

BUILDING A WORLD OF DIFFERENCE®



2009/2010

50 LARGEST CITIES

WATER/WASTEWATER RATE SURVEY



BLACK & VEATCH
Building a **world** of difference.®

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Background

This survey is conducted by Black & Veatch Management Consulting as a service to the stakeholders of water and sewer utilities in the United States. A typical bill has been calculated for various residential, commercial and industrial user profiles, focusing on the top 50 cities as determined by population. The specific cities included in the survey have changed over time as warranted by population shifts in some communities. Since 2001, B&V Management Consulting has produced 6 surveys, and in most recent years the interval between surveys is approximately 18 to 24 months. The results of the 2009/2010 survey reflect rates in effect as of June 30, 2009.

Average Residential Typical Bills are Realizing Significant Inflationary Pressure.

Since 2001, typical bills for a residential user consuming 7,500 gallons per month (1,000 cubic feet) have increased at a rate of over twice the

consumer price index, defined as the Bureau of Labor Statistics CPI-U average annual index. Figure 1 illustrates the trend in the average typical bill across all top 50 cities since the 2001 survey. As noted in Figure 2, the compound average

annual increase in typical residential water bills is approximately 5.3% from 2001 through 2009. For typical residential sewer bills, the compound average increase is approximately 5.5%. The CPI-U average rate of change over the same timeframe is approximately 2.4%. It is noteworthy that the inflationary pressure is increasing for water and sewer bills while CPI-U in 2009 was a negative 0.4%.

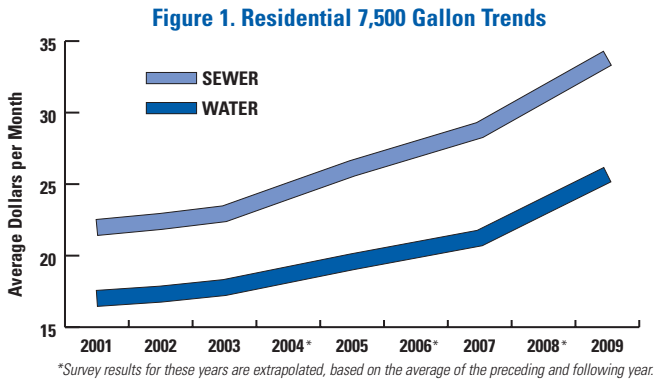
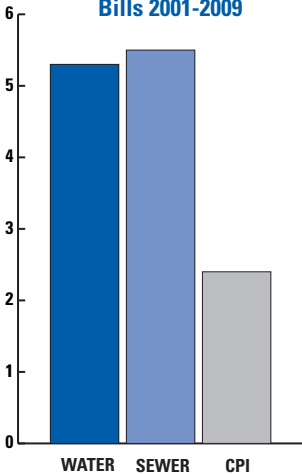


Figure 2. Compound Annual Increase in Surveyed Typical Bills 2001-2009



Key Factors Driving Typical Bills Up.

There are several dynamics impacting the increasing trend of typical water and sewer bills. These include:

- *Commodity Price Increases.* Particularly in the areas of electricity, chemicals, natural gas, and fuel. Inflationary pressure on natural gas and fuel has abated somewhat in 2010 but remains volatile.
- *Lower Consumption and High Fixed Cost.* In general usage is declining while many utility costs such as debt

service are fixed. Since most pricing structures include volume-based charges, revenues are declining while costs are not.

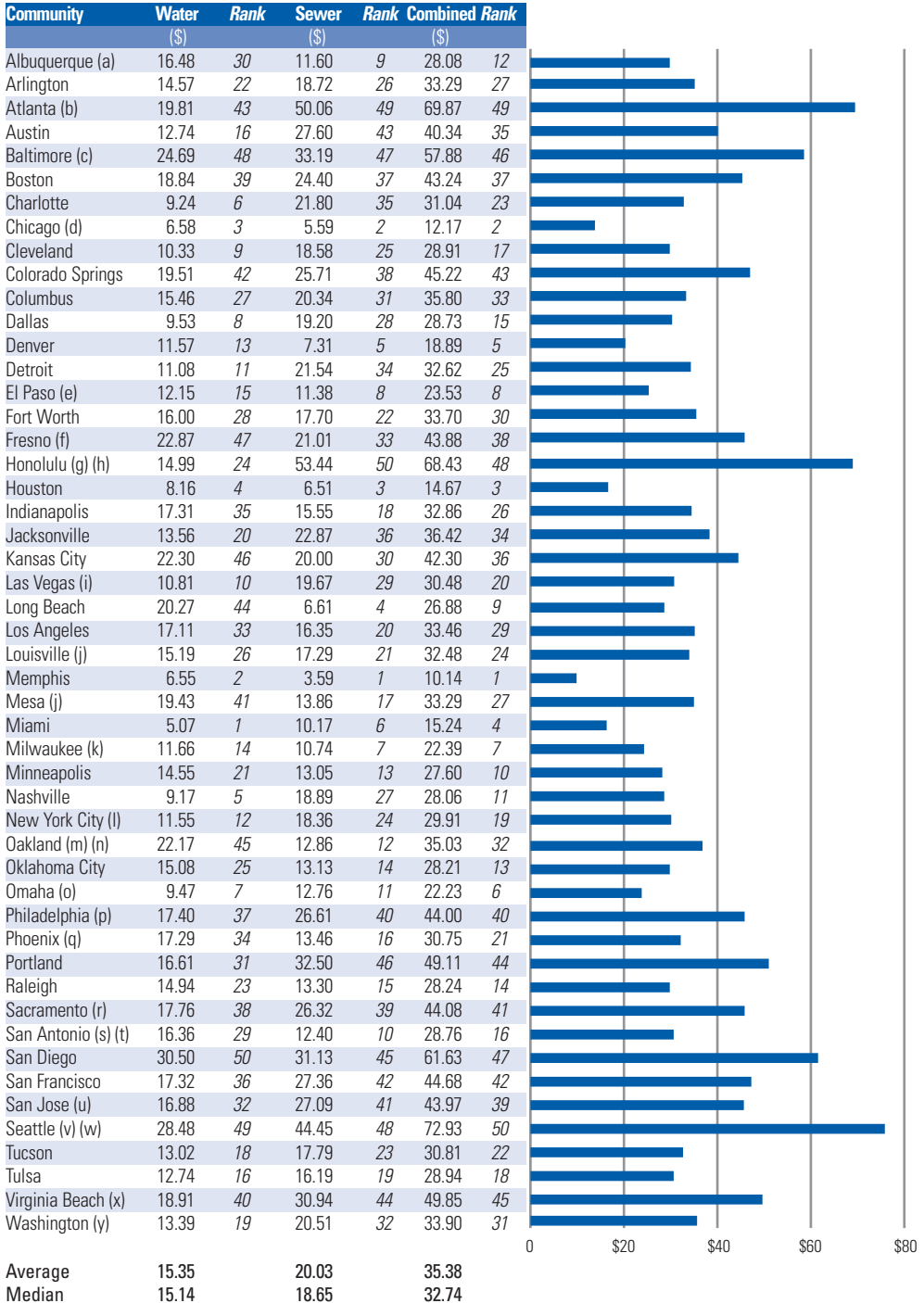
- *Benefits.* Pension obligations and health care benefits are prompting an increase in labor costs.
- *Influence of Wastewater Consent Decrees.* Significant capital programs are being implemented in most major cities to comply with consent decrees regarding the performance of wastewater systems.
- *Aging Infrastructure.* Rehabilitation and replacement of aging infrastructure remains a significant liability for most water and sewer utilities. Funding this liability will undoubtedly create additional inflationary pressure for the foreseeable future.

A B&V Management Consulting Survey.

Should you have any questions regarding this survey, need additional copies, or if you would like to speak with us regarding innovative ways to address the financial and strategic challenges specific to your utility, please visit our website at www.bv.com/consult, call us at **(913) 458-3440**, or email your inquiry to us at consultinginfo@bv.com.

Typical Monthly Water and Wastewater Bills

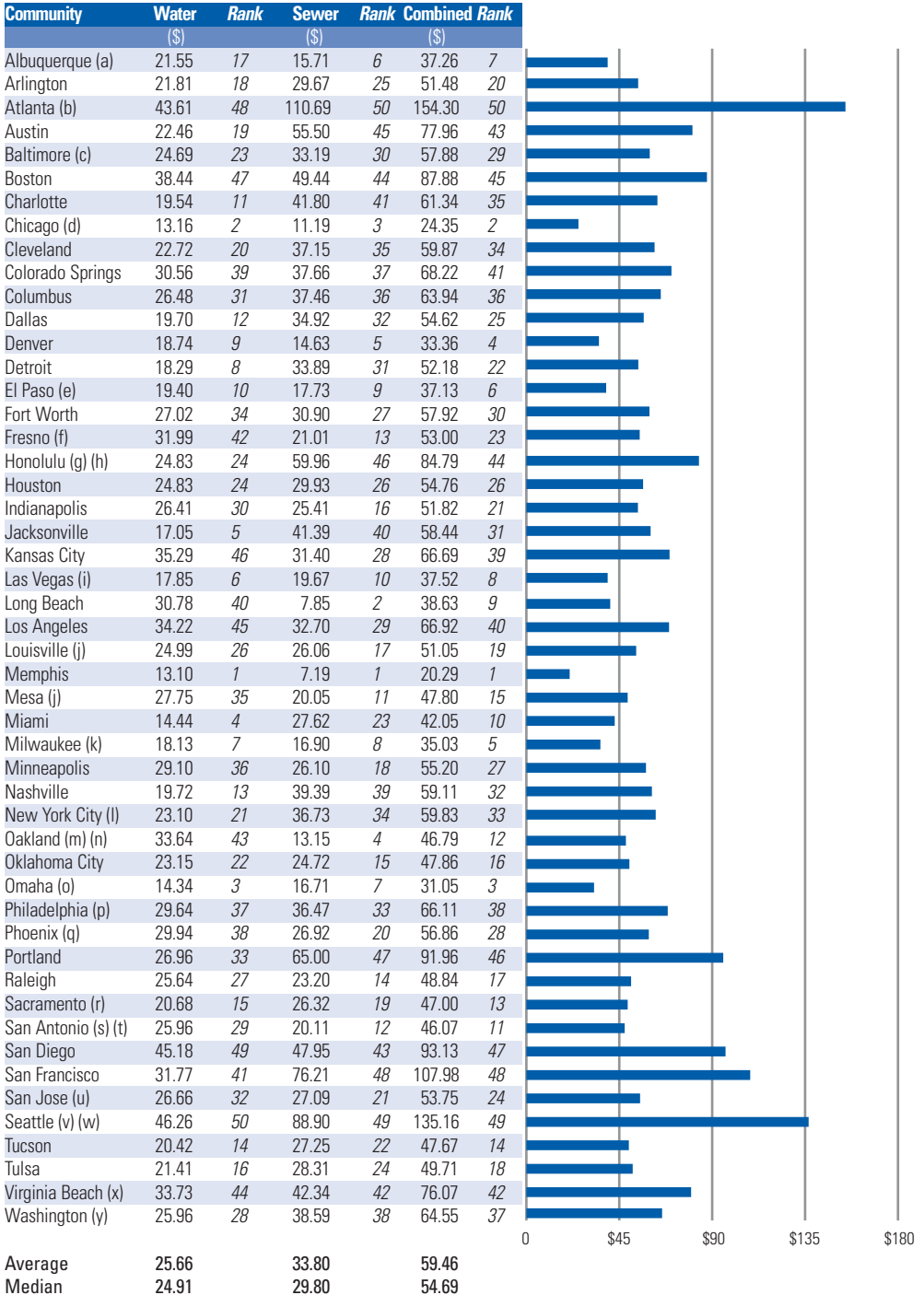
**Figure 3: Residential Customers, 3,750 Gallons Billable Water Usage
Ranked from Lowest (1) to Highest (50)**



Assumes 3,750 gallons (or 500 cubic feet) monthly usage and a 5/8" (or nearest equivalent) meter size. Actual average usage will vary by utility. Rates effective June 30, 2009.

Typical Monthly Water and Wastewater Bills

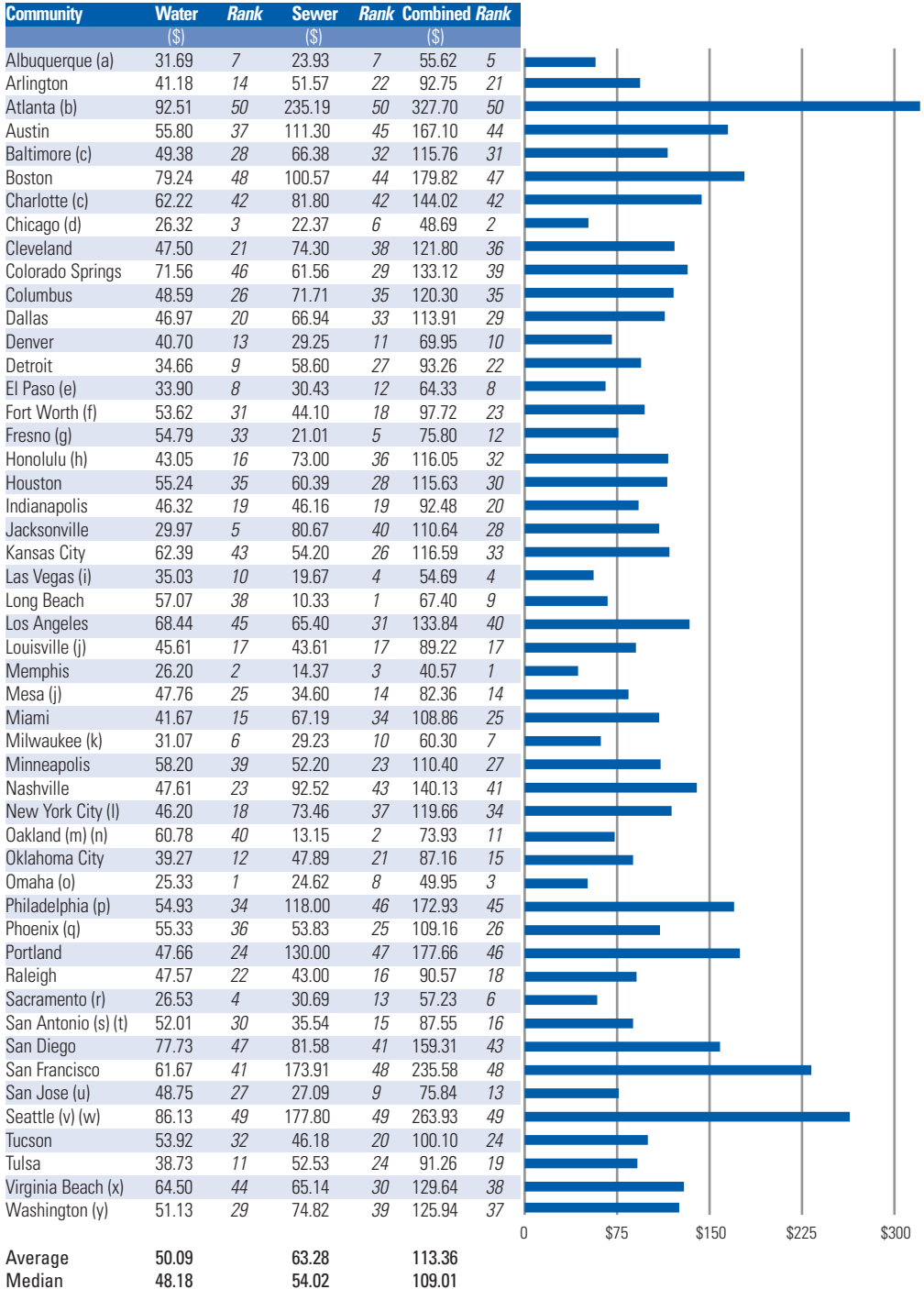
**Figure 4: Residential Customers, 7,500 Gallons Billable Water Usage
Ranked from Lowest (1) to Highest (50)**



Assumes 7,500 gallons (or 1,000 cubic feet) monthly usage and a 5/8" (or nearest equivalent) meter size. Actual average usage will vary by utility. Rates effective June 30, 2009.

Typical Monthly Water and Wastewater Bills

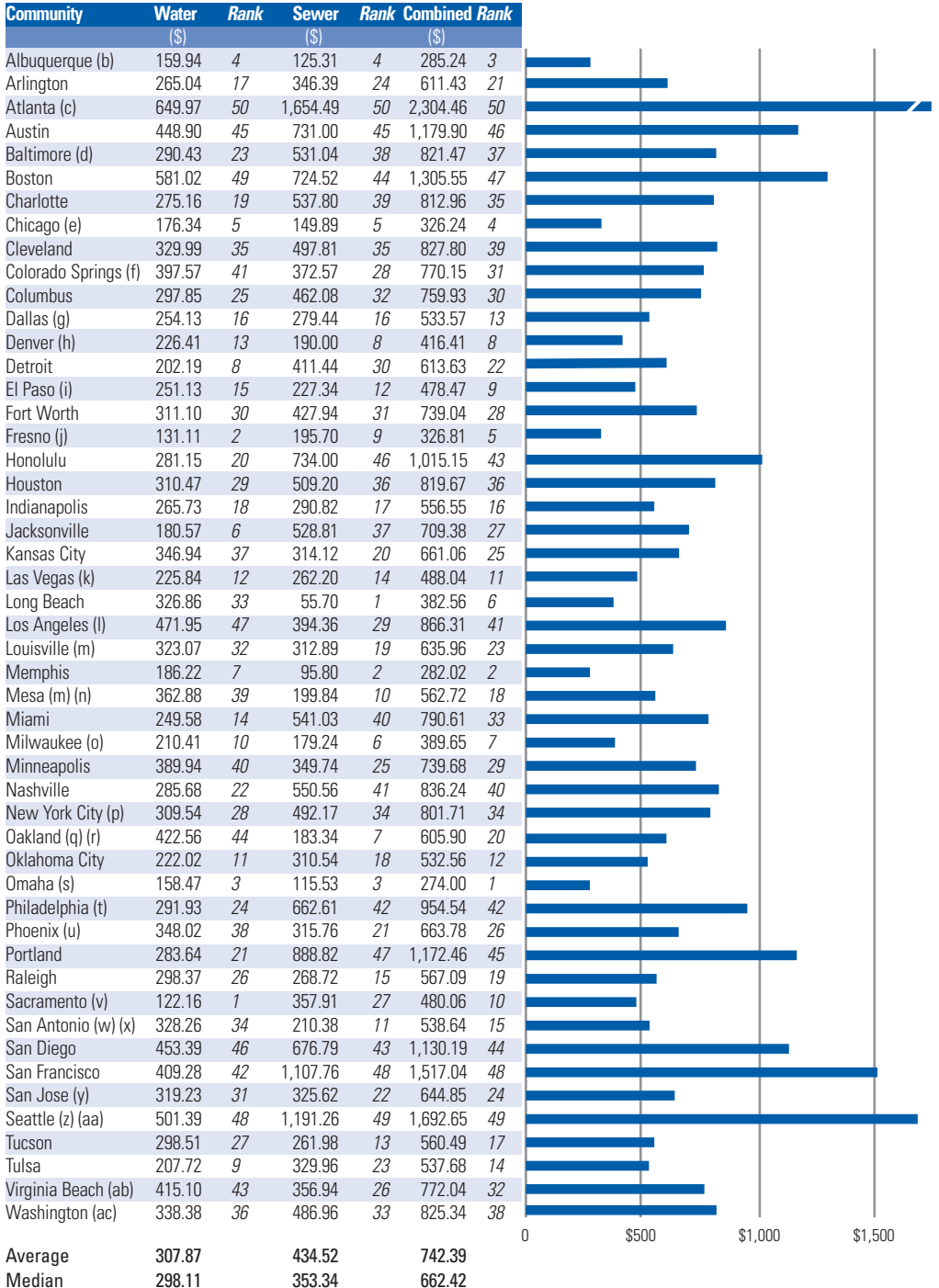
**Figure 5: Residential Customers, 15,000 Gallons Billable Water Usage
Ranked from Lowest (1) to Highest (50)**



Assumes 15,000 gallons (or 2,000 cubic feet) monthly usage and a 3/4" (or nearest equivalent) meter size. Actual average usage will vary by utility. Rates effective June 30, 2009.

Typical Monthly Water and Wastewater Bills

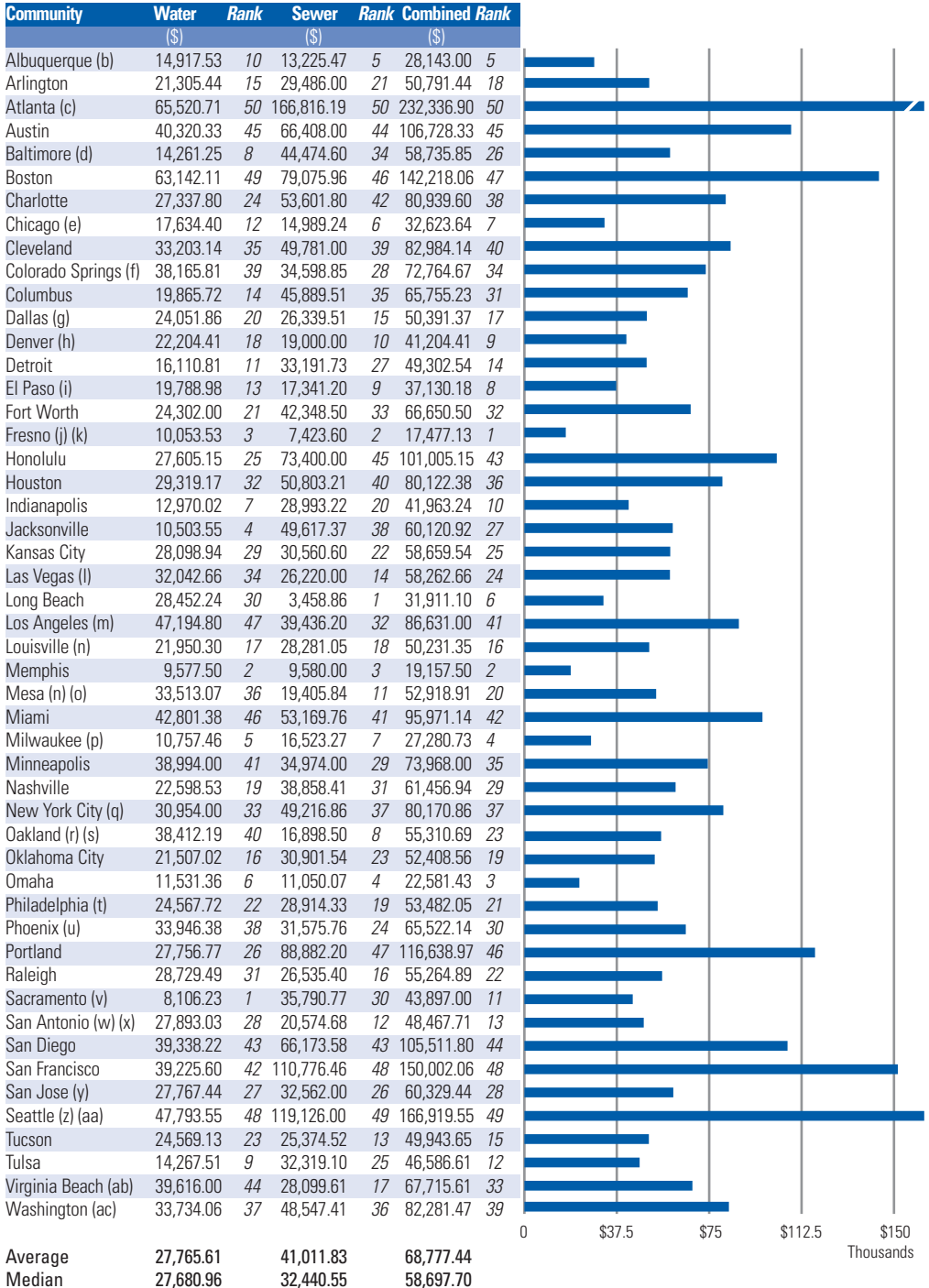
**Figure 6: Commercial Customers, 100,000 Gallons Billable Water Usage
Ranked from Lowest (1) to Highest (50)**



Assumes 100,000 gallons (or 13,400 cubic feet) monthly usage and a 2" (or nearest equivalent) meter size. Actual average usage will vary by utility. Rates effective June 30, 2009.

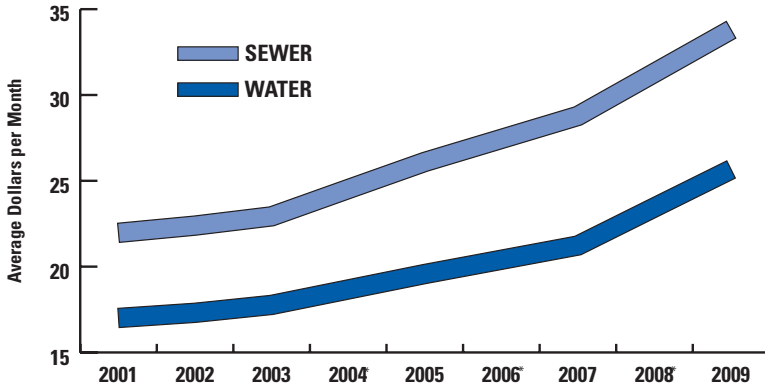
Typical Monthly Water and Wastewater Bills

**Figure 7: Industrial Customers, 10,000,000 Gallons Billable Water Usage
Ranked from Lowest (1) to Highest (50)**



Assumes 10,000,000 gallons (or 1,340,000 cubic feet) monthly usage and a 6" (or nearest equivalent) meter size. Actual average usage will vary by utility. Rates effective June 30, 2009.

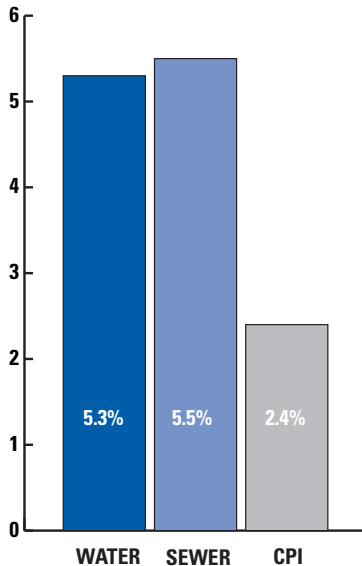
Top 50 Trending Residential 7,500 Gallons Average Typical Bill



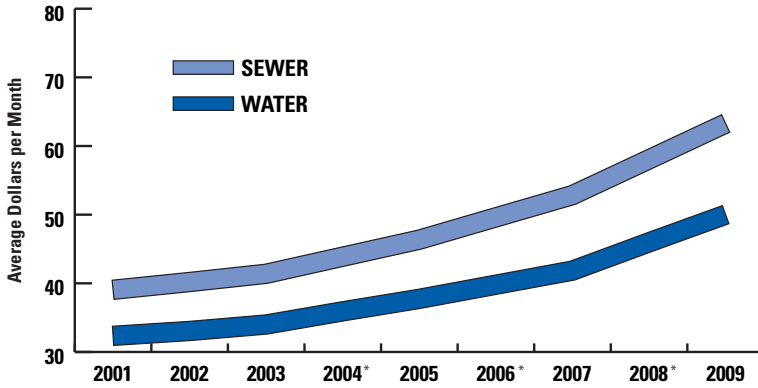
	2001	2002	2003	2004*	2005	2006*	2007	2008*	2009
Water	17.01	17.31	17.77	18.67	19.57	20.40	21.23	23.45	25.66
Sewer	21.97	22.39	22.93	24.52	26.10	27.44	28.78	31.29	33.80

**Survey results for these years are extrapolated, based on the average of the preceding and following year.*

Compound Annual Increase in Surveyed Typical Bills 2001-2009



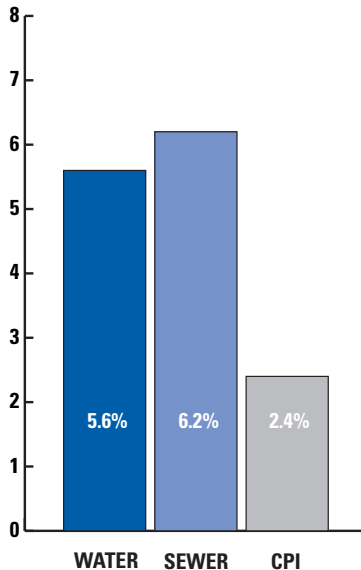
Top 50 Trending Residential 15,000 Gallons Average Typical Bill



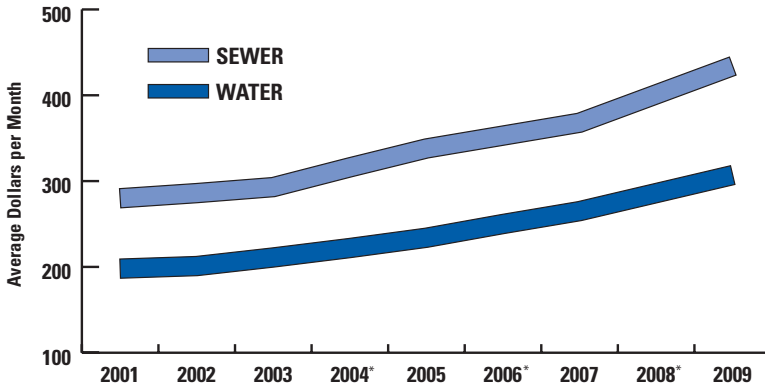
	2001	2002	2003	2004*	2005	2006*	2007	2008*	2009
Water	32.35	33.06	34.09	35.92	37.74	39.80	41.85	45.97	50.09
Sewer	39.06	40.19	41.39	43.88	46.36	49.61	52.85	58.06	63.28

**Survey results for these years are extrapolated, based on the average of the preceding and following year.*

Compound Annual Increase in Surveyed Typical Bills 2001-2009



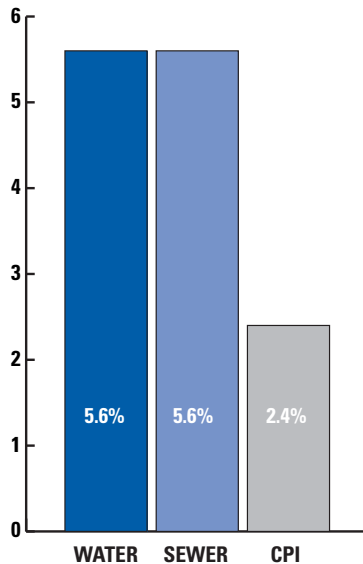
Top 50 Trending Commercial 100,000 Gallons Average Typical Bill



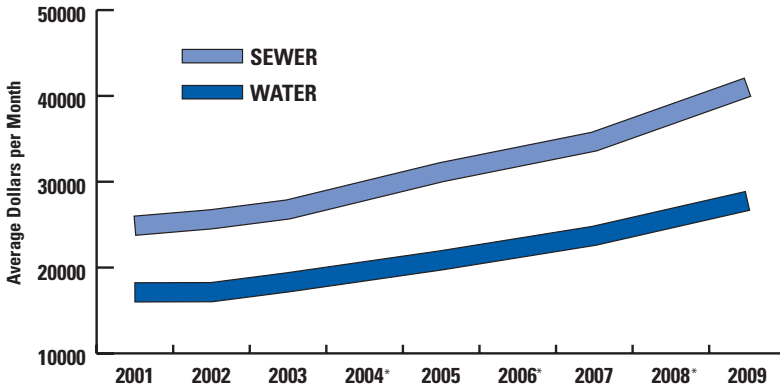
	2001	2002	2003	2004*	2005	2006*	2007	2008*	2009
Water	198.44	201.40	211.00	222.91	234.81	250.16	265.51	286.69	307.87
Sewer	280.32	286.20	293.78	316.08	338.37	353.42	368.46	401.49	434.52

**Survey results for these years are extrapolated, based on the average of the preceding and following year.*

Compound Annual Increase in Surveyed Typical Bills 2001-2009



Top 50 Trending Industrial 10,000,000 Gallons Average Typical Bill



	2001	2002	2003	2004*	2005	2006*	2007	2008*	2009
Water	17,109.84	17,131.75	18,280.57	19,560.14	20,839.70	22,271.79	23,703.87	25,734.74	27,765.61
Sewer	24,874.57	25,624.49	26,769.40	28,937.76	31,106.11	32,895.05	34,683.98	37,847.91	41,011.83

**Survey results for these years are extrapolated, based on the average of the preceding and following year.*

Compound Annual Increase in Surveyed Typical Bills 2001-2009

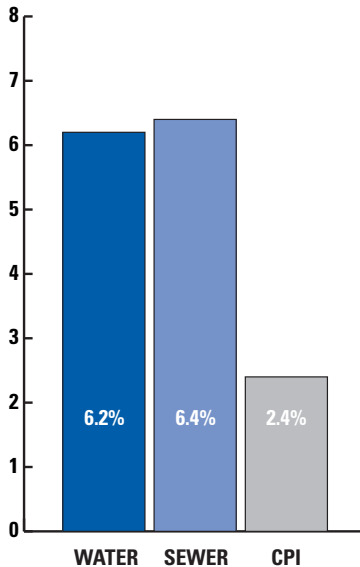


Figure 3 Footnotes

- (a) Water rate includes Sustainable Water Supply Program Fee.
- (b) Rates exclude \$0.15/ccf water security charge.
- (c) Minimum consumption charge is based on meter size.
- (d) Sewer rate is based on 85% of water bill.
- (e) Sewer rate is based on 90% of Average Winter Consumption (AWC). AWC is assumed to be equal to typical usage applied to this customer class.
- (f) Water customers are billed based on lot size, including a base charge of \$22.87 for the first 6000 sq. ft. and \$0.228 per additional 100 sq. ft.
- (g) Residents are billed in whole 1,000 gallons. For the purposes of this survey, a monthly usage of 4,000 gallons is assumed.
- (h) Sewer rate reflects a reduction in usage due to an 18% irrigation factor.
- (i) Water charge includes SNWA Commodity Charge and SNWA Reliability Surcharge.
- (j) Rates exclude all pressure zone charges. Sewer charges exclude EPA surcharge.
- (k) Water service charge includes Public Fire Protection Charge.
- (l) Sewer rate is based on 159% of water bill.
- (m) Does not include water Elevation Surcharge, which ranges from \$0.00 to \$0.77 per Ccf.
- (n) Sewer charge includes a sewer service charge billed by the City of Oakland with remaining sewer charges billed by East Bay Municipal Utility District.
- (o) Uses weighted average of peak and off-peak rates for water customers.
- (p) Sewer rate excludes stormwater component.
- (q) Uses weighted average of seasonal water commodity charges.
- (r) Sewer charge includes a collection fee charged by the City of Sacramento and a prorated Residential treatment fee charged by the Sacramento Regional County Sanitation District.
- (s) Uses weighted average of "seasonal" and "standard" rates for water customers.
- (t) Water rate includes water supply fee.
- (u) Residential sewer customers are charged a flat rate.
- (v) Uses weighted average of peak and off-peak rates for water customers.
- (w) Rates include a 10.2% surcharge to cover a temporary increase in City's utility tax.
- (x) Sewer charge includes charges by Dept. of Public Utilities and Hampton Roads Sanitary District.
- (y) For purposes of this survey, the metering fee and Right of Way Rate are divided equally between water and sewer bills.

Figure 4 Footnotes

- (a) Water rate includes Sustainable Water Supply Program Fee.
- (b) Rates exclude \$0.15/ccf water security charge.
- (c) Minimum consumption charge is based on meter size.
- (d) Sewer rate is based on 85% of water bill.
- (e) Sewer rate is based on 90% of Average Winter Consumption (AWC). AWC is assumed to be equal to typical usage applied to this customer class.
- (f) Water customers are billed based on lot size, including a base charge of \$22.87 for the first 6000 sq. ft. and \$0.228 per additional 100 sq. ft.
- (g) Residents are billed in whole 1,000 gallons. For the purposes of this survey, a monthly usage of 8,000 gallons is assumed.
- (h) Sewer rate reflects a reduction in usage due to an 18% irrigation factor.
- (i) Water charge includes SNWA Commodity Charge and SNWA Reliability Surcharge.
- (j) Rates exclude all pressure zone charges. Sewer charges exclude EPA surcharge.
- (k) Water service charge includes Public Fire Protection Charge.
- (l) Sewer rate is based on 159% of water bill.
- (m) Does not include water Elevation Surcharge, which ranges from \$0.00 to \$0.77 per Ccf.
- (n) Sewer charge includes a sewer service charge billed by the City of Oakland with remaining sewer charges billed by East Bay Municipal Utility District.
- (o) Uses weighted average of peak and off-peak rates for water customers.
- (p) Sewer rate excludes stormwater component.
- (q) Uses weighted average of seasonal water commodity charges.
- (r) Sewer charge includes a collection fee charged by the City of Sacramento and a prorated Residential treatment fee charged by the Sacramento Regional County Sanitation District.
- (s) Uses weighted average of "seasonal" and "standard" rates for water customers.
- (t) Water rate includes water supply fee.
- (u) Residential sewer customers are charged a flat rate.

- (v) Uses weighted average of peak and off-peak rates for water customers.
- (w) Rates include a 10.2% surcharge to cover a temporary increase in City's utility tax.
- (x) Sewer charge includes charges by Dept. of Public Utilities and Hampton Roads Sanitary District.
- (y) For purposes of this survey, the metering fee and Right of Way Rate are divided equally between water and sewer bills.

Figure 5 Footnotes

- (a) Water rate includes Sustainable Water Supply Program Fee.
- (b) Rates exclude \$0.15/ccf water security charge.
- (c) Minimum consumption charge is based on meter size.
- (d) Sewer rate is based on 85% of water bill.
- (e) Sewer rate is based on 90% of Average Winter Consumption (AWC). AWC is assumed to be equal to typical usage applied to this customer class.
- (f) Residential usage has a cap of 15 CCF for sewer charges.
- (g) Water customers are billed based on lot size, including a base charge of \$22.87 for the first 6000 sq. ft. and \$0.228 per additional 100 sq. ft.
- (h) Sewer rate reflects a reduction in usage due to an 18% irrigation factor.
- (i) Water charge includes SNWA Commodity Charge and SNWA Reliability Surcharge.
- (j) Rates exclude all pressure zone charges. Sewer charges exclude EPA surcharge.
- (k) Water service charge includes Public Fire Protection Charge.
- (l) Sewer rate is based on 159% of water bill.
- (m) Does not include water Elevation Surcharge, which ranges from \$0.00 to \$0.77 per Ccf.
- (n) Sewer charge includes a sewer service charge billed by the City of Oakland with remaining sewer charges billed by East Bay Municipal Utility District.
- (o) Uses weighted average of peak and off-peak rates for water customers.
- (p) Sewer rate excludes stormwater component.
- (q) Uses weighted average of seasonal water commodity charges.
- (r) Sewer charge includes a collection fee charged by the City of Sacramento and a prorated Residential treatment fee charged by the Sacramento Regional County Sanitation District.
- (s) Uses weighted average of "seasonal" and "standard" rates for water customers.
- (t) Water rate includes water supply fee.
- (u) Residential sewer customers are charged a flat rate.
- (v) Uses weighted average of peak and off-peak rates for water customers.
- (w) Rates include a 10.2% surcharge to cover a temporary increase in City's utility tax.
- (x) Sewer charge includes charges by Dept. of Public Utilities and Hampton Roads Sanitary District.
- (y) For purposes of this survey, the metering fee and Right of Way Rate are divided equally between water and sewer bills.

Figure 6 Footnotes

- (a) Assumes BOD, SS, and ammonia strength discharges of 250, 250, and 20 mg/l, respectively.
- (b) Water rate includes Sustainable Water Supply Program Fee.
- (c) Rates exclude \$0.15/ccf water security charge.
- (d) Minimum consumption charge is based on meter size.
- (e) Sewer rate is based on 85% of water bill.
- (f) Uses average of peak and off-peak rates for water customers.
- (g) Assumes monthly water use does not exceed 1.4 times average monthly use.
- (h) Uses average of summer and winter rates for commercial and industrial water customers.
- (i) Sewer rate is based on 90% of Average Winter Consumption (AWC). AWC is assumed to be equal to typical usage applied to this customer class.
- (j) Water customers are billed based on lot size, including a base charge of \$22.87 for the first 6000 sq. ft. and \$0.228 per additional 100 sq. ft.
- (k) Water charge includes SNWA Commodity Charge and SNWA Reliability Surcharge. Commercial sewer bills are estimated based on Equivalent Residential Unit usage.
- (l) Sewer rate is based on 90% of water usage.
- (m) Rates exclude all pressure zone charges. Sewer charges exclude EPA surcharge.
- (n) Does not include a surcharge, which applies to all water used each month from March through November that exceeds the average of the combined monthly usage for the months December through February.
- (o) Water service charge includes Public Fire Protection Charge.
- (p) Sewer rate is based on 159% of water bill.
- (q) Does not include water Elevation Surcharge, which ranges from \$0.00 to \$0.77 per Ccf.

- (r) Sewer charge includes a sewer service charge billed by the City of Oakland with remaining sewer charges billed by East Bay Municipal Utility District.
- (s) Uses weighted average of peak and off-peak rates for water customers.
- (t) Sewer rate excludes stormwater component.
- (u) Uses weighted average of seasonal water commodity charges.
- (v) Sewer charge includes a collection fee charged by the City of Sacramento and prorated Residential treatment fee charged by the Sacramento Regional County Sanitation District.
- (w) Assumes 100-125% usage block for water customers.
- (x) Water rate includes water supply fee.
- (y) Uses "Misc. Commercial, Institutional, Industrial" category rate for sewer customers.
- (z) Uses weighted average of peak and off-peak rates for water customers.
- (aa) Rates include a 10.2% surcharge to cover a temporary increase in City's utility tax.
- (ab) Sewer charge includes charges by Dept. of Public Utilities and Hampton Roads Sanitary District.
- (ac) For purposes of this survey, the metering fee and Right of Way Rate are divided equally between water and sewer bills. CSO charge, based on square footage of impervious area on customer property, has been omitted.

Figure 7 Footnotes

- (a) Assumes BOD, SS, and ammonia strength discharges of 250, 250, and 20 mg/l, respectively.
- (b) Water rate includes Sustainable Water Supply Program Fee.
- (c) Rates exclude \$0.15/ccf water security charge.
- (d) Minimum consumption charge is based on meter size.
- (e) Sewer rate is based on 85% of water bill.
- (f) Uses average of peak and off-peak rates for water customers.
- (g) Assumes monthly water use does not exceed 1.4 times average monthly use.
- (h) Uses average of summer and winter rates for commercial and industrial water customers.
- (i) Sewer rate is based on 90% of Average Winter Consumption (AWC). AWC is assumed to be equal to typical usage applied to this customer class.
- (j) Assumes low industrial user.
- (k) Water customers are billed based on lot size, including a base charge of \$22.87 for the first 6000 sq. ft. and \$0.228 per additional 100 sq.ft.
- (l) Water charge includes SNWA Commodity Charge and SNWA Reliability Surcharge. Industrial sewer bills are estimated based on Equivalent Residential Unit usage.
- (m) Sewer rate is based on 90% of water usage.
- (n) Rates exclude all pressure zone charges. Sewer charges exclude EPA surcharge.
- (o) Does not include a surcharge, which applies to all water used each month from March through November that exceeds the average of the combined monthly usage for the months December through February.
- (p) Water service charge includes Public Fire Protection Charge.
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- (v) Sewer charge includes a collection fee charged by the City of Sacramento and prorated Residential treatment fee charged by the Sacramento Regional County Sanitation District.
- (w) Assumes 100-125% usage block for water customers.
- (x) Water rate includes water supply fee.
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- (ab) Sewer charge includes charges by Dept. of Public Utilities and Hampton Roads Sanitary District.
- (ac) For purposes of this survey, the metering fee and Right of Way Rate are divided equally between water and sewer bills. CSO charge, based on square footage of impervious area on customer property, has been omitted.

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