Gresham’s Infrastructure: Financing a Sustainable Future

Steve Fancher, PE
City of Gresham Public Works Director

Water Finance Forum
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Topics

• Funding Gresham’s water utilities
• Case study: Path to energy net zero wastewater treatment
• Gresham’s other sustainable infrastructure projects
• Final thoughts on funding, financing, and rate politics
Gresham’s Water Utilities

- Drinking Water
- Wastewater
- Stormwater

“Water Resources”
Funding Gresham’s Water Utilities

- Rates (water bill)
- System Development Charges (SDCs)
- Grants
  - Few opportunities for water utility work

FY 14/15 Actual Revenues

$34 Million
$5 million
$2 million

Utility
Rates
SDCs
Other
Gresham’s Average Monthly Water Utility Rates

Water: $35.63
Wastewater: $28.73
Stormwater: $10.54
Total = $74.90
Average Monthly Rate - All 3 Water Utilities

2014 Average Monthly Residential Utility Bill

All three utilities

Hillsboro: $63
Salem: $67
Gresham: $69
Fairview: $70
Beaverton: $73
Tigard: $85
Wood Village: $85
Wilsonville: $92
Lake Oswego: $107
Portland: $109

Average Bill: $82
Average Monthly Rate - Drinking Water

Average Monthly Water Bill - Residential

- Hillsboro: $21
- Salem: $21
- Wood...: $27
- Beaverton: $28
- Fairview: $29
- Portland: $31
- Wilsonville: $32
- Gresham: $33
- Lake...: $37
- Tigard: $42

Average Bill: $30
Average Monthly Rate - Stormwater

Average Monthly Stormwater Bill - Residential

- Wilsonville: $5
- Hillsboro: $6
- Salem: $7
- Beaverton: $8
- Tigard: $8
- Fairview: $9
- Wood Village: $9
- Gresham: $10
- Lake Oswego: $11
- Portland: $25

Average Bill: $10

Legend:
- Stormwater Average Monthly Bill
- Average Bill
Average Monthly Rate - Wastewater

Average Monthly Wastewater - Residential

- Gresham: $26
- Fairview: $32
- Hillsboro: $35
- Tigard: $35
- Beaverton: $37
- Salem: $39
- Wood Village: $49
- Portland: $53
- Wilsonville: $55
- Lake Oswego: $59

Average Bill: $42
Case Study: Path to Energy Net Zero
Wastewater Treatment
Gresham’s Wastewater Treatment Plant

- 114,000 service population
- 13 million gallons per day average flow
- Secondary, activated sludge, anaerobic digestion
- Discharge to the Columbia River
- 20 employees (17 Veolia Water and 3 City)
- One of a few Energy Net-Zero plants in the U.S.
2005: Gresham’s New Era of Energy Production

- New 400kw co-generator installed
- Fueled with biogas from digesters
- Produces electrical power- 50% of the plant’s use
- Total project cost: $1,130,000, ETO $82k, BETC $288k
2009: 420 kw Solar Array Installed

- 420 kW peak capacity
- Provides 7% of WWTP power
- 1+ acre ground-mounted system
- Power Purchase Agreement with SunEdison
- PGE net metering agreement
- No capital cost to City
- kwh charge = 2/3rd PGE rate, fixed annual escalation of 3%
New high efficiency Neuros blowers and aeration diffusers

Gas mixing (80 hp) was replaced by Linear Motion Mixers (5 hp each)
2012 Fats, Oils, and Grease Receiving Station

- Increases biogas production
- Generates tipping fee revenue
- Reduces cost of disposal
- Better for the environment
2013 2\textsuperscript{nd} FOG Tank Added
2015: 400 kW Co-Generator #2

COGEN 1

COGEN 2
2015 “Net Zero” Celebration & Media Event
Treatment Plant Energy Trend Since 2005

2005-2015 Consumption/Production Summary

Annual kWh


PGE  Cogen 1  Cogen 2  Solar

0  1,000,000  2,000,000  3,000,000  4,000,000  5,000,000  6,000,000  7,000,000
• $400,000+ per year avoided electric utility costs
• FOG tipping fee revenues of $300,000 per year
Energy Projects Cost Summary

- Energy Trust Technical Assistance and Incentives
- State of Oregon BETC Program
- State of Oregon CHP Business Energy Incentive
Potable Water Efficiency

Automated Meter Install
WATER MAIN BREAKS (1998-2015)
Trenchless Pipe Replacement

Cost Savings up to 50%
Gresham Green Streets and Natural Stormwater Infrastructure
Natural Resources Protection
City Buildings
Funding, Financing, and Rate Politics

- Rates are king, but it’s difficult to sell much needed increases
- New technologies are helping to contain costs
- More favorable financing tools are needed to smooth rate hikes
- Opportunities for public-private partnerships
- Grants help policymakers make infrastructure investments
Filling the Trophy Case

- 2015 ACWA Outstanding Member Agency- WWTP Net Zero
- 2015 Oregon APWA project of the year- WWTP Net Zero
- 2015 APWA sustainability project of the year- LED Streetlights
- 2015 American Biogas Council Project of the Year- WWTP
- 2015 National Council for Public Private Partnerships- WWTP
- 2014 Clean Energy States Alliance- State Leadership in Clean Energy
- 2013 US Conference of Mayors Climate Protection Award
- 2010 League of American Bicyclists- Bicycle friendly community
- 2009 American Council of Engineering Companies project of the year- WWTP Energy Independence Study
Thank You
Capital Improvement Plan (CIP) Spending

• Water
  – Average historical: $3.3 million per year

• Wastewater
  – Average historical: $5.6 million per year

• Stormwater
  – Average historical: $1.4 million per year
Water Utility Rate Factors

• Declining revenues
  – Declining water use
  – Low SDC revenues

• Increasing costs
  – Portland wholesale cost of water
  – Long-range inflation of construction costs
    • Concrete, steel, fuel, oil (plastic), labor
  – High percentage of assets coming due for replacement
Gresham’s SDC collection history

Million Dollars

- 2003-04: $5.07
- 2004-05: $10.84
- 2005-06: $4.67
- 2006-07: $6.33
- 2007-08: $5.86
- 2008-09: $3.51
- 2009-10: $1.24
- 2010-11: $2.07
- 2011-12: $1.38
- 2012-13: $1.43
Controlling Utility Rates

Short-Term (1-5 years)
- Reduce Level of Service Standards
- Raise System Development Charges (SDCs)
- Delay capital projects (negative longer-term financial effect)

Long-Term (5+ years)
- Reduce Level of Service Standards
- Raise System Development Charges (SDCs)
- Replace assets at the right time, don’t delay capital projects
- Make strategic investments w/ long-term cost benefits
- Utilize favorable financing mechanisms
  - Grants
  - Low-interest loans