

Definition

Benchmarking is a process of measuring an operation against similar operations for the purpose of improving business processes.

Customer Relations

- Customer complaints per 1000 customer accounts
Customer Service Complaint Rate =
$$\frac{(1000) \# \text{ Of customer service associated complaints}}{\# \text{ Of active customer accounts}}$$
- Disruptions in water service per year
(Calculated separately for planned and unplanned disruptions)
Disruption rate =
$$\frac{(1000) \# \text{ of customers with disruption/yr.}}{\# \text{ Of active customer accounts}}$$
- Residential cost of water/sewer service
(Average residential bill amount for services)

Water Operations

- Water Distribution System Integrity
(Expressed as repairs per 100 miles of pipe)
Frequency rate =
$$\frac{100 (\text{total number of repairs})}{\text{Total miles of water pipe}}$$
- Distribution Water Loss (% of distribution)
Distribution Water Loss =
$$\frac{100 (\text{Volume of water distributed}) - (\text{Volume billed to customers})}{\text{Volume of water distributed}}$$

Wastewater Collection Operations

- Sewer Overflow Rate
Overflow Rate =
$$\frac{\text{Total number of overflow events per year}}{\text{Miles of pipe in collection system}}$$
- Collection System Integrity
(Expressed as failures per 100 miles of pipe)
Failure Rate =
$$\frac{100 (\text{total number of collection failures per year})}{\text{Total miles of collection system pipe}}$$

Wastewater Treatment Operations

- Effluent Discharge to the Environment
(Expressed as the comparison of CBOD and TSS versus average permit limits)

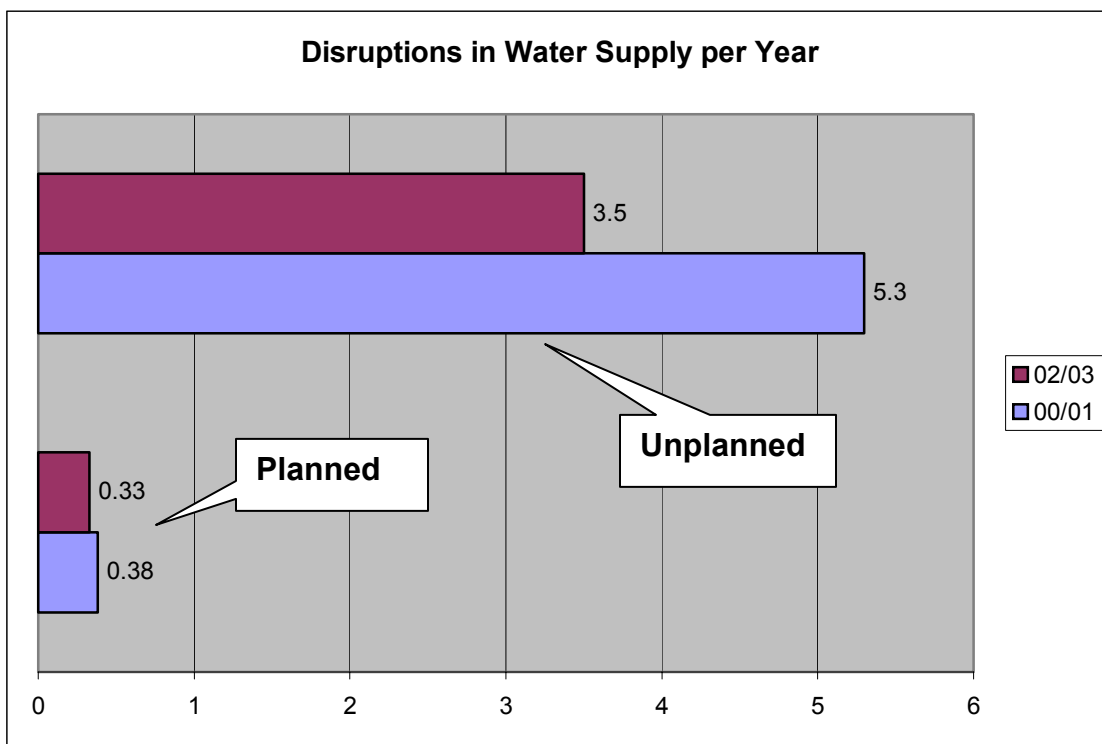
Graphs

Customer Relations

Disruptions in water service per year

(Calculated separately for planned and unplanned disruptions)

$$\text{Disruption rate} = \frac{(1000) \# \text{ of customers with disruption/yr.}}{\# \text{ Of active customer accounts}}$$

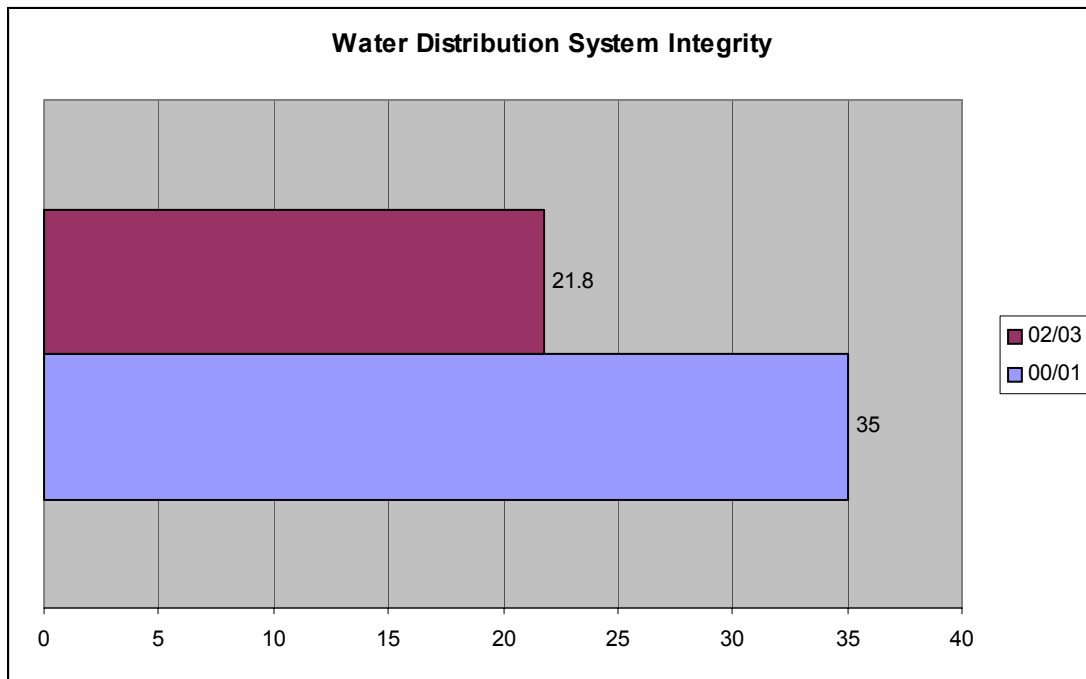


Water Operations

Water Distribution System Integrity

(Expressed as repairs per 100 miles of pipe)

$$\text{Frequency rate} = \frac{100 (\text{total number of repairs})}{\text{Total miles of water pipe}}$$



Wastewater Collection Operations

Sewer Overflow Rate

$$\text{Overflow Rate} = \frac{\text{Total number of overflow events per year}}{\text{Miles of pipe in collection system}}$$

