PERFORMANCE INDICATORS

This report broadly categorizes performance indicators into five areas: organizational development, business operations, customer service, water operations, and wastewater operations. The full list of indicators in each category is as follows, and each is fully defined in subsequent sections.

Organizational Development

- Organizational Best Practices
- Staffing Levels
  - Total FTEs
  - FTEs by Job Category (%)
- Training (hours per employee)
- Emergency Response Readiness Training (hours per employee)
- Customer Accounts per Employee
- Employee Turnover (%)
- Retirement Eligibility (%)

Business Operations

- Debt Ratio
- Return on Assets (%)
- Cash Reserve (days)
- Debt-Service Coverage Ratio
- Operating Ratio (%)
- Bond Rating
- System Inspection (%)
- System Renewal/Replacement (%)
- Triple Bottom-Line Index

Customer Service

- Service Complaints
  - Customer Service Complaints/1,000 accounts
  - Technical Service Complaints/1,000 accounts
- Call Center Indicators
  - Average Wait Time (min)
  - Average Talk Time (min)
  - Abandoned Calls (%)
• Water Service Disruptions
  – Disruptions of Water Service (outages/1,000 accounts)
  – Average Time to Address Water Service Disruptions (hr)
  – Disruptions of Water Service—Duration (<4 hr, 4–12 hr, >12 hr)
    □ Planned
    □ Unplanned
  – Disruption Frequency of Water Service
• Wastewater Service Disruptions
  – Total Disruptions of Wastewater Service (outages/1,000 accounts)
  – Average Time to Address Wastewater Service Disruptions (hr)
  – Number of Disruptions of Wastewater Service—Duration (<4 hr, 4–12 hr, >12 hr)
    □ Planned
    □ Unplanned
  – Disruption Frequency of Wastewater Service
• Residential Service Charges
  – Residential Cost of Water Service ($/month)
  – Residential Cost of Wastewater Service ($/month)
• Customer Service Cost per Account ($/account)
• Billing Accuracy (errors/10,000 billings)
• Total Per Capita Consumption (gal/person/day)
• Domestic per capita consumption (gal/capita/day)
• Service Affordability
  – Water Service Affordability (%)
  – Wastewater Service Affordability (%)
• Stakeholder Outreach Index

Water Operations

• Regulatory Compliance—Water (%)
• O&M Costs for Water Services
  – ($/account)
  – ($/MG)
  – ($/100 miles of pipe)
  – Treatment O&M costs
  – Distribution O&M Costs ($/100 miles of pipe)
  – O&M Percentage of Water Services
• MGD of Water Produced per Employee
• Leaks/100 miles of pipe
• Breaks/100 miles of pipe
• **Maintenance—Water**
  – Planned maintenance (%)
  – Corrective maintenance to production (hr/MG)
  – Planned maintenance to production (hr/MG)
  – Corrective maintenance to distribution system length (hr/100 miles of pipe)
  – Planned maintenance to distribution system length (hr/100 miles of pipe)
  – Current Water Demand (%)
  – Available Water Supply (years)
• **Energy Consumption—Water (kBTU/year/MG)**

**Wastewater Operations**

• **Regulatory Compliance—Wastewater (%)**
• **O&M Cost of Wastewater Services**
  – ($/Account)
  – ($/MG)
  – ($/100 miles of pipe)
  – Collection O&M Costs ($/MG)
  – Treatment O&M Cost ($/100 miles of pipe)
  – O&M Percentage of Wastewater Services
• **MGD Wastewater Processed per Employee**
• **Sewer Overflow** (Overflow Events/100 miles of pipe)
• **Collection System Integrity** (failures/100 miles of pipe)
• **Maintenance—Wastewater**
  – Planned maintenance (%)
  – Corrective maintenance to production (hr/MG)
  – Planned maintenance to production (hr/MG)
  – Corrective maintenance to distribution (hr/100 miles of pipe)
  – Planned maintenance to distribution (hr/100 miles of pipe)
• **Energy Consumption—Wastewater (kBTU/year/MG)**
**MGD OF WATER PRODUCED PER EMPLOYEE**

This indicator provides a measure of employee efficiency as expressed by the amount of potable water delivered by utility employees (as full-time employees [FTEs]) per year. For a given reporting period, it is calculated as follows:

\[
\text{MGD of Water Produced per Employee} = \frac{\text{Average daily demand}}{\text{Total number of FTEs}}
\]

Table 4-3 presents the aggregate data for the MGD of Water Produced per Employee indicator for water and combined utilities from the 2013 data set.

**Table 4-3 Aggregate data for the MGD of water produced per employee indicator**

<table>
<thead>
<tr>
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<th>Water Operations</th>
<th>Combined Operations</th>
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</thead>
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<tr>
<td>Top Quartile</td>
<td>0.33</td>
<td>0.32</td>
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<tr>
<td>Median</td>
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<td>0.24</td>
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<td>Bottom Quartile</td>
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<td>0.16</td>
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<td>Sample Size</td>
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<td>Water Operations</td>
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<tr>
<td>Combined Operations</td>
<td>79</td>
<td></td>
</tr>
</tbody>
</table>
**Customer Service Cost per Account ($/Account)**

Historical trends for the customer service cost per account are shown in Figures 6-30, 6-31, and 6-32 for water, wastewater, and combined utilities, respectively. None of the dollar amounts has been adjusted for inflation. Over the periods shown, the median customer service cost per account ranged from approximately $33 to $46 per account for water utilities, $5 to $19 per account for wastewater utilities, and $23 to $48 per account for combined utilities. At the 75th percentile, the greatest customer service cost per account was approximately $79 per account for water utilities, $33 per account for wastewater utilities, and $63 per account for combined utilities. At the 25th percentile, the lowest customer service cost per account was approximately $23 per account for water utilities, $0 for wastewater utilities, and $15 per account for combined utilities. Overall, the customer service cost per account was somewhat variable, more so for wastewater utilities than water or combined utilities. In general, the customer service cost per account for wastewater utilities was much less than for water or combined utilities for the periods shown and from these groups of respondents.

![Graph showing customer service cost per account for water utilities](image-url)
Performance benchmarks to help you improve your utility

Metrics you can use

Water and wastewater utility managers need useful metrics to gauge how their organization is currently performing and to set reasonable targets for future performance. The benchmarking data and analyses in this report are chosen for their usefulness in helping utilities track and improve both operational efficiency and managerial effectiveness.

Benchmarks for all operations

Utility managers can use the data and analyses in this report to determine how their utility’s performance compares to the water or wastewater industry in five areas of operations: Organizational Development, Customer Relations, Business Operations, Water Operations, and Wastewater Operations. The report provides benchmarking data for 41 key performance indicators.

Compare your utility

Aggregate data are provided from 50 US states and the District of Columbia, Canadian provinces, Grand Cayman Islands, Guam, and Mexico. Participating utilities range in size from under 10,000 population served to over 500,000 population served. Data are from 2013.

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