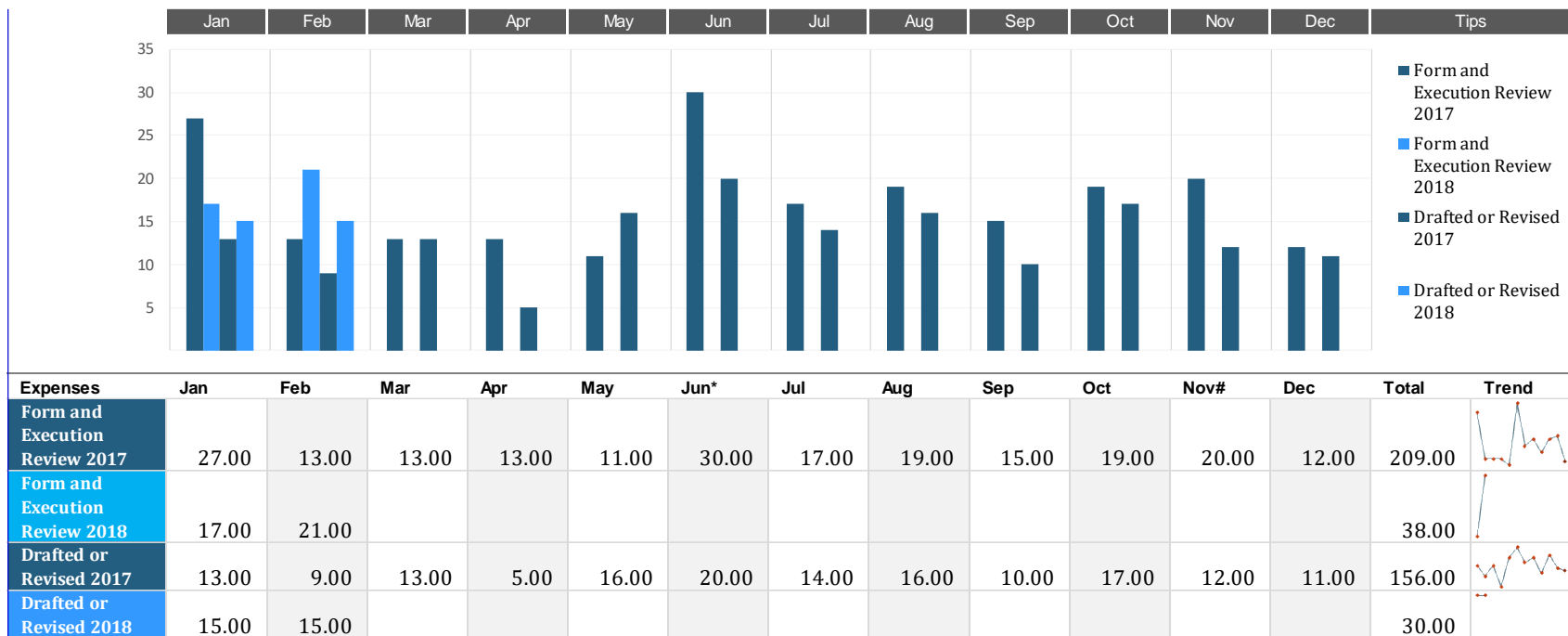
**Chemical and Electrical cost per MG**



**Operational Optimization:** Being able to identify ongoing performance improvements for chemical and electrical usage per MG of water pumped is a key metric in managing operational cost. This slide is under development to include tracking of total costs per MG.



# General Counsel Contract Review

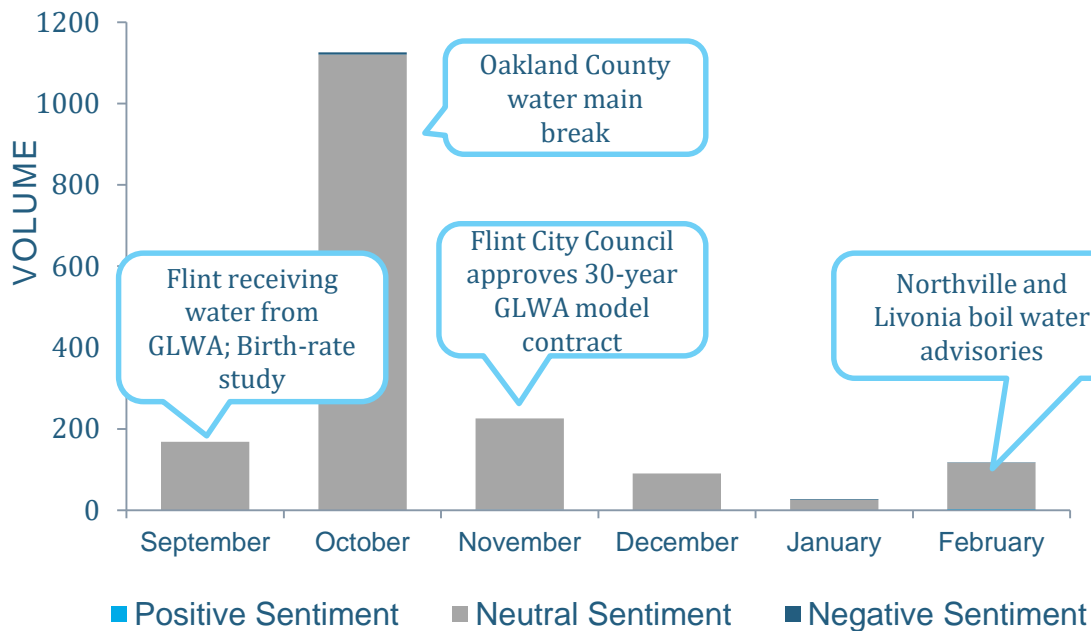


General Counsel reviews all contracts as to form and execution. In addition, General Counsel will negotiate and/or revise certain contracts. The monthly statistics in these areas reflect the pace and complexity of an organization's business, as well as the demands on its legal staff. In 2016, General Counsel reviewed approximately 66% more contracts than it did in 2015. Contracts drafted or revised increased by 26% over 2015 levels, which while a smaller percentage, is still significant. Given Authority initiatives underway, it is not clear whether 2016 numbers are an anomaly or whether operational changes will be required to accommodate a sustained increase in contract volume and activity. To sustain current resource level model in 2017, contract reviews and revisions should decrease substantially from 2016 levels. NOTE: These statistics do not include contract drafting related to Flint's decision to continue as a long-term GLWA customer.

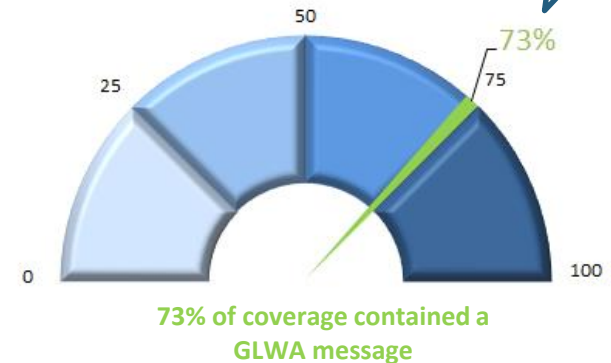
# Traditional Media Summary

Great Lakes Water Authority (GLWA) mentions increased in February, compared to the last two months. Boil water advisories in Northville and Livonia drove most of the coverage in February. Positive coverage came from an article in *Dbusiness Magazine* and television segments on GLWA partnering with Michigan State University on a project to generate energy from biosolids and working with the University of Michigan on real time censoring data for water levels to help manage storm runoff (*the result of a news release sent out by GLWA*). A single negative mention came from *Hometownlife*, claiming a transmission line owned by GLWA failed and that failure started a chain reaction of issues, including several water main breaks across southern Livonia. Other topics covered in February, but to a much lesser degree, were Flint receiving water from GLWA, and what appeared to be another organ found at the GLWA Resource Recovery Facility.

GLWA TRADITIONAL MEDIA VOLUME & SENTIMENT



MESSAGE PULL THROUGH\*



MEDIA VOLUME: 118

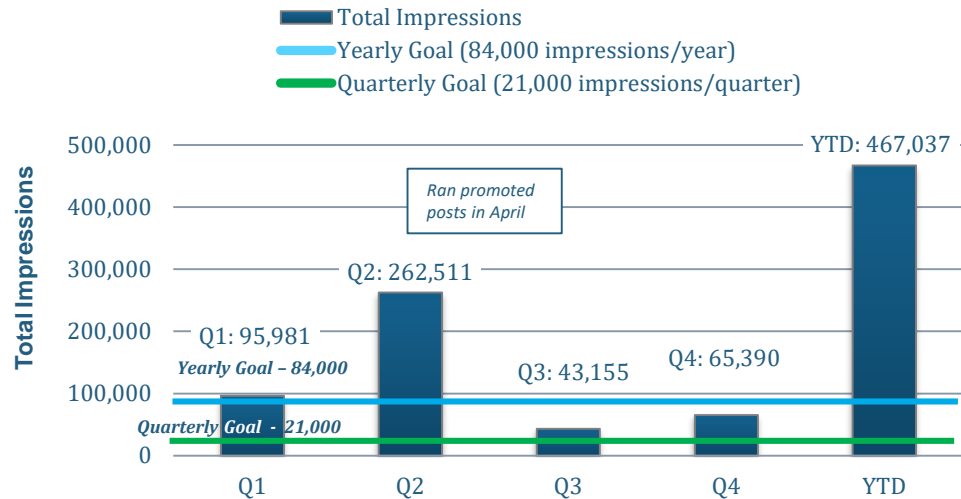
CURSORY OR FLINT MENTIONS: 39

CONTAINED GLWA MESSAGE: 58

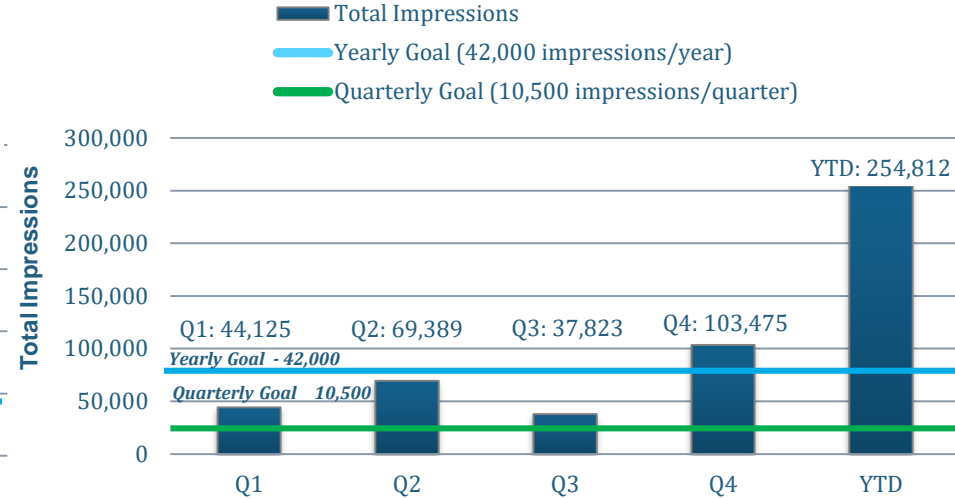
\*Message pull through includes quotes or comments from a GLWA spokesperson, a quote from a GLWA press release or underlying theme of GLWA providing safe and clean water.

# KPI Overview: Facebook & Twitter

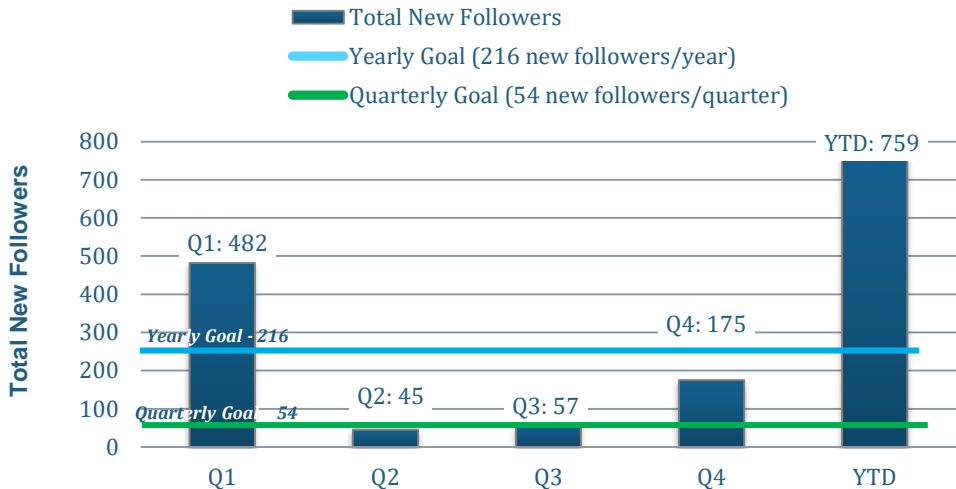
## Facebook - Total Impressions Quarterly



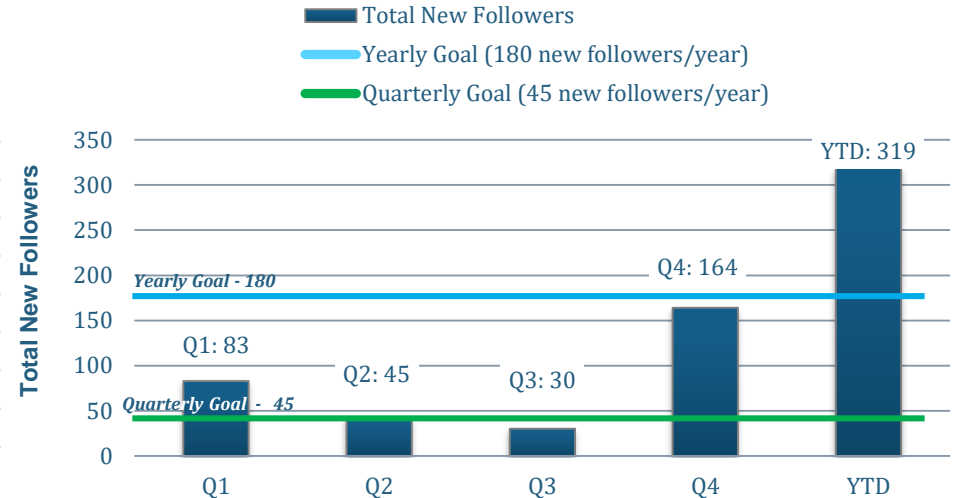
## Twitter - Total Impressions Quarterly



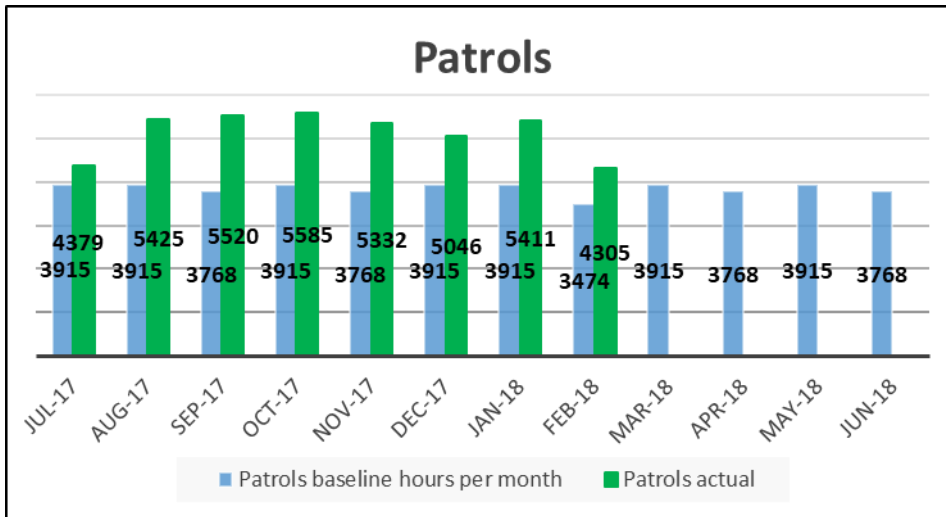
## Facebook - Total New Followers Quarterly



## Twitter - Total New Followers Quarterly



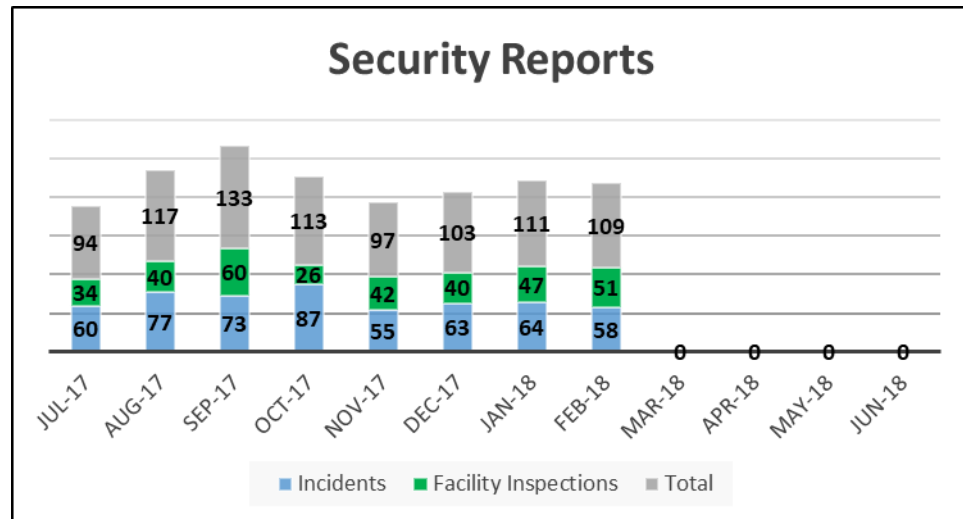
# Security & Integrity



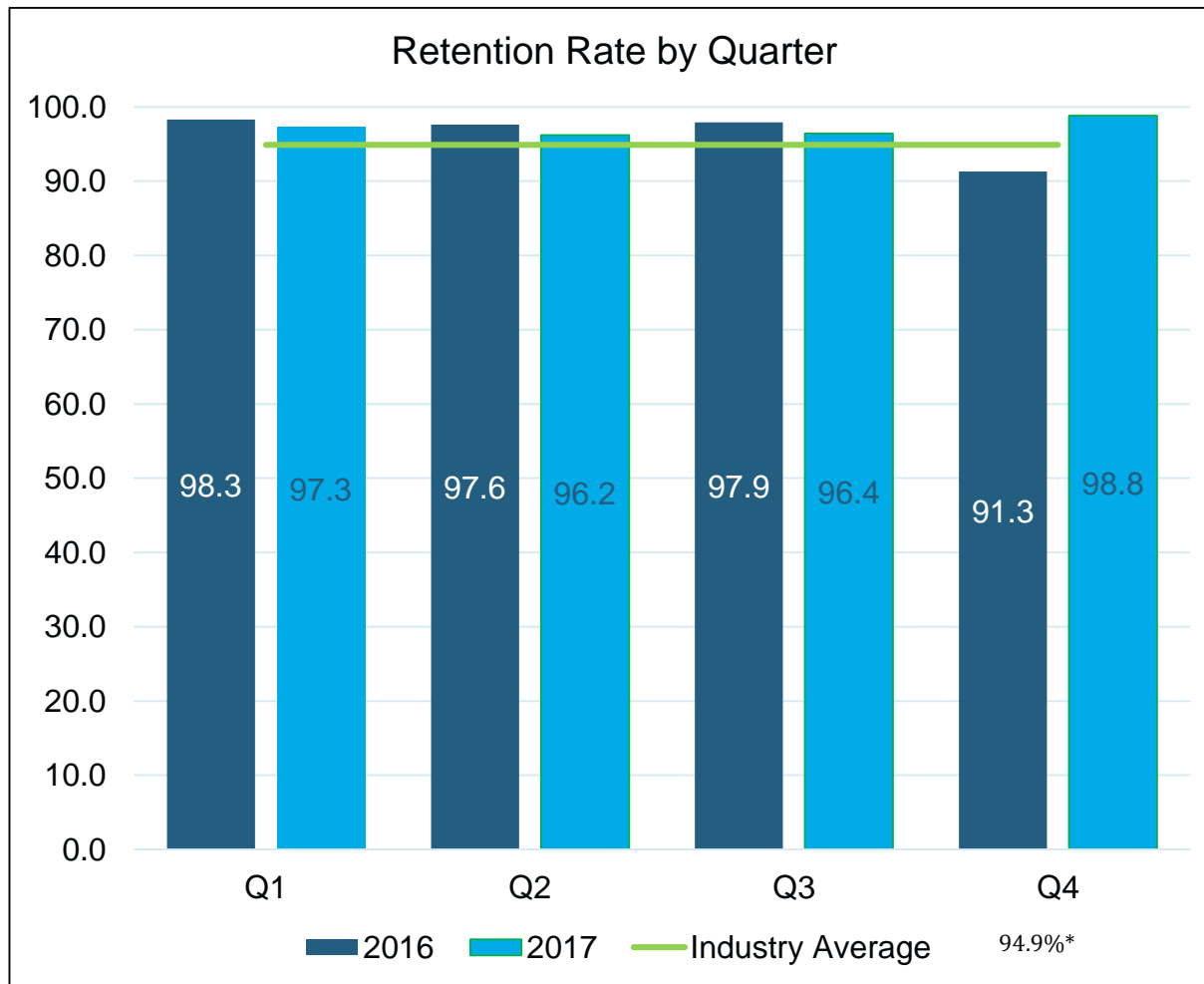
- Patrols are an indication of the level of services rendered by the staff of the Security & Integrity Group.

*\*Baseline patrol hours have been recalculated to include additional staff that have patrol responsibility. It now reflects 3915 hours for a 31-day month, with a 30-day month being 3786*

- Security reports are an indication of the effectiveness of security programs (less is better).



# Organizational Development



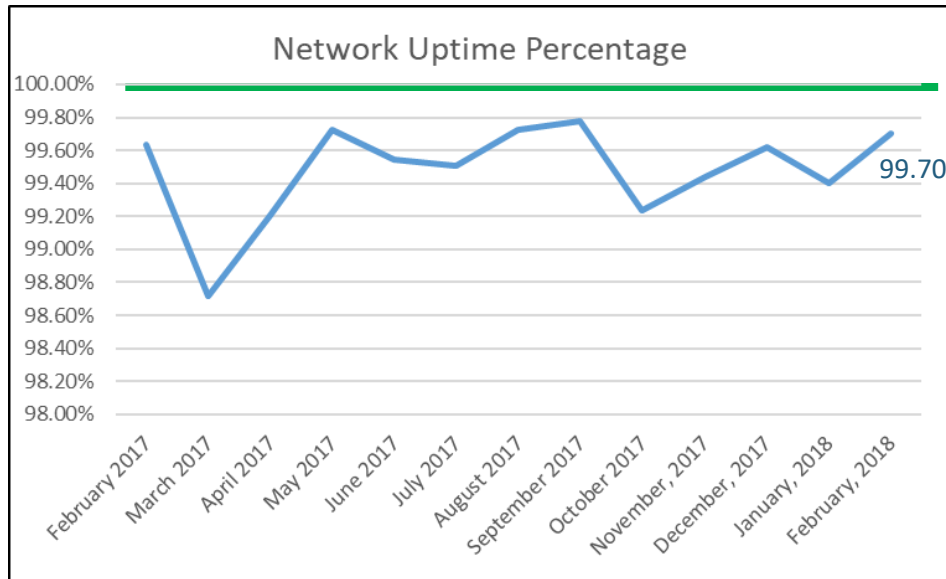
- Retention leads to decreased training costs, increased productivity, and cross training and development.

\*From the U.S. Bureau of Labor Statistics 10-Oct-2016 report for the sector "State and Local Government, Excluding Education."

Above retention rates are reflected in percentages

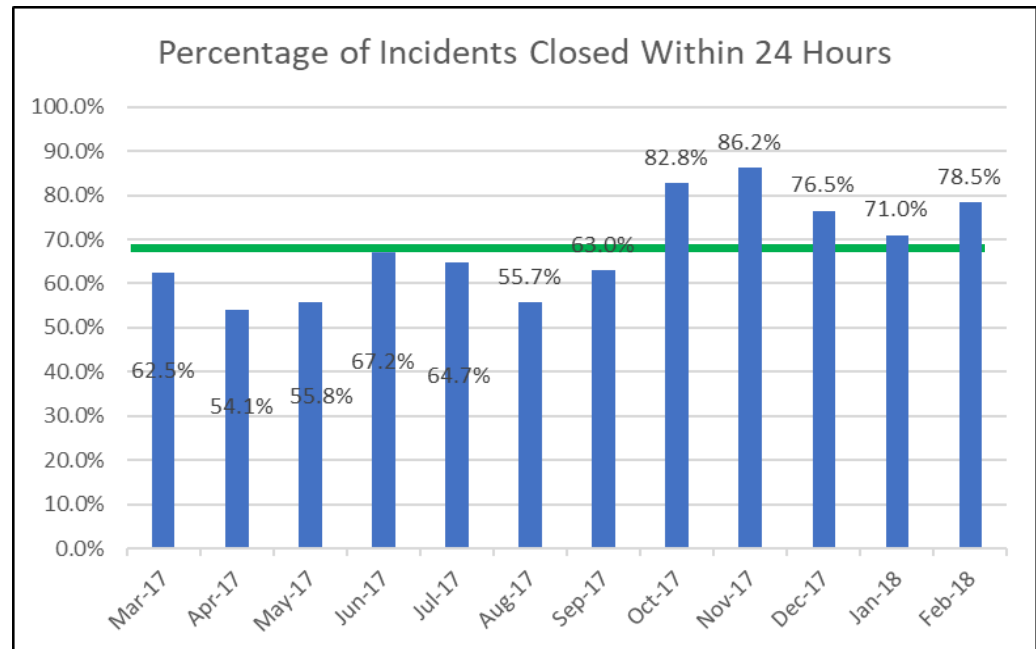
Updated: 1/4/18

# Information Technology



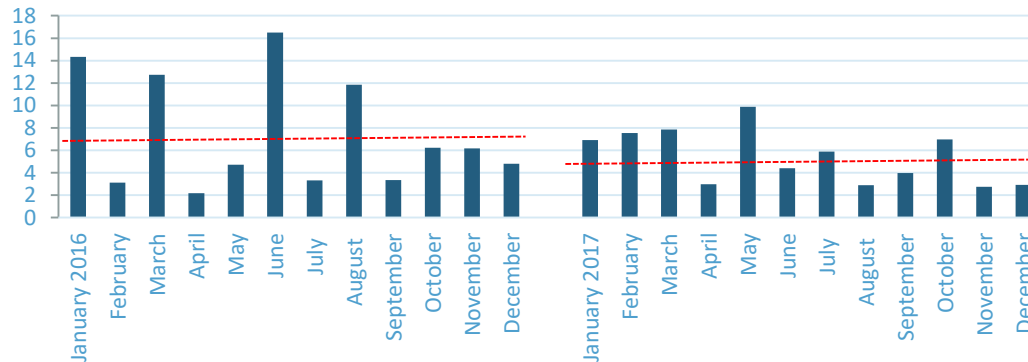
- GLWA has 59 network-connected sites, including offices, plants, pump stations and other facilities.
- Network connectivity allows employees to access the applications needed to do their work and connects plants and pump stations to the intranet to report operational data

- An incident is a technology issue that prevents an employee from performing some part of their job duties
- Quick resolution of incidents increases employee productivity.
- The industry standard for 24-hour resolution is 68%.



# Key Workers' Compensation Metrics

Workers' Compensation Frequency Experience  
Total Reportable Cases per 100 Full Time Equivalents (FTE's)



One measure of workplace risk mitigation efforts is the number of claims relative to hours worked (the exposure base).

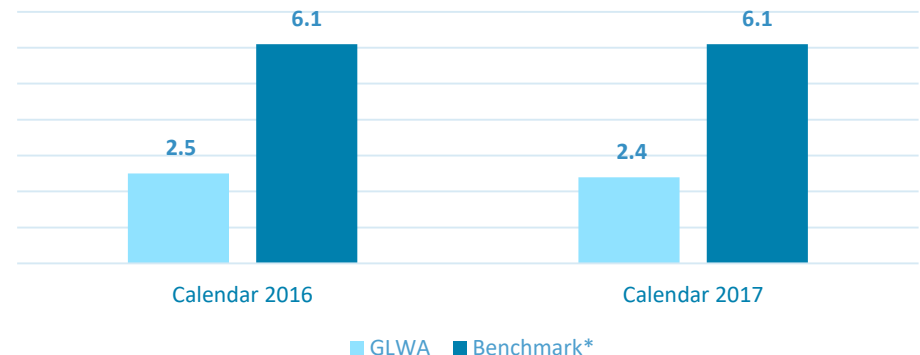
The horizontal dashed lines represent a favorable improvement in the average frequency rate from 6.9 to 5.4 for calendar years 2016 and 2017, respectively.

The rate improvement is the result of an 11 percent decline in claim counts year-over-year, while total hours worked during the same period increased 12 percent.

GLWA's recordable claim frequency rate has declined slightly year-over-year while and remains well below the benchmark rate.

\*benchmark based on Bureau of Labor Statistics for non-fatal injury and illness incident rates per 100 full-time equivalents for local government, Michigan, Utilities, Water/Sewage and Other Systems. <https://data.bls.gov/iirc/calculate.do> (2016 is latest BLS data available)

Workers' Compensation Frequency Experience  
Total Recordable Cases per 100 Full Time Equivalents (FTE's)  
GLWA Rate vs. Benchmark Rate



# GREAT LAKES WATER AUTHORITY

## 24 x 7 OCCUPATIONAL INJURY TRIAGE PROGRAM METRICS

Period: January 1, 2017 – December 31, 2017

### 1. Total Call Volume & Mix Including Follow Up Calls:

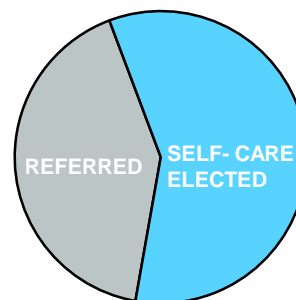
			Referred	Self Care
ON TIME CALLS (within 24 hours)	53	85.5%	37.7%	<b>62.3%</b>
LATE CALLS (> 24 hours)	9	14.5%	<b>66.7%</b>	33.3%
Total # of Calls YTD:	62	100.0%		

### 2. Stay-At-Work Rate Calculation

On Time Calls w/Self Care	33	
Late Calls w/Self Care	3	
Less: Follow Up Calls Ultimately Referred	(6)	
Total Stay at Work w/Self Care	30	(A)
Total # of Calls	62	
Self Referred Before Triage	(4)	
Adjusted Total # of Calls	58	(B)
Stay at Work Rate:	<b>51.8%</b>	(A)/(B)

### 3. Estimated Savings:

Total Stay at Work w/Self Care	30
x Average Medical Only Cost (estimated)	\$435
= Estimated Medical Charges Avoided	\$13,060
+ Per Claim Med Only Charges Avoided x \$140 ea.	\$4,203
+ MBR Fees Avoided (assumes 1 bill/claim at \$8.50 ea.)	\$255
= Total Estimated Cost Avoidance:	\$17,518
- Total Costs (sum of Jan- Dec 2017 invoices)	-\$4,083
	\$13,435
= Net benefit of program (positive ROI)	329%



Over **60 percent** of all calls made to the MEDCOR Nurse triage call center within 24 hours of an incident resulted in the employee initially electing self-care vs. a referral to a medical clinic.

**Initial Call Metrics**