Water System Major Assets

- Bull Run Watershed
- Columbia South Shore
- 41 Pump Stations
- 61 Tanks and Covered Reservoirs
- 2,260 Miles of Pipe
- 15,330 Hydrants
- 130 Drinking Fountains
- 2 Water Sources
- 178,500 Meters

Estimated replacement value is $8.2 billion.
What are our priorities?
Clean, safe, reliable drinking water

• Our water is **safe** to drink, and meets or exceeds regulatory standards.
• Customers can turn on the tap and get **excellent water whenever they need it**.
• We make water available to protect **public health** and for **fire protection**.
• The system is **well maintained** now and for future generations.
• Increased **seismic resilience** and improved infrastructure.
• We **use our abundant resources wisely**.
The dashboard is maintained by the City Budget Office and can be found online at [www.portlandoregon.gov/cbo/article/523259](http://www.portlandoregon.gov/cbo/article/523259)

<table>
<thead>
<tr>
<th>Key Performance Measure</th>
<th>FY11-12 Actual</th>
<th>FY12-13 Actual</th>
<th>FY13-14 Actual</th>
<th>FY14-15 Actual</th>
<th>FY15-16 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average minutes that customers are on hold before speaking to a customer service representative</td>
<td>2.03</td>
<td>1.50</td>
<td>1.52</td>
<td>1.50</td>
<td>2.00</td>
</tr>
<tr>
<td>Maintain water revenue bond AAA credit rating</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Number of unplanned events leading to customers out of water for more than 8 hours</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of violations of state and federal drinking water quality regulations</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of violations of state and federal environmental regulations</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Percentage of identified high risk assets addressed</td>
<td>92%</td>
<td>95%</td>
<td>96%</td>
<td>91%</td>
<td>80%</td>
</tr>
</tbody>
</table>
Your Water System—What does it do for you?

Provides clean and safe water

Provides water every day, every hour

Protects public health
Your Water System—What does it do for you?

Provides water for fire fighting

Responds in an emergency

Provides for future needs
What are the challenges?

- Aging pipes and facilities
- Earthquakes
- Federal and state regulations
Budget Resources and Requirements

RESOURCES
$237.4 Million

- Bond Proceeds $65.1
- Capital Revenues $10.1
- Monthly Charges $156.1
- Other Revenues/Sources $6.1

REQUIREMENTS
$237.4 Million

- Capital Improvements $95.4
- Debt Service $55.0
- Operations & Maintenance $71.0
- Other Expenditures $16.0

Dollars are in millions. Capital Improvements include direct and indirect costs.
Water System Funding Sources

$237.4 Million
FY 2016-17 Requested Budget

$156.1
Water Sales Revenue
66%

$65.1
Bonds
27%

$16.2
Other Revenues
7%

Dollars are in millions.
Water Sales Revenues

$156.1 Million
FY 2016-17 Requested Budget

- $17.3 Wholesale (11%)
- $58.6 Residential Single-Family (38%)
- $23.5 Residential Multi-Family (15%)
- $56.7 Commercial/Industrial (36%

Dollars are in millions.
Summary of Requested Budget

$237.4 Million
FY 2016-17 Requested Budget

$55.0
Debt Service Payments
23%

$82.9
Operating Budget
35%

$82.9
Capital Program
35%

$16.0
General Fund Transfer
7%

$0.6
Other Expenses
0%

Dollars are in millions.
Operations and Maintenance

$82.9 Million
FY 2016-17 Requested Budget

$2.5 Treatment
3%

$4.7 Supply
6%

$7.2 Regulatory Compliance
9%

$20.8 Customer Service
25%

$21.2 Distribution
26%

$1.9 Transmission & Terminal Storage
2%

$24.5 Support
30%

Accounting
Administration
Asset Management
Data Management
Finance
Facility Management
Planning
Public Information and Involvement

Dollars are in millions. Percentages based on Operations and Maintenance budget of $82.9 million. Total may not add due to rounding.
Capital Improvement Program

$82.9 Million
FY 2016-17 Requested Budget

- Distribution: $37.7 million (45%)
- Transmission & Terminal Storage: $35.3 million (43%)
- Supply: $4.8 million (6%)
- Regulatory Compliance: $2.4 million (3%)
- Support: $0.4 million (1%)
- Treatment: $0.1 million (0%)

Customer Service (not shown): $0.1 million (0%)

Dollars are in millions. Percentages based on CIP budget of $82.9 million. Total may not add due to rounding.
Historical and Forecasted Capital Improvements

Dollars are in millions. Forecasted values do not include inflation or planning studies.
What drives the CIP?

- Public Health Protection
- Seismic Resilience
- Stewardship
- Risk Mitigation
- Aging Infrastructure
- Regulatory Compliance
2016–21 Requested 5-Year CIP by Program

$473.7 Million
Fiscal Years 2016-21

$181.1
Transmission & Terminal Storage
38%

$24.4
Treatment
5%

$13.7
Support
3%

$24.6
Supply
5%

$218.1
Distribution
46%

$11.6
Regulatory Compliance
3%

$0.3
System Security
(not shown)
0%

In FY 2016-17 dollars. Dollars in millions. Does not include inflation. Totals may not add due to rounding.
Water Revenue Bonds: Principal Outstanding

First-Lien Revenue Bonds
Moody’s Bond Rating=Aaa
Terms: 25 Years
Coverage Ratio:
Legal Requirement 1.25
Planning Target 1.90

Second-Lien Revenue Bonds
Moody’s Bond Rating=Aa1
Terms: 25 Years
Coverage Ratio:
Legal Requirement 1.10
Planning Target 1.75

Portland Water Bureau | Financial Plan and CIP for FY 2016-17
Water Revenue Bonds: Annual Debt Service

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Existing Bonds</th>
<th>Future Investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>$40</td>
<td>$0</td>
</tr>
<tr>
<td>2017</td>
<td>$40</td>
<td>$0</td>
</tr>
<tr>
<td>2018</td>
<td>$40</td>
<td>$0</td>
</tr>
<tr>
<td>2019</td>
<td>$40</td>
<td>$0</td>
</tr>
<tr>
<td>2020</td>
<td>$40</td>
<td>$0</td>
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<tr>
<td>2021</td>
<td>$40</td>
<td>$0</td>
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<tr>
<td>2022</td>
<td>$40</td>
<td>$0</td>
</tr>
<tr>
<td>2023</td>
<td>$40</td>
<td>$0</td>
</tr>
<tr>
<td>2024</td>
<td>$40</td>
<td>$0</td>
</tr>
<tr>
<td>2025</td>
<td>$40</td>
<td>$0</td>
</tr>
<tr>
<td>2026</td>
<td>$40</td>
<td>$0</td>
</tr>
</tbody>
</table>

Legend:
- Green: Existing Bonds
- Blue: Future Investments
FY 2016-17 Requested Budget Decision Packages

*Regulatory Monitoring (WA_01)*
- $360,900, 2.0 FTE

*Community Information and Outreach (WA_02)*
- $243,200, 2.0 FTE

*Infrastructure Maintenance (WA_03)*
- $292,600, 3.5 FTE

*Information Processing (WA_04)*
- $366,500, 3.0 FTE

*Tabor Preservation Project (WA_05)*
- $750,000 General Fund Reimbursement request
FY 2016-17 Requested Budget Decision Packages

- State and Federal water quality and environmental regulation compliance is a Strategic Performance Measure

- PWB was the first water provider in the nation to achieve compliance with the Long Term 2 Enhanced Surface Water Treatment Rule through the variance.

- Crypto lab industry is projected to decline, which could result in lab closures.

Regulatory Monitoring (WA_01)

$360,900 one-time funding
2.0 FTE

Add capabilities to the Water Quality Laboratory to perform in-house Cryptosporidium analysis for the purposes of continuing compliance with the Bureau’s Bull Run Treatment Variance.

- Laboratory Coordinator
- Laboratory Analytical Specialist
FY 2016-17 Requested Budget Decision Packages

- Outreach and engagement efforts strive to reach citizens in an equitable manner.

- Survey in 2016 aims to gather information from customers whose voices have historically been underrepresented.

- Includes lower-income residents, people without access to the internet, and Portlanders with limited English proficiency.

Community Information and Outreach (WA_02)

$235,600 on-going and $7,600 one-time funding
2.0 FTE

Increases outreach to traditionally underserved communities and builds capacity for upcoming large Capital Improvement Projects (CIP).
FY 2016-17 Requested Budget Decision Packages

• A robust CIP program that continues to add new assets that require maintenance.

• Reliability Centered Maintenance approach requires staff to perform regular predictive and preventive maintenance on key assets to reduce unexpected failures.

• Staff to support work addressing aging infrastructure

Infrastructure Maintenance (WA_03)

$292,600 on-going
3.5 FTE

Adding support for maintaining new and aging assets.
• Engineering Tech II (0.5 FTE)
• Horticulturist
• Electrician
• Security
FY 2016-17 Requested Budget Decision Packages

- Quantity of work for the Development Services staff driven by sustained increased economic activity.

- The request will assist in meeting City mandatory development review timelines and customer service goals.

Information Processing (WA_04)

$354,100 on-going, $12,400 one-time
3.0 FTE

Maintain customer service and records management standards.
- Engineering Tech III
- Engineering Tech II
- Records Management Analyst
FY 2016-17 Requested Budget Decision Packages

• Resolution No. 37146 committed the City to this financial obligation

• PWB and other City agencies have been directed to work with the Mt. Tabor Neighborhood Association to prioritize maintenance, repair and preservation work identified in the 2009 *Mt. Tabor Reservoirs Historic Structures Report.*

• Work to be accomplished over a four-year period beginning in FY 2016-2017.

---

**Tabor Preservation Project (WA_05)**

$750,000 FY 2016-17 transfer from the General Fund, $4 million over four years

Maintain, repair and preserve the Mount Tabor Reservoirs following disconnection.
How do Portland’s water rates compare regionally?

Calculations are based on rates in effect as of January 2016. The impact of the requested rate increase for the City of Portland is reflected in addition to the current rate.

FY 2016-17 requested increase

<table>
<thead>
<tr>
<th>District</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rockwood Water District</td>
<td>$18.48</td>
</tr>
<tr>
<td>City of Tualatin</td>
<td>$20</td>
</tr>
<tr>
<td>City of Milwaukie</td>
<td>$25</td>
</tr>
<tr>
<td>Clackamas River Water</td>
<td>$30</td>
</tr>
<tr>
<td>City of Beaverton</td>
<td>$35</td>
</tr>
<tr>
<td>Tualatin Valley Water District</td>
<td>$40</td>
</tr>
<tr>
<td>City of Gresham</td>
<td>$43.83</td>
</tr>
<tr>
<td>City of Portland</td>
<td>$43.92</td>
</tr>
<tr>
<td>West Slope Water District</td>
<td></td>
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<tr>
<td>City of Lake Oswego</td>
<td></td>
</tr>
<tr>
<td>City of Tigard</td>
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</table>
How do other utilities compare?

<table>
<thead>
<tr>
<th>Service</th>
<th>FY 2016-17 Requested Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone</td>
<td>$25.68</td>
</tr>
<tr>
<td>Solid Waste and Recycling</td>
<td>$29.35</td>
</tr>
<tr>
<td>Water</td>
<td>$33.83</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>$62.68</td>
</tr>
<tr>
<td>Sanitary Sewer &amp; Stormwater</td>
<td>$69.93</td>
</tr>
<tr>
<td>Internet Service</td>
<td>$70.95</td>
</tr>
<tr>
<td>Cell Phone</td>
<td>$76.76</td>
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<tr>
<td>Cable TV</td>
<td>$78.43</td>
</tr>
<tr>
<td>Electricity</td>
<td>$111.89</td>
</tr>
</tbody>
</table>

**Telephone** — With calling features such as caller ID, call waiting, voicemail, and unlimited national-wide calling  
Solid Waste & Recycling — 35-gallon cart, bi-weekly outside pickup  
**Water** — Typical single family using 5 ccf per month  
**Natural Gas** — Average Oregon residential customer using 55 therms per month  
**Internet Service** — Download speed at up to 50 MBps including modem  
Sanitary Sewer & Stormwater — Average single family  
**Cell Phone** — Family plan, 2 lines, unlimited talk and text, 300 MB shared data  
**Cable TV** — Digital starter with HD receiver equipment  
**Electricity** — Average residential customer using 900 kWh per month
## 5-Year Forecasted Rates

### For Fiscal Year Ending in June of

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<tr>
<td><strong>Rate Forecast</strong></td>
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<tr>
<td>7.0%</td>
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</tr>
<tr>
<td>8.4%</td>
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<td>8.3%</td>
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<tr>
<td>10.7%</td>
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<tr>
<td>8.1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Assumptions for the Rate Forecast</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Interest Earnings</td>
<td>0.45%</td>
<td>0.70%</td>
<td>1.00%</td>
<td>1.00%</td>
<td>1.00%</td>
<td>1.00%</td>
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<tr>
<td>OMF Escalation Factors</td>
<td>2.70%</td>
<td>4.60%</td>
<td>3.20%</td>
<td>5.10%</td>
<td>3.30%</td>
<td></td>
</tr>
<tr>
<td>Updated Retail Demand (ccf)</td>
<td>25.1 M</td>
<td>25.1 M</td>
<td>25.1 M</td>
<td>25.1 M</td>
<td>25.1 M</td>
<td>25.1 M</td>
</tr>
<tr>
<td>5-Year Capital Program</td>
<td>$68.8 M</td>
<td>$82.9 M</td>
<td>$111.0 M</td>
<td>$116.5 M</td>
<td>$87.8 M</td>
<td>$75.5 M</td>
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<tr>
<td>Bond Issues (Including Bond Reserves)</td>
<td>$91.8 M</td>
<td>$110.2 M</td>
<td>$90.1 M</td>
<td>$82.8 M</td>
<td></td>
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<tr>
<td>Bond Rates</td>
<td>5.00%</td>
<td>6.00%</td>
<td>6.00%</td>
<td>6.00%</td>
<td>6.00%</td>
<td>6.00%</td>
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</tbody>
</table>
Water Rate Stabilization Fund Balance

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Balance ($ in Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>35</td>
</tr>
<tr>
<td>2016</td>
<td>30</td>
</tr>
<tr>
<td>2017</td>
<td>25</td>
</tr>
<tr>
<td>2018</td>
<td>20</td>
</tr>
<tr>
<td>2019</td>
<td>15</td>
</tr>
<tr>
<td>2020</td>
<td>10</td>
</tr>
<tr>
<td>2021</td>
<td>5</td>
</tr>
</tbody>
</table>

Portland Water Bureau | Financial Plan and CIP for FY 2016-17

28
Water Rate Components

5-Year Rate Components Forecast

<table>
<thead>
<tr>
<th></th>
<th>FY 2017</th>
<th>FY 2018</th>
<th>FY 2019</th>
<th>FY 2020</th>
<th>FY 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSL</td>
<td>11.5%</td>
<td>9.1%</td>
<td>12.6%</td>
<td>17.4%</td>
<td>13.0%</td>
</tr>
<tr>
<td>Budget Adds</td>
<td>7.0%</td>
<td>8.4%</td>
<td>8.3%</td>
<td>10.7%</td>
<td>8.1%</td>
</tr>
<tr>
<td>PDX Building</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Capital</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Rate Increase using RSA</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Portland Water Bureau | Financial Plan and CIP for FY 2016-17
Forecast vs. Actual Water Rate Increases

<table>
<thead>
<tr>
<th></th>
<th>FY11-12</th>
<th>FY12-13</th>
<th>FY13-14</th>
<th>FY14-15</th>
<th>FY15-16</th>
<th>FY16-17*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adopted</td>
<td>13.0%</td>
<td>14.4%</td>
<td>14.8%</td>
<td>14.1%</td>
<td>11.3%</td>
<td>9.4%</td>
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<tr>
<td>Forecast</td>
<td>12.9%</td>
<td>7.6%</td>
<td>3.6%</td>
<td>7.0%</td>
<td>7.0%</td>
<td>7.0%</td>
</tr>
</tbody>
</table>

* Requested budget, all others are adopted
1.8 Gallons of Water for a Penny