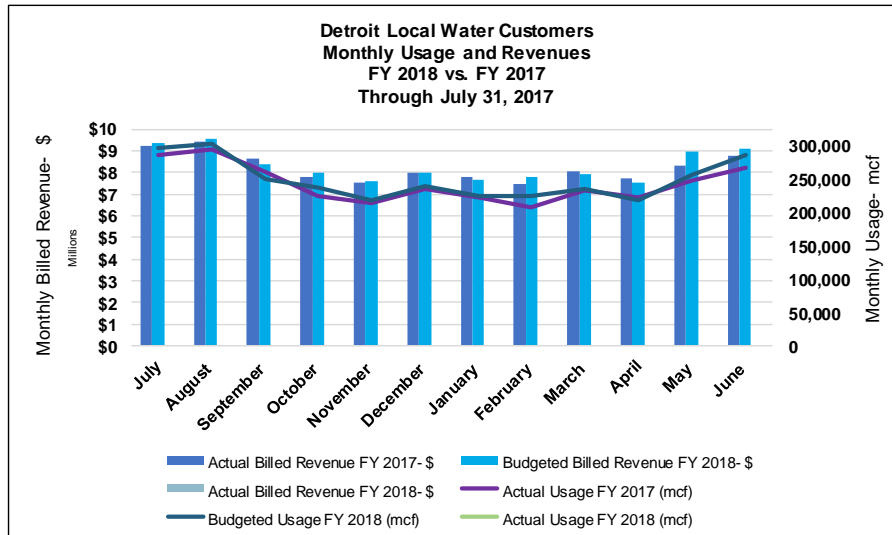


# Great Lakes Water Authority

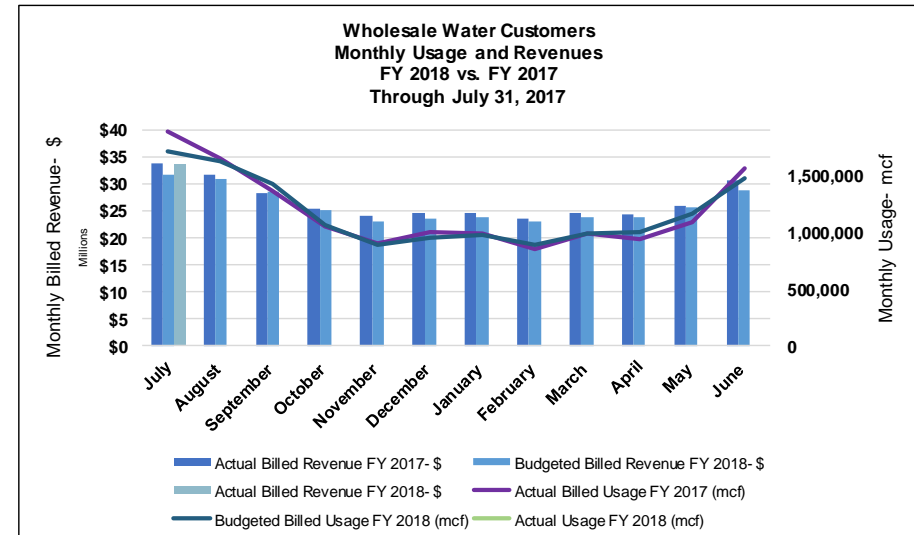
*Key Performance Indicators and  
Effective Utility Management (EUM) Metrics  
September 13, 2017*



# Financial Viability – Reliability of Water System Revenue Projections

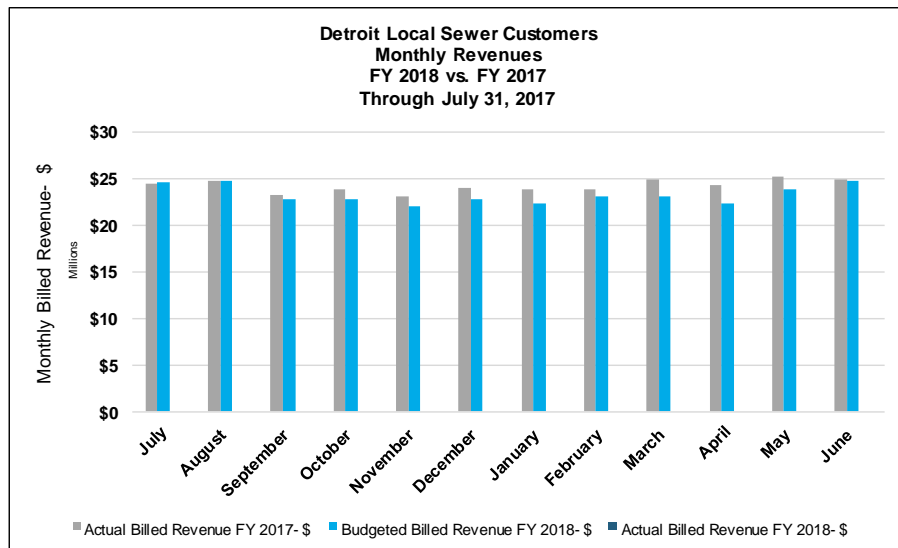


Detroit Local Water System billed revenues for July 2017 is not available, however total budgeted revenues for FY 2018 are 1.2% higher than FY 2017 actual billed revenue.

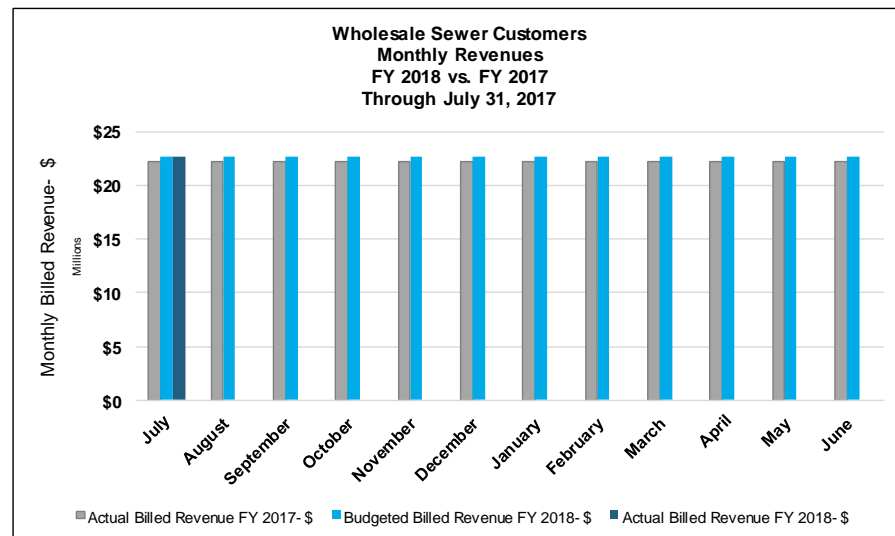


Wholesale Water System billed revenues for FY 2018 are stable with actual billings at 105.3% of budget and actual usage at 100.5% of budget through July 2017. Billed revenue for FY 2018 was 1.4% lower compared to the same period in FY 2017.

# Financial Viability – Reliability of Sewer System Revenue Projections

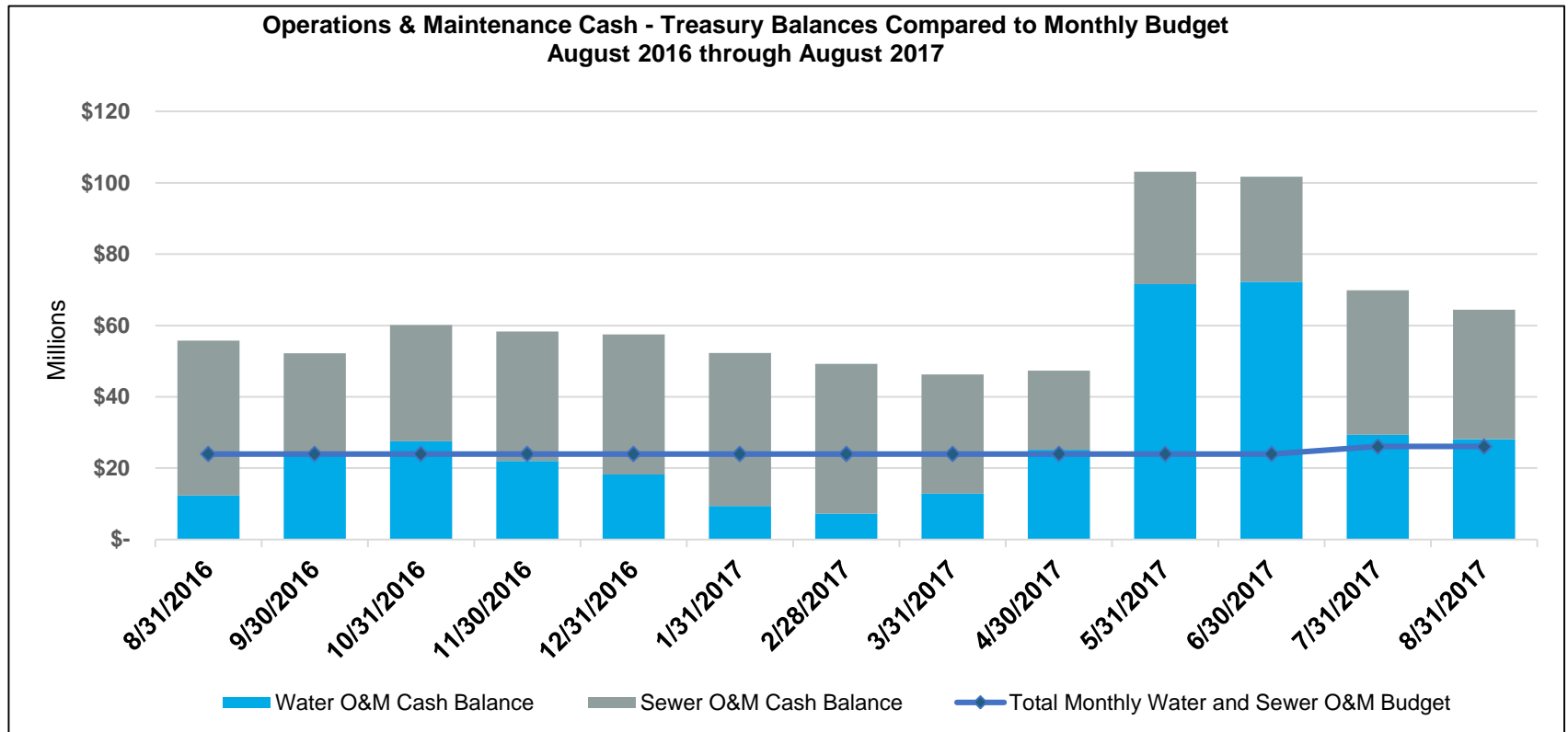


Detroit Local Sewer System billed revenues for July 2017 is not available, however total budgeted revenues for FY 2018 are 3.8% below FY 2017 actual billed revenue.



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 July 2017. Billed revenue for FY 2018 was 1.9% higher compared to the same period in FY 2017.

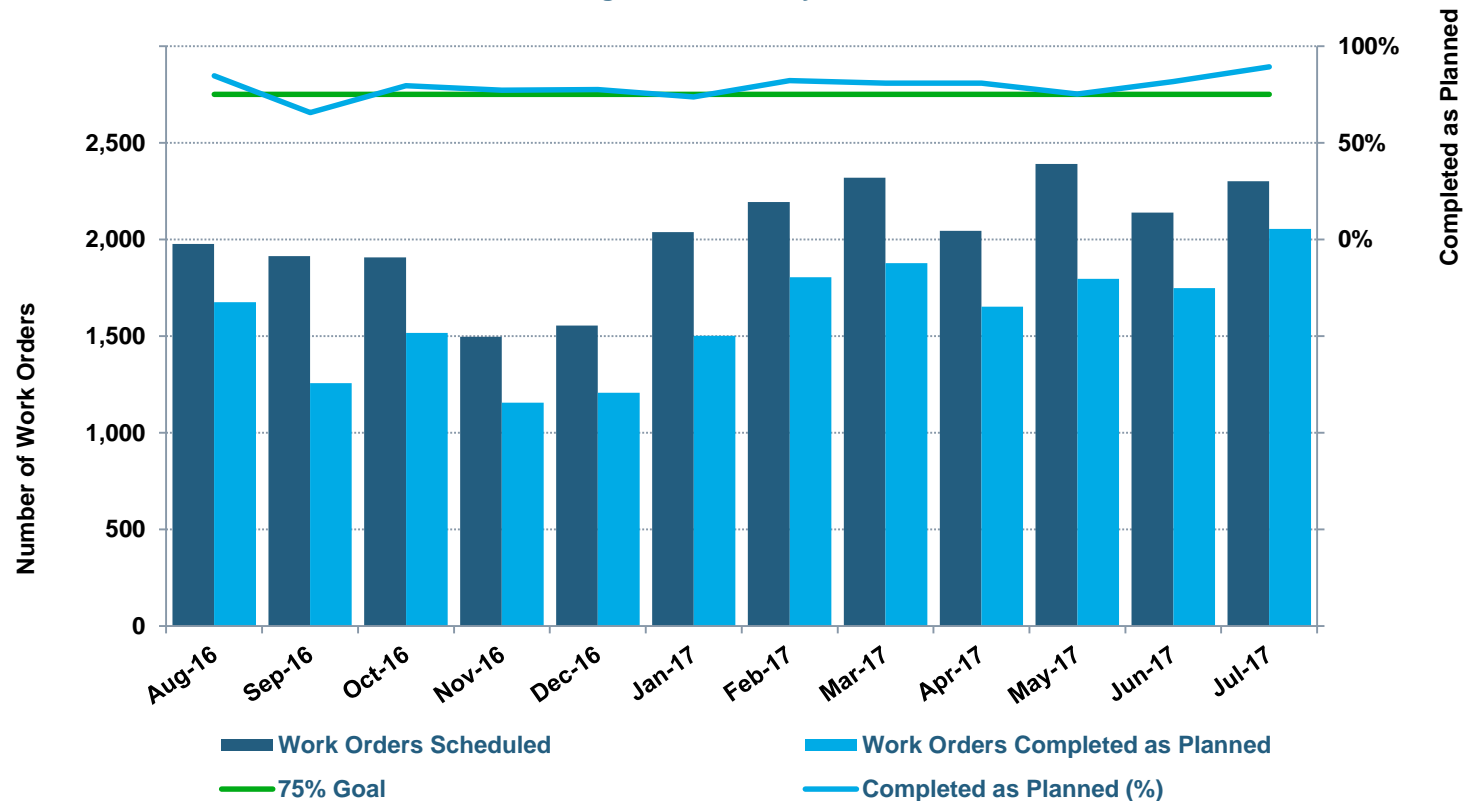
# Financial Viability – Revenue Stability and Appropriate O&M Cash Reserves



- Cash balances are appropriate to fund monthly budgeted Operations & Maintenance (O&M) with an average ratio of O&M cash to budget of 2.93x for water and 2.37x for sewer.
- Variability in cash balances in 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

Preventative Maintenance Work Orders  
Completed as Planned  
August 2016 to July 2017

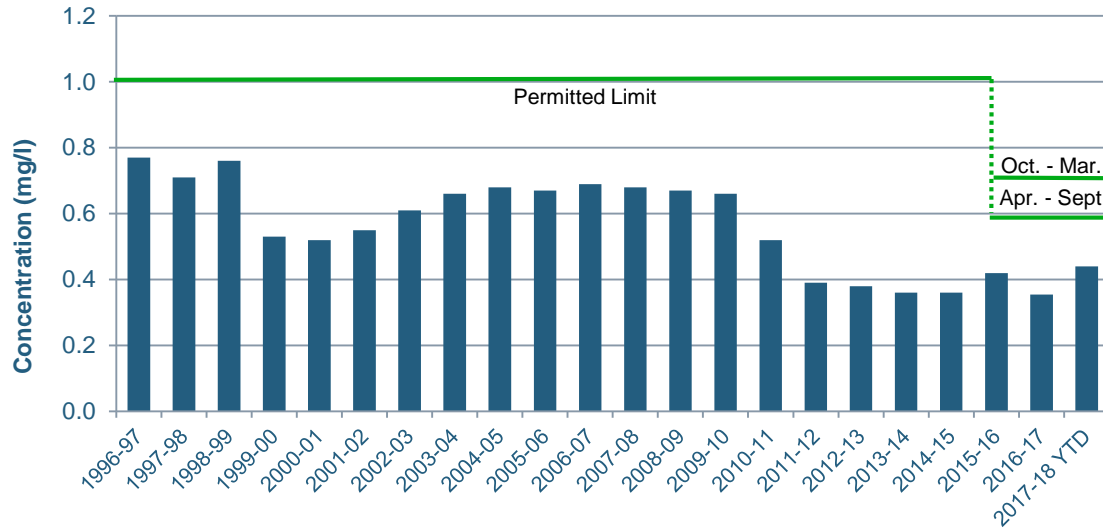


- Timely preventative maintenance extends asset useful life and minimizes unplanned downtime.

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

# Product Quality – Wastewater Regulatory Compliance

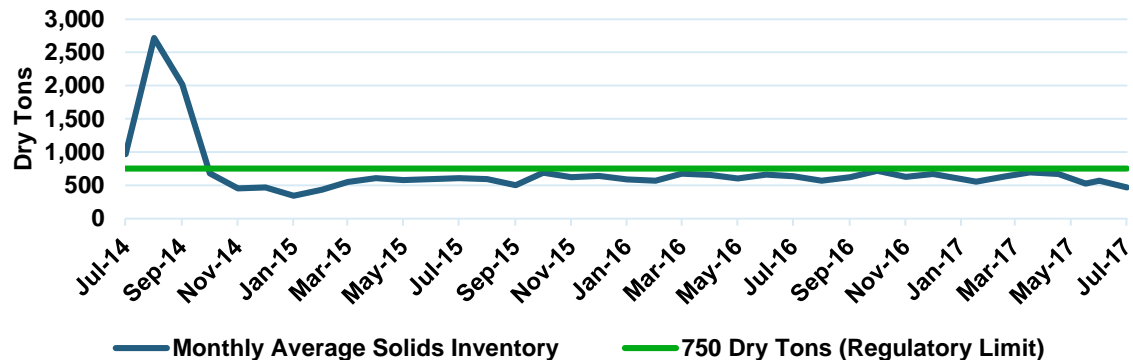
Effluent Phosphorus Concentration  
1996 to 2017



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

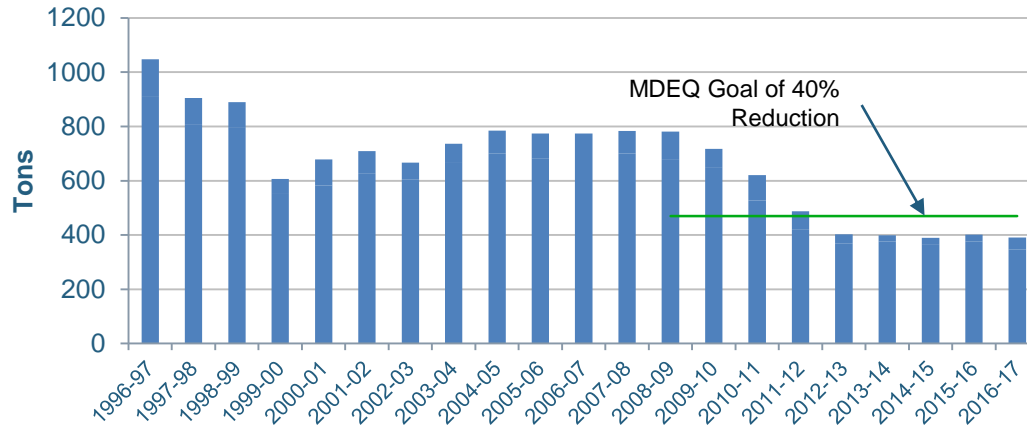
- Solids inventory is a measure of process performance and is regulated by the State.
- Having consistently tracked below 750 dry tons since Oct. 2014 is noteworthy.

Monthly Solids Inventory  
July 2014 to July 2017



# Community Sustainability – Watershed Health

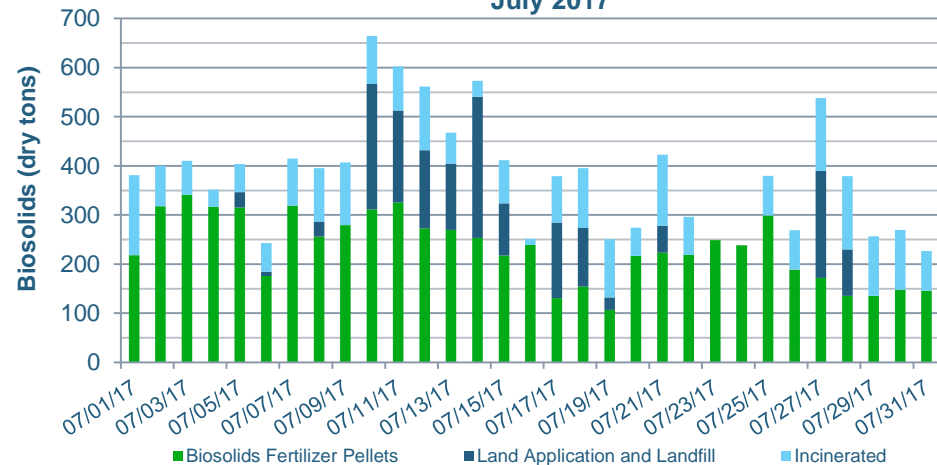
Effluent Phosphorus Loading  
1996 to 2017



- 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.

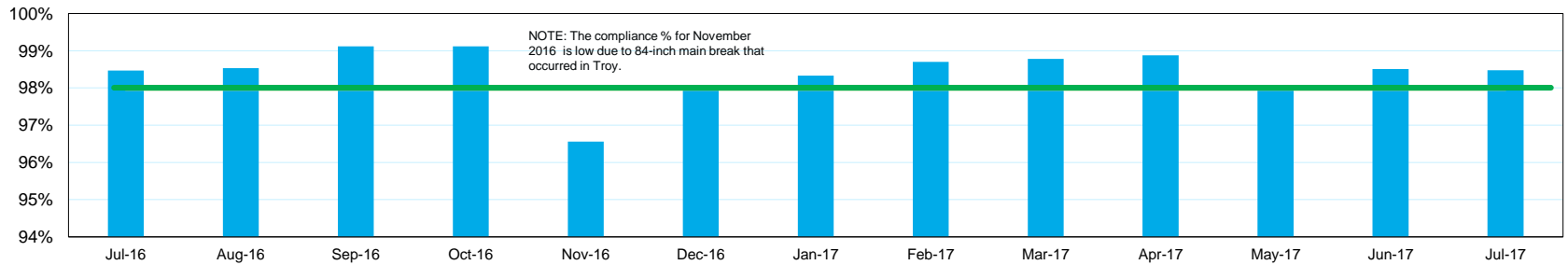
- GLWA strives to increase nutrient recovery and beneficial reuse of biosolids.
- Use of the biosolids dryer facility for solids handling is preferred because it uses biosolids for the production of fertilizer pellets.

Biosolids Handling by Method  
July 2017



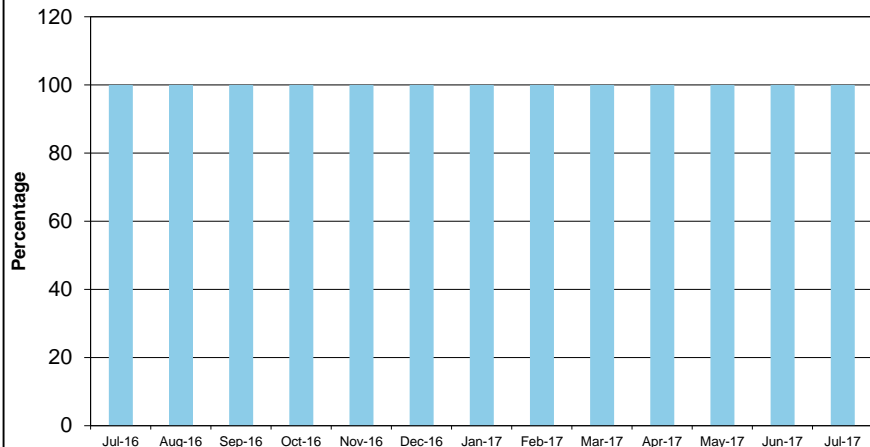
# Water & Field Services

**Customer Pressure Compliance %**



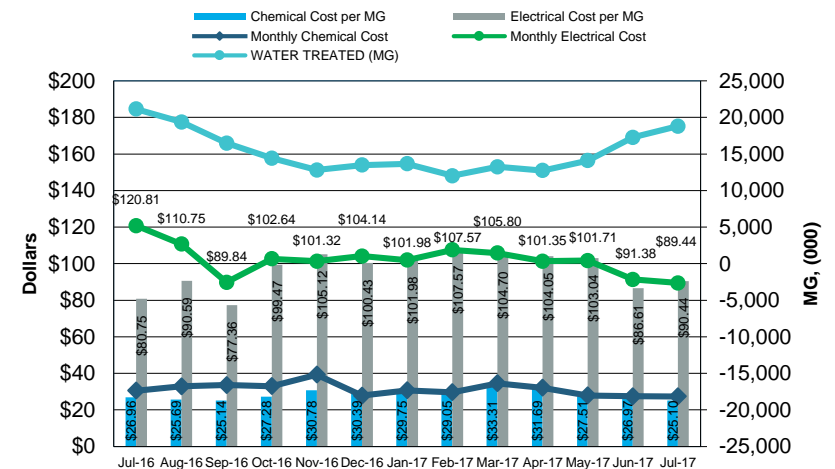
**Operational Resiliency:** To exceed customer compliance by being greater than 98% of contractual pressures.

**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.

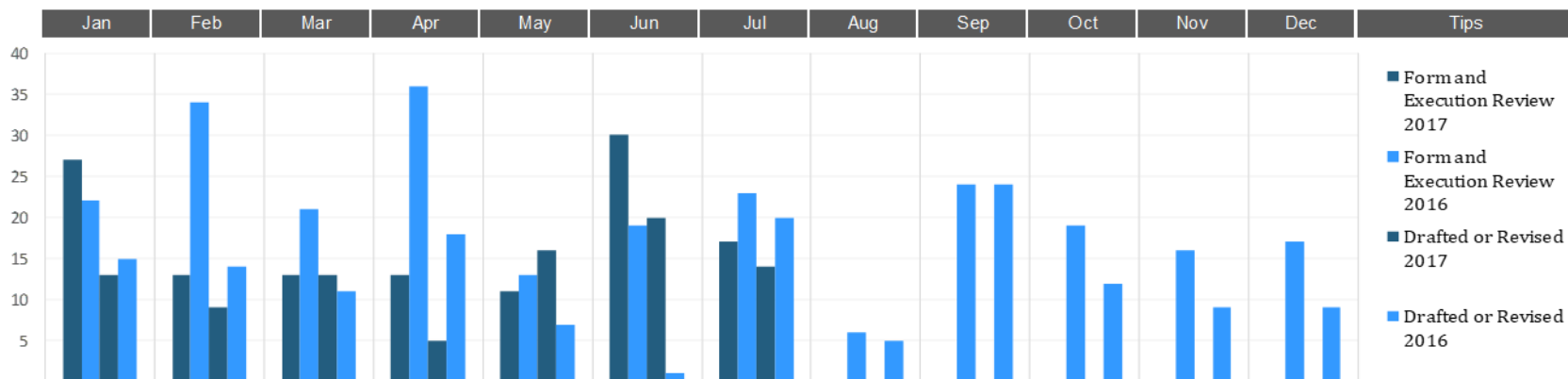
**Chemical and Electrical cost per MG**



**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

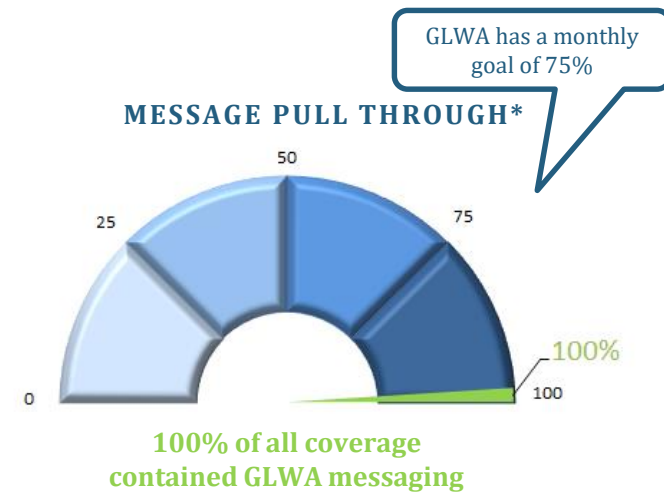
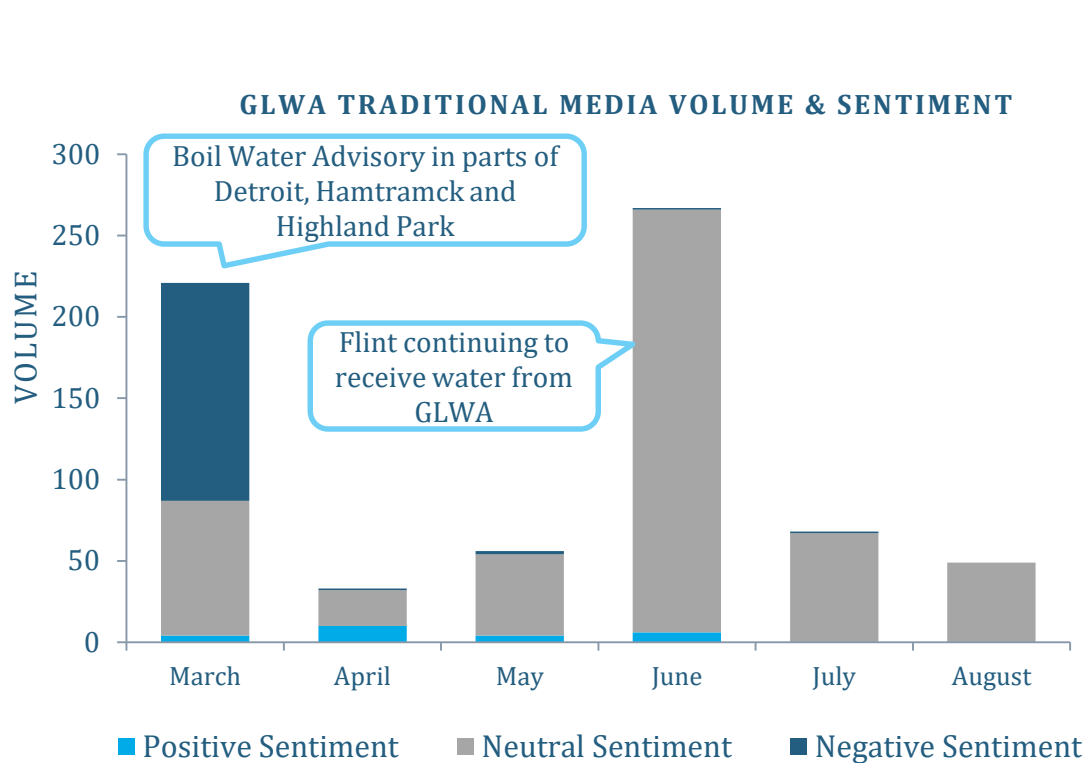


Expenses	Jan	Feb	Mar	Apr	May	Jun*	Jul	Aug	Sep	Oct	Nov#	Dec	Total	Trend
Form and Execution Review 2017	27.00	13.00	13.00	13.00	11.00	30.00	17.00						124.00	
Form and Execution Review 2016	22.00	34.00	21.00	36.00	13.00	19.00	23.00	6.00	24.00	19.00	16.00	17.00	250.00	
Drafted or Revised 2017	13.00	9.00	13.00	5.00	16.00	20.00	14.00						90.00	
Drafted or Revised 2016	15.00	14.00	11.00	18.00	7.00	1.00	20.00	5.00	24.00	12.00	9.00	9.00	145.00	

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

Mentions of the Great Lakes Water Authority (GLWA) were down slightly, compared to July. Flint receiving water from the GLWA continues to drive the majority of GLWA coverage, almost 70% of coverage in August. Other coverage included include GLWA discrediting a mailer sent by a company selling water purification systems, GLWA engaging its customers in the rerouting of a 96-inch water main in Shelby Township and customer rate change implementations. GLWA was also briefly mentioned in a few stories that focused on a lawsuit filed against Ford Motor Company related to contaminated groundwater. These stories stated that drinking water is not affected as the water is provided by GLWA.



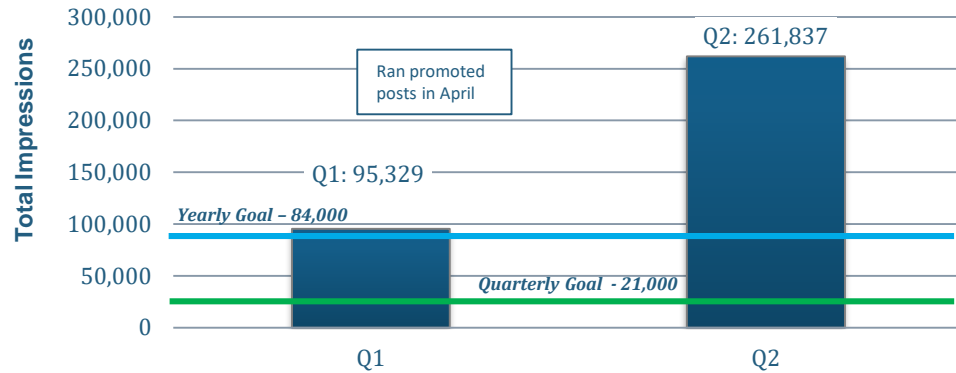
**MEDIA VOLUME: 49**  
**CURSORY MENTIONS: 46**  
**CONTAINED GLWA MESSAGE: 3**

\*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.

# Facebook & Twitter Quarterly Summary

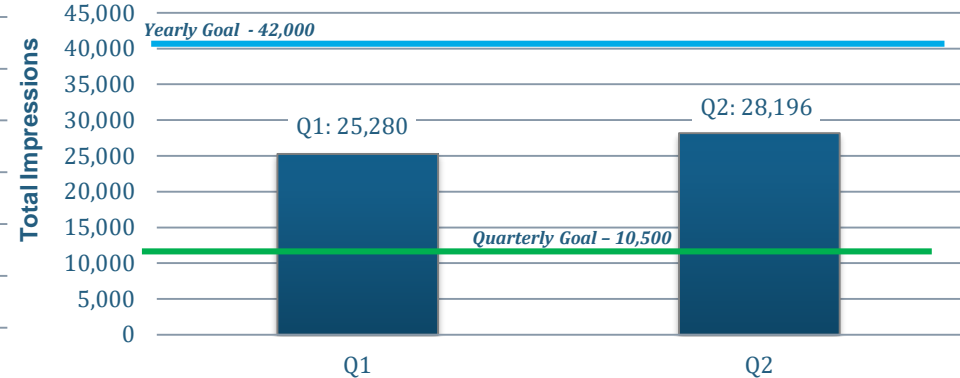
## Facebook - Total Impressions Q2 2017

- Total Impressions
- Yearly Goal (84,000 impressions/year)
- Quarterly Goal (21,000 impressions/quarter)



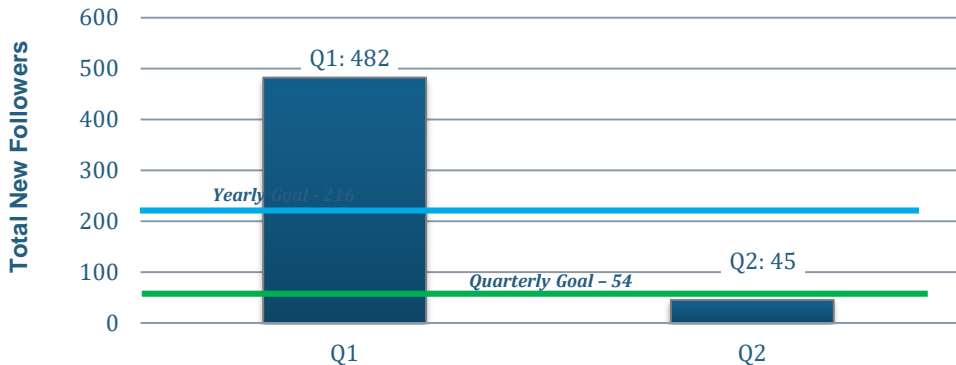
## Twitter - Total Impressions Q2 2017

- Total Impressions
- Yearly Goal (42,000 impressions/year)
- Quarterly Goal (10,500 impressions/quarter)



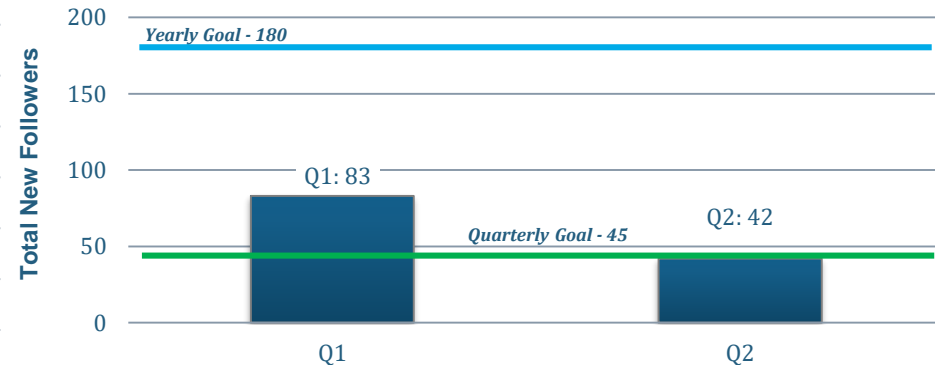
## Facebook - Total New Followers Q2 2017

- Total New Followers
- Yearly Goal (216 new followers/year)
- Quarterly Goal (54 new followers/quarter)



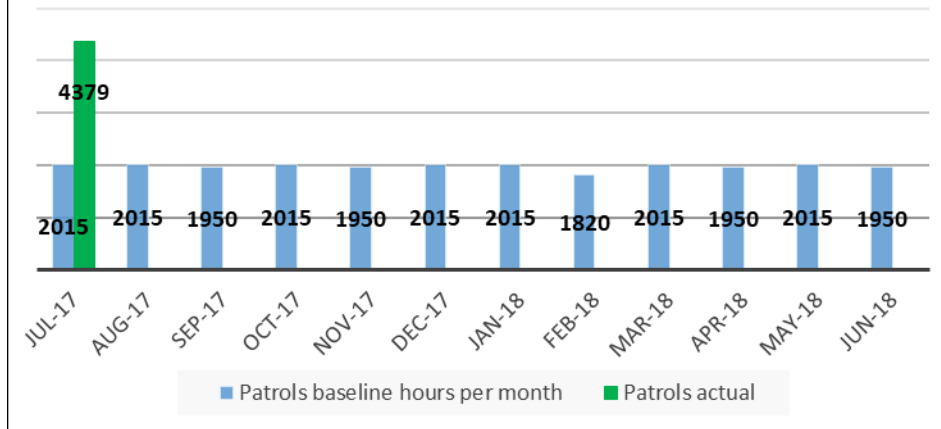
## Twitter - Total New Followers Q2 2017

- Total New Followers
- Yearly Goal (180 new followers/year)
- Quarterly Goal (45 new followers/quarter)



# Security & Integrity

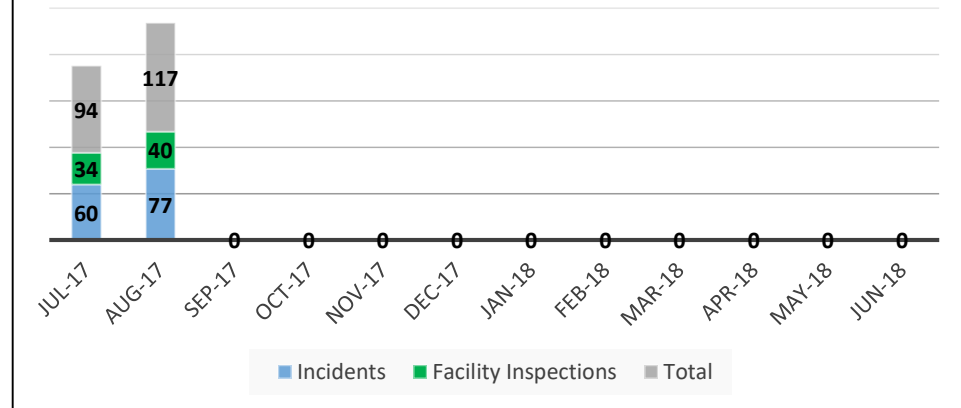
## Security Patrols 2017-18



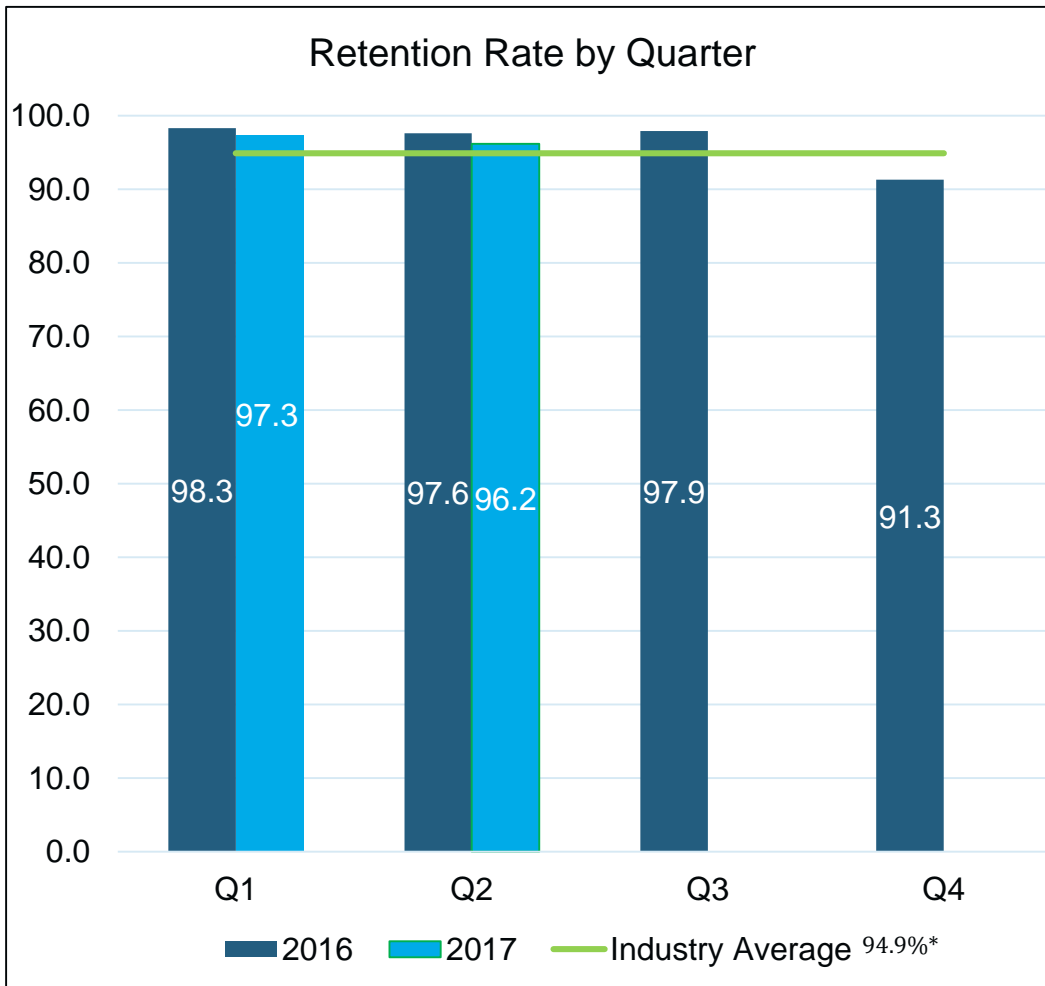
- Patrols are an indication of the level of services rendered by the staff of the Security & Integrity Group.

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

## Security Reports 2017-18



# Organizational Development

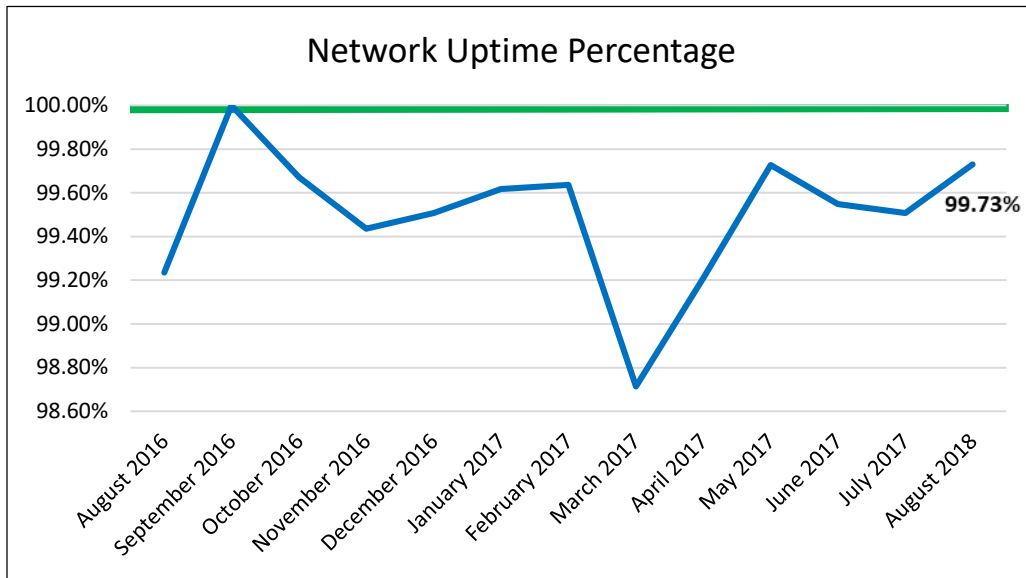


Above retention rates are reflected in percentages

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

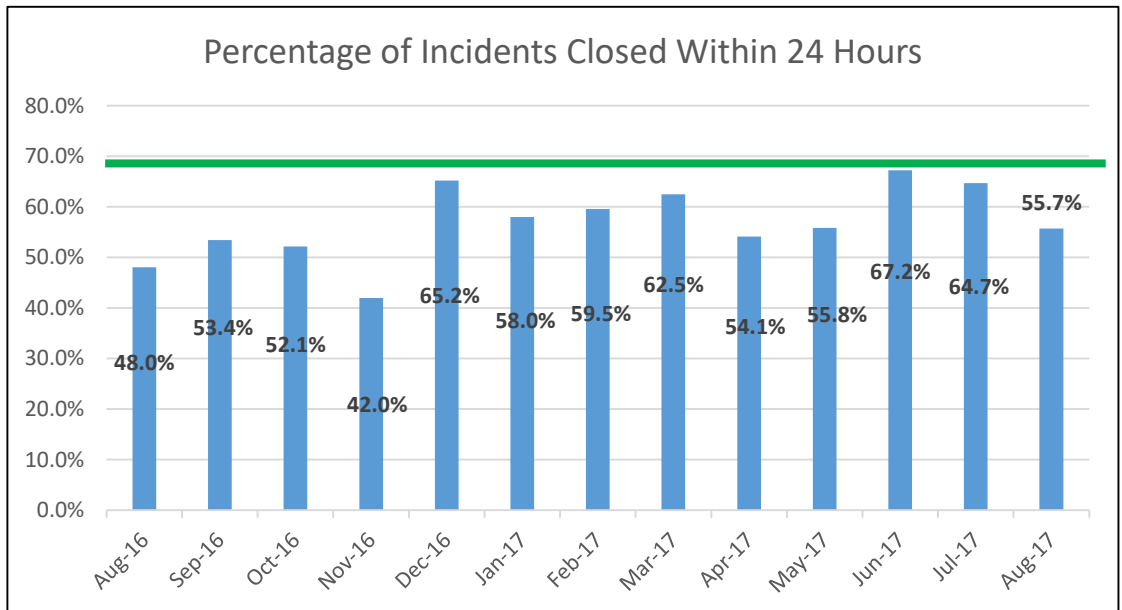
\*From the U.S. Bureau of Labor Statistics 10-Oct-2016 report for the sector "State and Local Government, Excluding Education."

# Information Technology

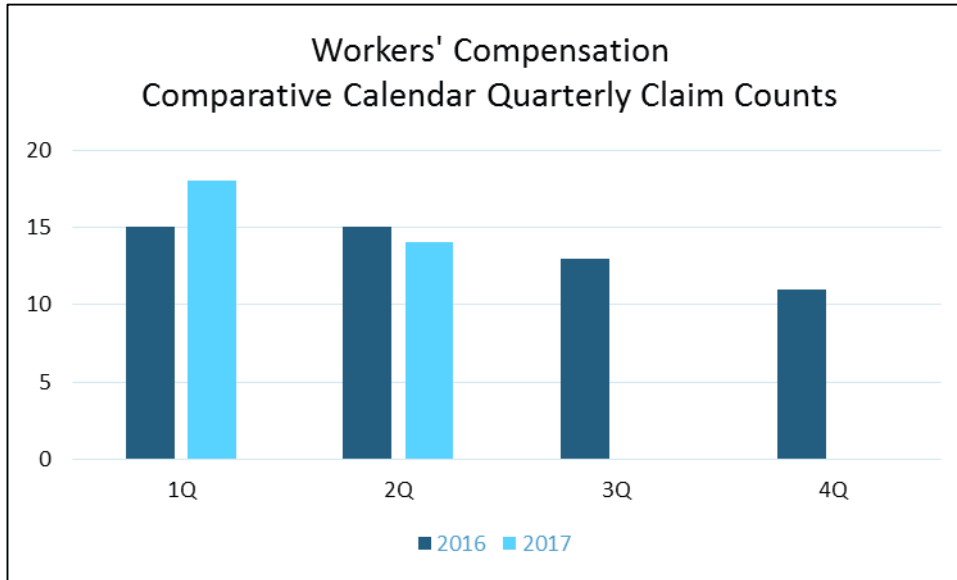


- GLWA has 59 network-connected sites, including offices, plants, pump stations and other facilities.
- Network connectivity allows employees to access the applications needed to do their work and connects plants and pump stations to the intranet to report operational data

- 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%.

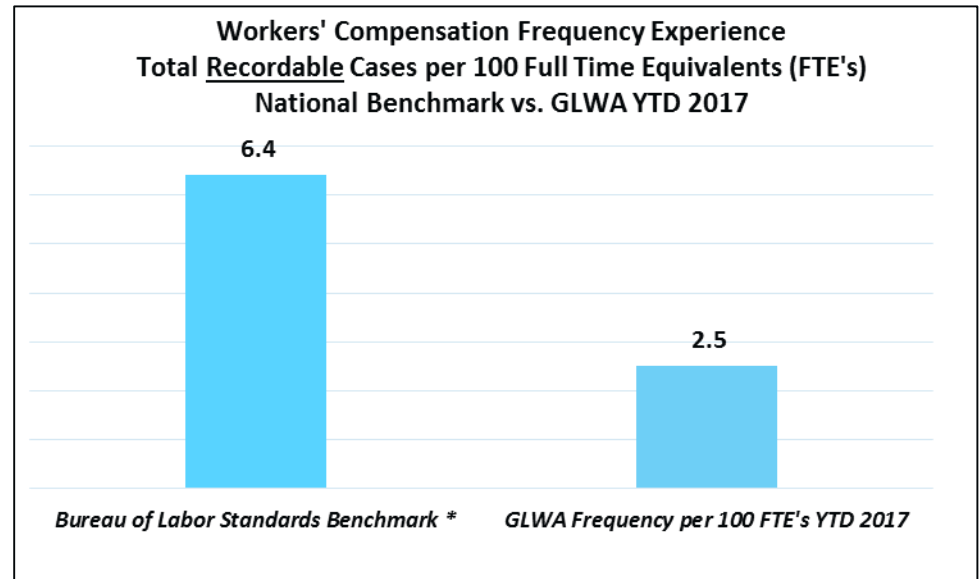


# Key Workers' Compensation Metrics



In the first half of calendar 2017, there were only 7% more claims on 14% higher hours, which means the total reportable claim frequency rate has declined year-over-year.

\* Benchmark based on Bureau of Labor Statistics for non-fatal injury and illness incident rates per 100 full-time equivalents for our industry (local government, Michigan, Utilities, Water/Sewage and Other Systems). 2015 (latest available measure).



# GREAT LAKES WATER AUTHORITY

## 24 x 7 OCCUPATIONAL INJURY TRIAGE PROGRAM METRICS

Period: January 1, 2017 – June 30, 2017

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

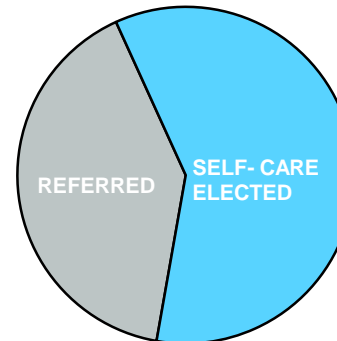
			Referred	Self Care
ON TIME CALLS (within 24 hours)	29	85.3%	41.4%	<b>58.6%</b>
LATE CALLS (> 24 hours)	5	14.7%	<b>80.0%</b>	20.0%
Total # of Calls YTD:	34	100.0%		

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

On Time Calls w/Self Care	17	
Late Calls w/Self Care	1	
Less: Follow Up Calls Ultimately Referred	(2)	
Total Stay at Work w/Self Care	16	(A)
Total # of Calls	34	
Self Referred Before Triage	(3)	
Adjusted Total # of Calls	31	(B)
Stay at Work Rate:	51.6%	(A)/(B)

### 3. Estimated Savings:

Total Stay at Work w/Self Care	16
x Average Medical Only Cost (estimated)	\$435
= Estimated Medical Charges Avoided	\$6,960
+ Per Claim MO Charges Avoided x \$140 ea.	\$2,240
+ MBR Fees Avoided (assumes 1 bill/claim at \$8.50 ea.)	\$136
= Total Estimated Cost Avoidance:	\$9,336
- Total Costs (sum of Jan-Jun 2017 invoices)	-\$2,769
= Net benefit of MEDCOR program YTD	\$6,567



Nearly **60%** 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**