

# **Portsmouth, New Hampshire**

## ***Water & Sewer Rate Study***

***April 2006***

**Weston & Sampson Engineers, Inc.**

***in association with***

**Woodcock & Associates, Inc.**

***Weston & Sampson in association with  
Woodcock & Associates***

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## ***Water & Sewer Rate Study***

*April 2006*

**Patrick J. Connelly, P.E.**

Weston & Sampson Engineers, Inc.

*and*

**Christopher P.N. Woodcock**

Woodcock & Associates, Inc.

*Weston & Sampson in association with  
Woodcock & Associates*

# Purpose of Water & Sewer Rate Study

- Review and update both water and sewer rate structure and rates (previous rate study was in 1995)
- Assure rate structures promote sustainable water & sewer practices
- Assure equitable sharing of water and sewer costs
- Assure capability to pay for needed improvements and operations

# Providing Safe, Sufficient, Reliable, Sustainable and Equitable Water and Sewer Infrastructure...



...is hard to reach.

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# Capital Improvement Needs

- Increasing Water Quality Regulations
- Increasing Water & Sewer Demands
- Reliability & Security of Water Sources, Treatment Plant and Distribution System
- Reliability & Security of Sewerage Collection and Treatment System

# Water Quality Regulations

## Federal Safe Drinking Water Act

- Disinfectants/Disinfection Byproducts Rule, Stages 1 & 2 (D/DBPR)
- Enhanced Surface Water Treatment Rule (ESWTR)
- Long Term 2 ESWTR (LT2ESWTR)
- Groundwater Rule (GWR)
- Filter Backwash Rule (FBR)
- Lead and Copper Rule (LCR)
- Total Coliform Rule (TCR)

# Capital Improvement Needs



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# Water

## Capital Improvement Needs

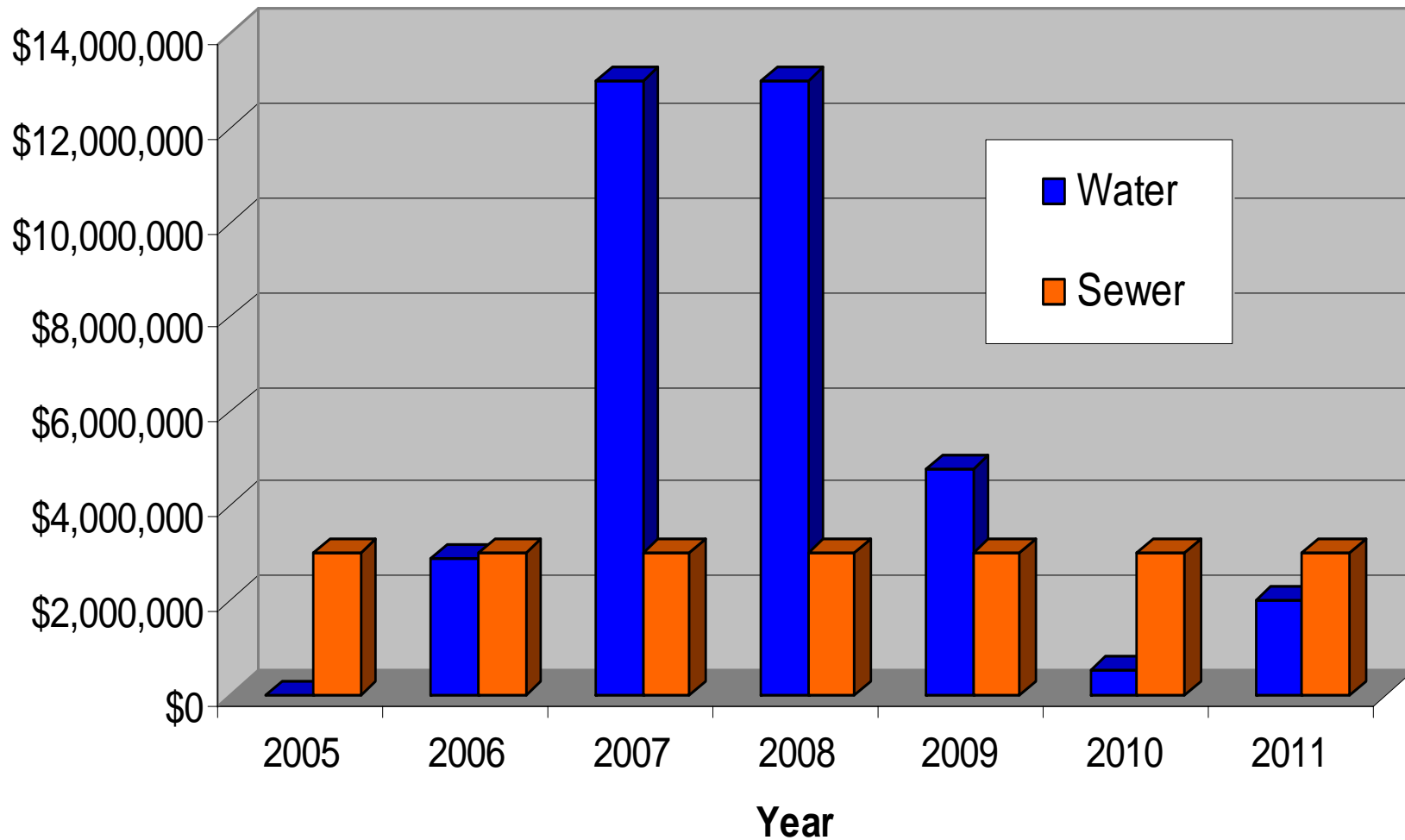
- Waterline Replacement
- Water Source Augmentation
- Madbury Water Treatment Plant
- Residuals Management and Solids Handling
- Storage Tank Replacements
- New Storage Tank and Pressure Improvements



# Sewer Capital Improvement Needs

- Combined Sewer Overflow Long Term Control Plan (LTCP)
- Sewer Collection System Improvements
- Wastewater Treatment Plant Improvements
  - Peirce Island plant upgrade
  - Pease plant upgrade

# Water & Sewer Capital Improvement Project Timeline



# Water & Sewer Rates and Rate Structure



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# Rate Structure Design Issues

- Capital Improvements Plan
- Anticipated Growth (Impact Fees)
- Use of Reserves
- Control Rate Increases
- Minimize Spikes in Rates
- Consider Rate Structure & Funding Alternatives

# Rate Structure Funding Alternatives

- Two-Step Rate Structure (increasing block rate)
- Second Meter Irrigation Rates
- Seasonal Rates
- Higher Bulk/Wholesale Rates outside Portsmouth
- Eliminate Minimum Water Charge
- Fire Protection Charges
- New Water Connection Fee / Impact Fee
- Field Service & Office Charges
- SRF Loans & Grants
- Public/Private Partnerships

# 2006 Water & Sewer Rates

- **Water Rate** = \$1.67 per 100 cubic feet (ccf)
- **Average Cost** for Single-Family Household = \$232 per year
  
- **Sewer Rate** = \$4.70 per 100 cubic feet (ccf)
- **Average Cost** for Single-Family Household = \$564 per year

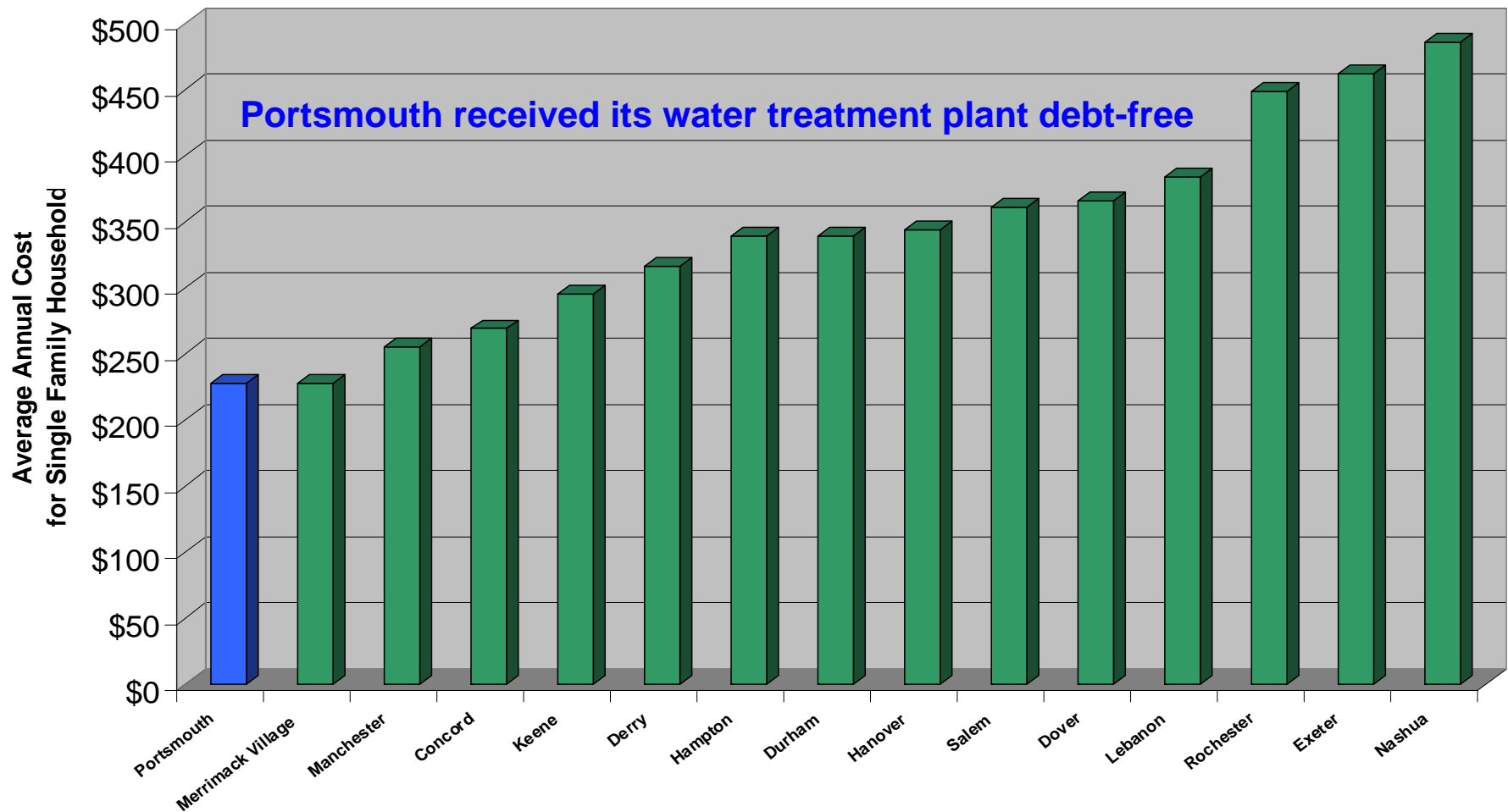
*(100 cubic feet of water = 748 gallons)*

# How do Portsmouth's Water & Sewer Rates compare with other communities?



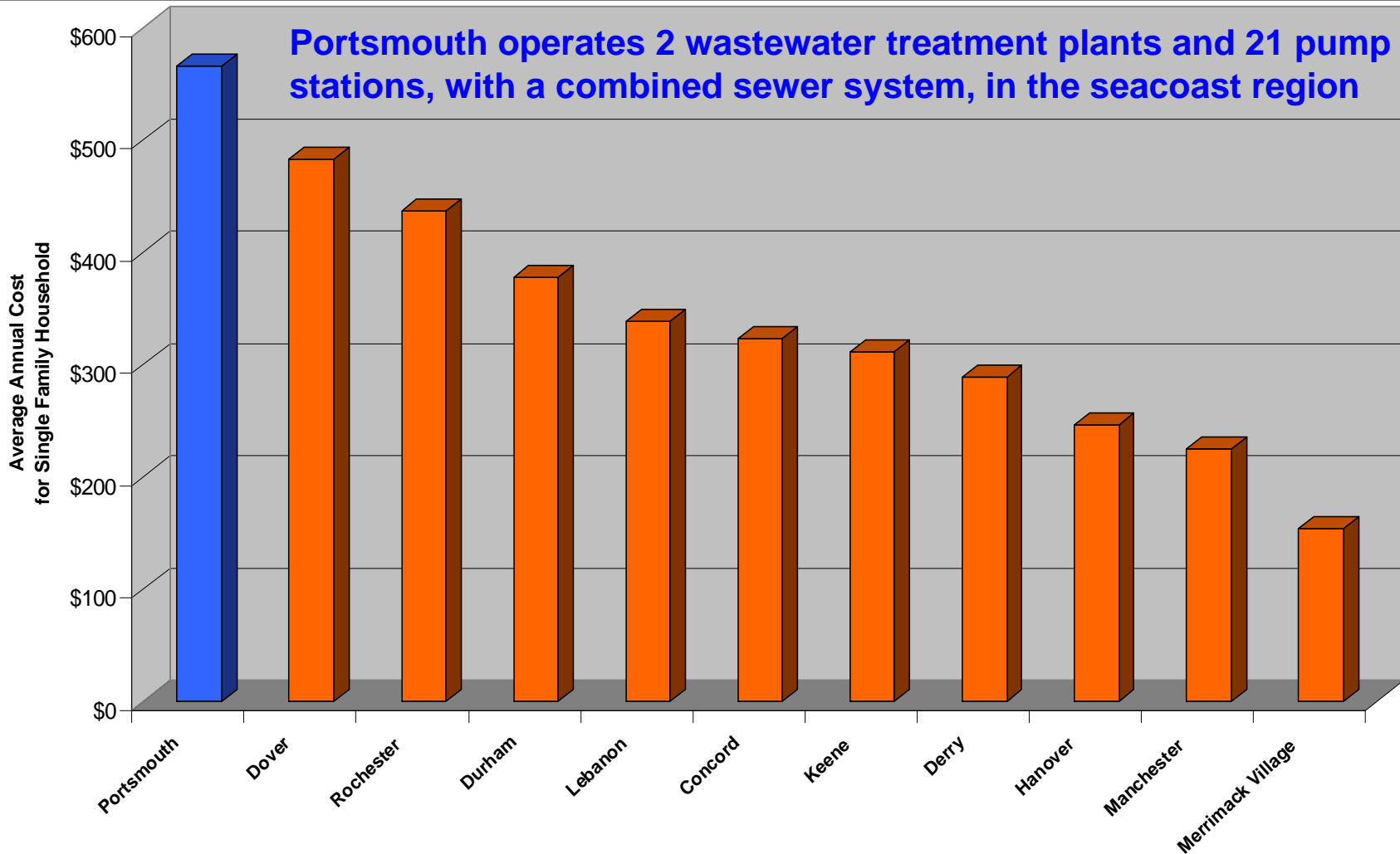
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# Comparison of Water Rates with Other Communities





# Comparison of Sewer Rates with Other Communities

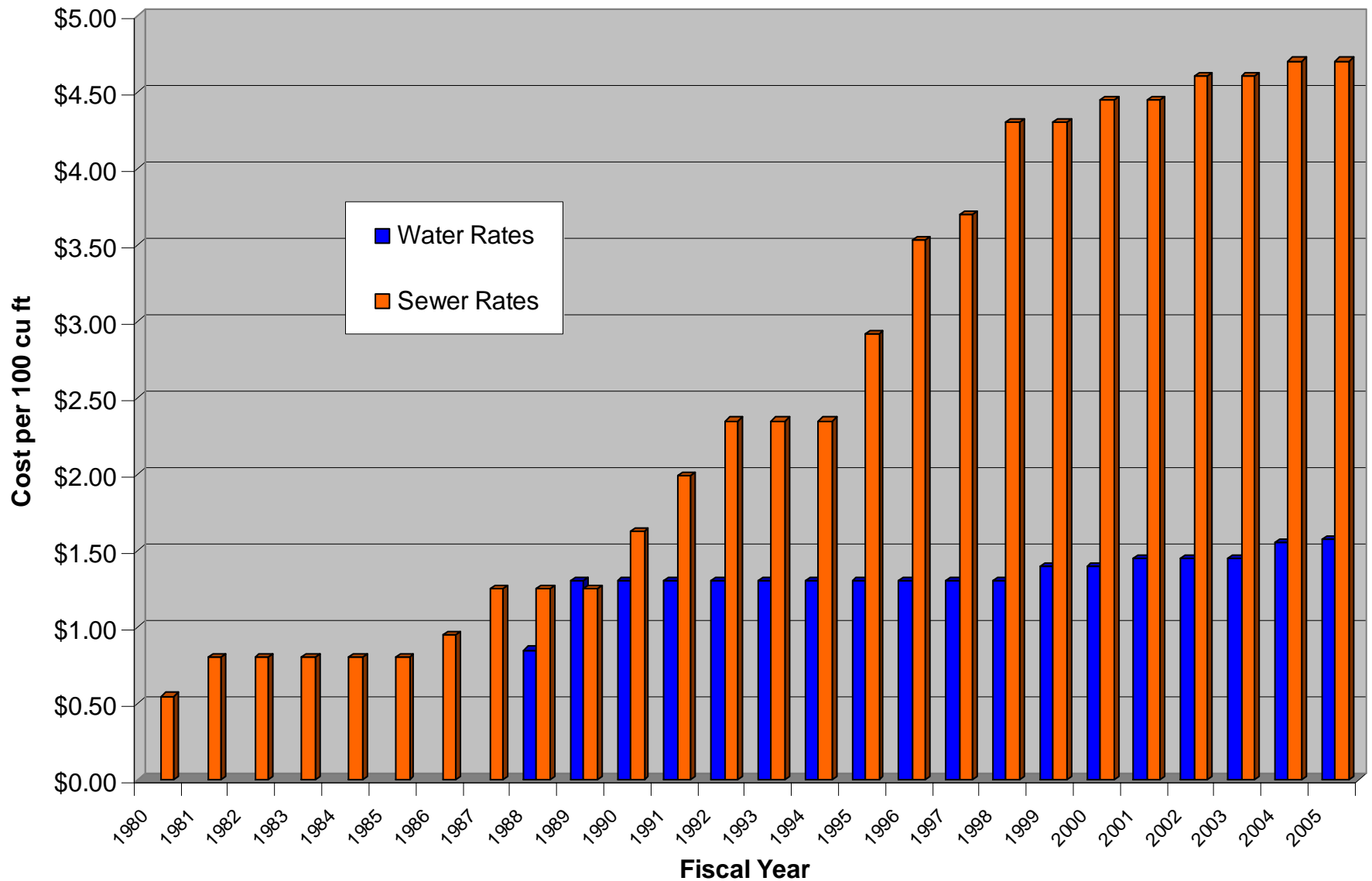


# How have Portsmouth's Water & Sewer Rates increased in the past?



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# History of Water & Sewer Rates



# What does the Water & Sewer Rate Study Recommend?



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# Recommendations for Water

- Two-Step Rate Structure (increasing block rate)
- Higher Rates for Second Meter Irrigation
- Higher Bulk/Wholesale Rates outside Portsmouth
- Eliminate Minimum Use (pay for water that is actually used)
- Impact Fee / New Connection Fees
- Maintain Reserves at approx. 25% of Costs
- Obtain SRF Loans & Grants when available
- Opportunities for Public/Private Partnerships

# Anticipated Water Rates based on Recommendations

## Water Rates (\$ per 100 cubic feet)

<u>Year</u>	<u>0 – 800 cf / month</u>	<u>&gt; 800 cf / month</u>
2005	\$ 1.57	\$ 1.57
2006	\$ 1.67	\$ 1.67
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2007 *	\$ 2.02	\$ 2.19
2008	\$ 2.38	\$ 2.57
2009	\$ 2.78	\$ 3.01
2010	\$ 3.28	\$ 3.55
2011	\$ 3.62	\$ 3.92
2012	\$ 3.79	\$ 4.10

\* If the new rate structure is implemented in 2007

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# Annual Water Cost based on Recommendations

Projected Annual Water Costs for an average  
single-family household \*

<u>Year</u>	<u>Current</u>	<u>Recommended</u>
2005	\$ 223	
2006	\$ 232	
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2007 **		\$ 290
2008		\$ 341
2009		\$ 399
2010		\$ 471
2011		\$ 520
2012		\$ 544

\* Based on using approx. 7,500 gallons per month

\*\* If the new rate structure is implemented in 2007

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# Recommendations for Sewer

- Two-Step Rate Structure (increasing block rate)
- Higher Bulk/Wholesale Rates outside Portsmouth
- Impact Fee / New Connection Fees
- Increase BOD / TSS wastewater strength surcharge
- Maintain Reserves at approx. 25% of Costs
- Obtain SRF Loans & Grants when available
- Opportunities for Public/Private Partnerships



# Anticipated Sewer Rates based on Recommendations

## Sewer Rates (\$ per 100 cubic feet)

<u>Year</u>	<u>0 – 800 cf / month</u>	<u>&gt; 800 cf / month</u>
2005	\$ 4.70	\$ 4.70
2006	\$ 4.70	\$ 4.70
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2007 *	\$ 4.75	\$ 5.51
2008	\$ 5.25	\$ 6.09
2009	\$ 5.83	\$ 6.75
2010	\$ 6.49	\$ 7.52
2011	\$ 7.19	\$ 8.34
2012	\$ 7.39	\$ 8.57

\* If the new rate structure is implemented in 2007

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# Annual Sewer Cost based on Recommendations

Projected Annual Sewer Costs for an average  
single-family household \*

<u>Year</u>	<u>Current</u>	<u>Recommended</u>
2005	\$ 564	
2006	\$ 564	
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2007 **		\$ 588
2008		\$ 650
2009		\$ 722
2010		\$ 804
2011		\$ 890
2012		\$ 915

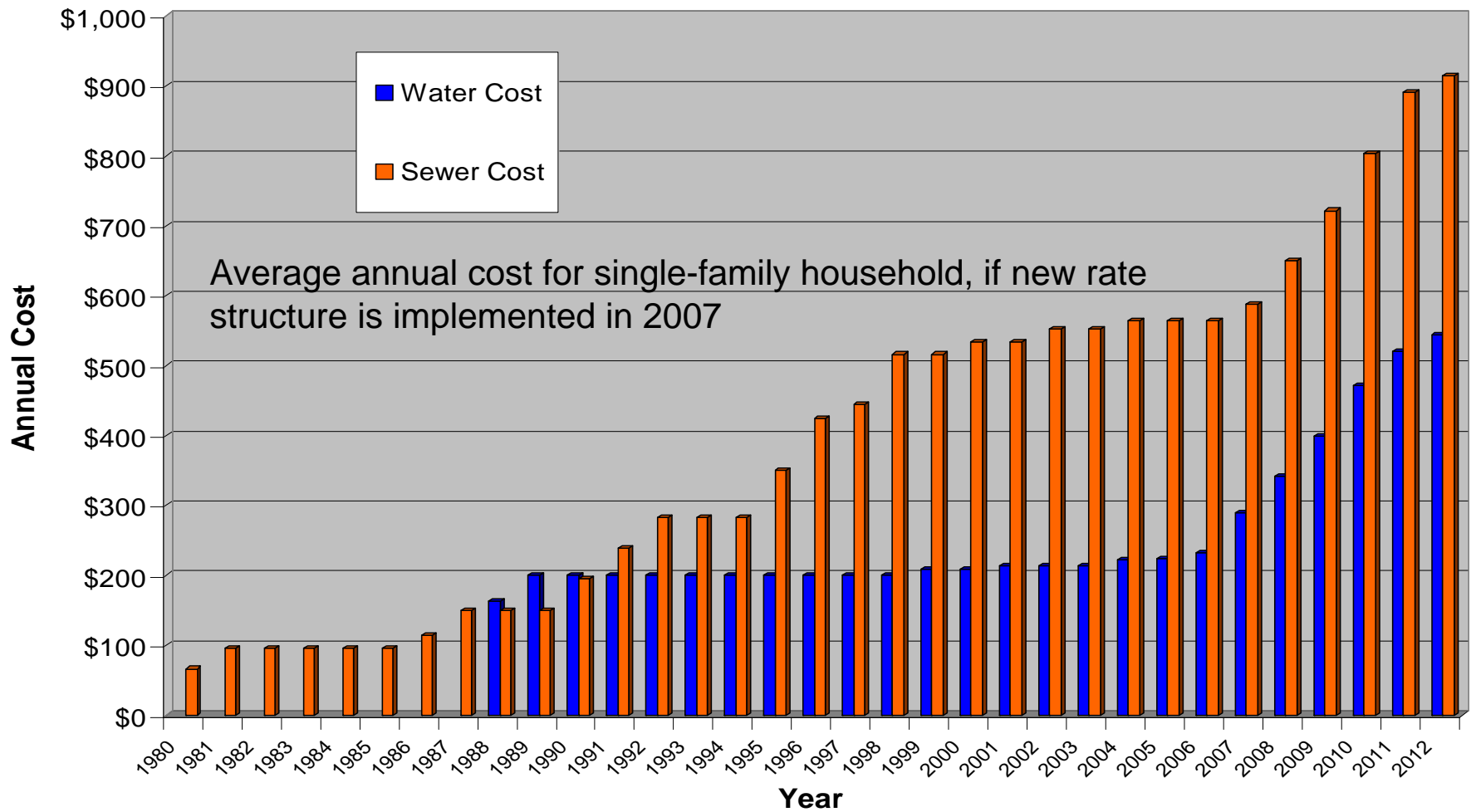
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# Annual Water & Sewer Costs for Average Single-Family Household

(Average Annual Costs are based on approx. 7,500 gallons per month of water usage)



# Impact Fee / New Water Connection Fee

- One-time charge to new connections
- Also known as “Connection Fee” or “System Development Charge”
- Typically used to help pay for capital projects related to growth
- Fees must be consistent, defensible and proportionate to the proposed impact of the new connection
- Fees are often based on water meter size

# Implementation Timeline for Recommendations

- Impact fees -- immediately
- Ordinance changes – by January 2007
- New rate structure – FY2008 Budget
- Rate increases – FY2008 Budget



# Questions & Answers



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