City of Bend Utility Rate Modernization: Water Rate Design Workshop

October 14, 2014

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Agenda

- Welcome and introductions
- Purpose of workshop
- Overview of rate setting process
- Cost of service
- Rate structure scenarios
- Wrap-up: priorities, direction, recommendations

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Purpose of Workshop

- Primary goal of water rate modernization was to remove the 400 cubic foot allowance

- Do we want to continue using one rate schedule tied to meter size?

  -OR-

  Do we want to consider different rate schedules for different customer classes based on usage characteristics?

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Rate Policy Objectives

- Equitable
- Affordable
- Promote efficient use
- Revenue stability
- Rate stability
- Publically acceptable
- Administratively feasible

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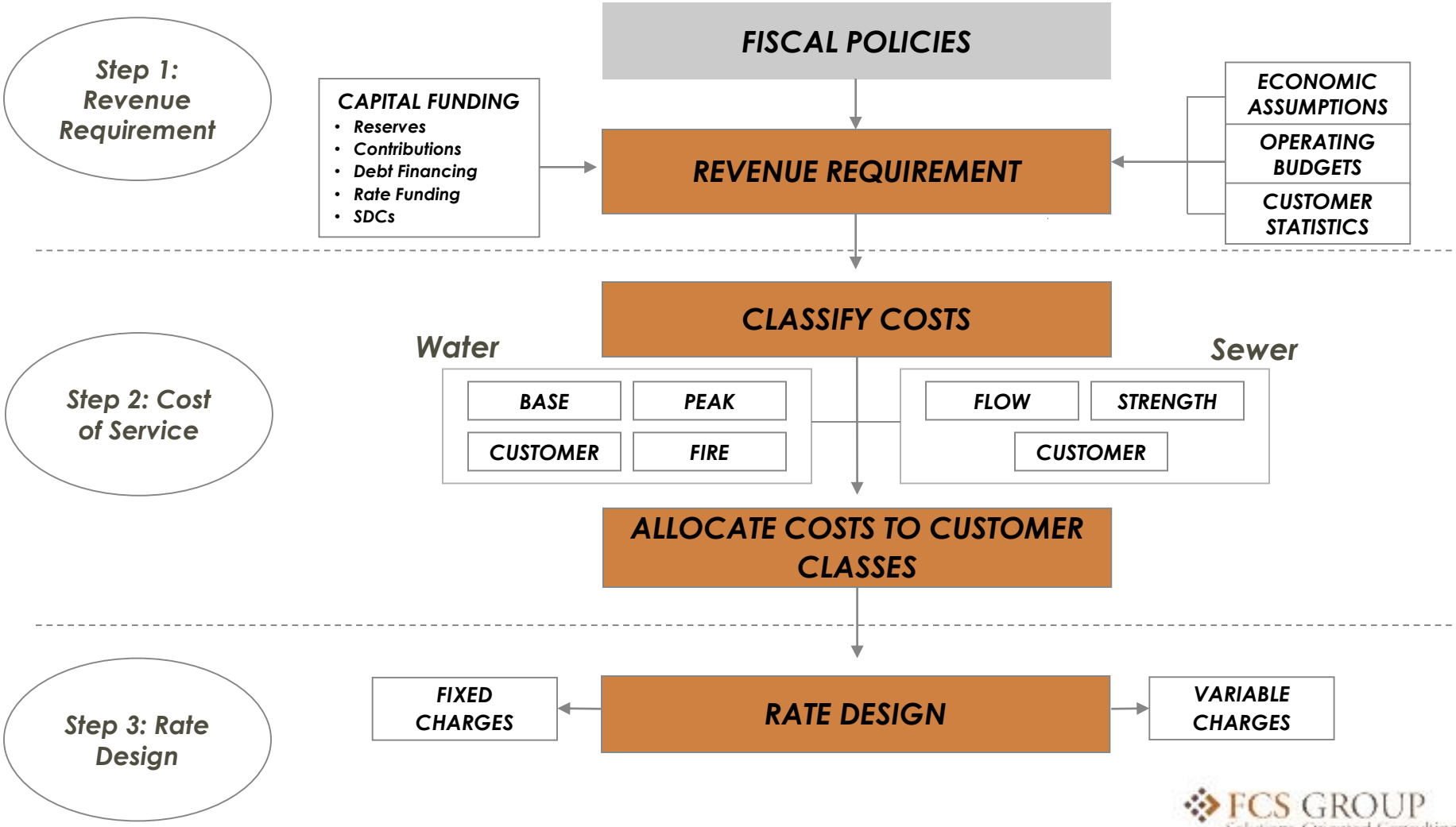
3-Step Rate Setting Process



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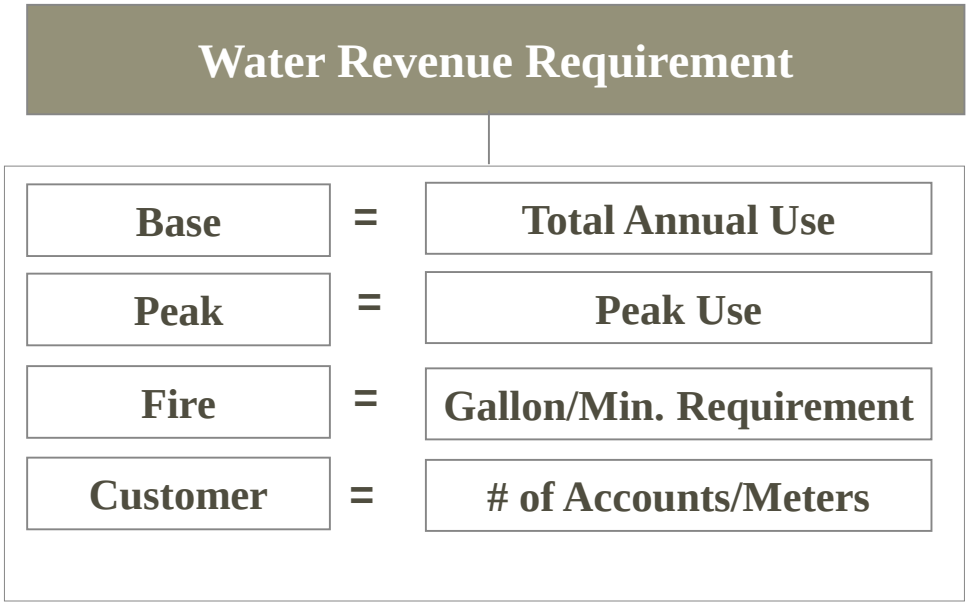
Water Cost of Service Process

- Equitable distribution of costs that considers cost differences in providing service
  - ✓ Driven by use characteristics and facility requirements



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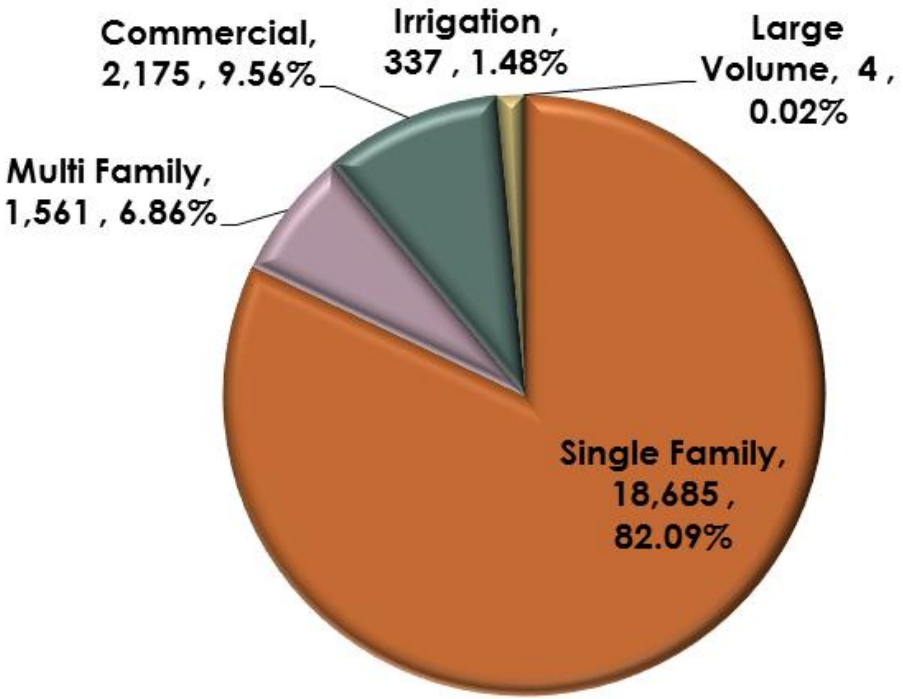
Water Customer Meters



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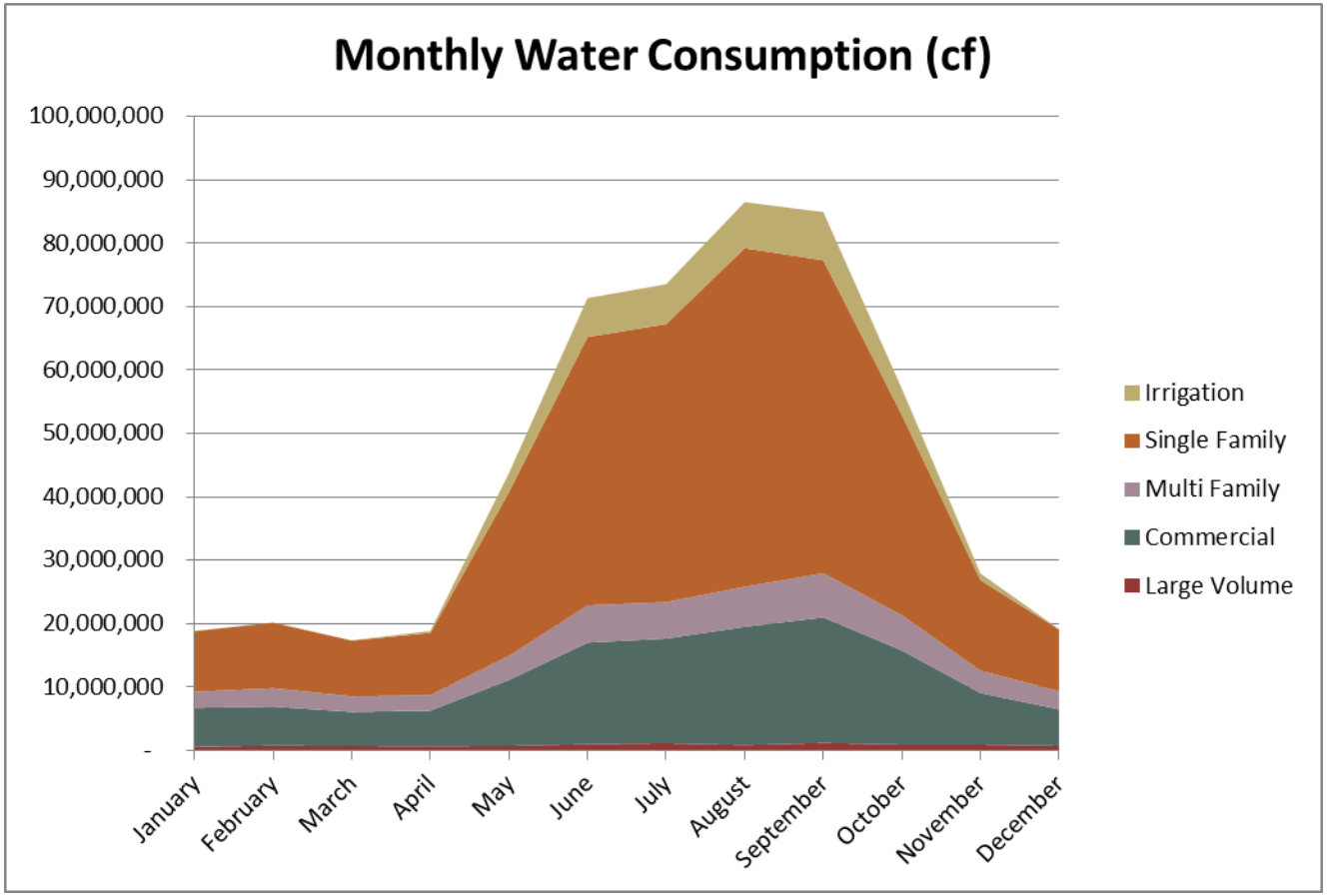
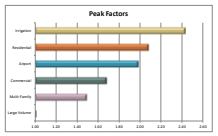
Monthly Water Use



Link to Peak Factors



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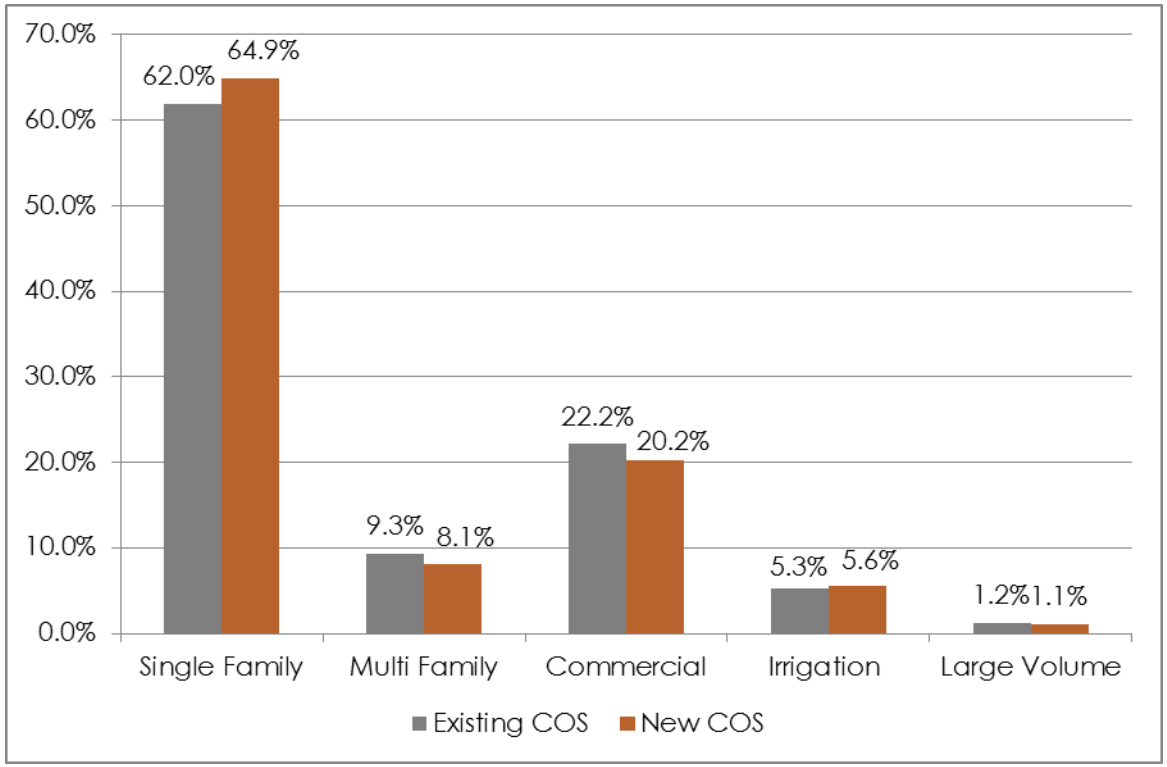
Water Cost of Service Results

- Five different customer classes reviewed
- Some shift between classes



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Cost of Service Revenue Targets

Customer Class	EXISTING REVENUE	COST OF SERVICE	$ Difference	% Difference
Single Family	$ 9,465,037	$ 10,414,533	$ 949,496	**10.0%**
Multi Family	1,425,757	1,299,796	(125,962)	**-8.8%**
Commercial	3,383,548	3,246,709	(136,839)	**-4.0%**
Irrigation	810,580	901,356	90,777	**11.2%**
Large Volume	189,664	175,921	(13,742)	**-7.2%**
Total	**$ 15,274,585**	**$ 16,038,315**	**$ 763,729**	**5.0%**

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Existing Rate Structure

- One rate schedule for all customers
  - ✓ Monthly rate by meter size
  - ✓ Volume charge for use > 400 cubic feet

All Customers

Minimum monthly charge by Meter Size
Includes first 400 cubic feet of consumption

Inside City	*Monthly Rate*	
3/4"	$ 22.36	
1"	$ 34.68	
1.5"	$ 67.39	
2"	$ 120.30	
3"	$ 315.39	
4"	$ 493.38	
6"	$ 963.94	
8"	$ 1,440.08	
10" & Above	$ 2,043.92	
excess > 400 cu. Ft.	$ 1.68	/100 cu. Ft

Existing rate schedule collects 53% of revenue from monthly meter charge and 47% from use charge

Rates shown effective 10-1-2014

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Key Factors for All Scenarios

- Collect total system revenue needs
- Adjust meter ratio equivalents to standard American Water Works Association (AWWA) meter capacity ratio
- Eliminate 400 cubic foot allowance
  - ✓ All water use billed

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Rate Scenarios Developed

- One Rate Schedule – maintain one rate schedule for all customer classes billing by meter size
- Charge by Customer Class – separate rate schedules for each class that tie to COS results
- Apply Conservation Incentive to Single Family
  - ✓ Higher volume charge for single family
  - ✓ All other classes set to cost of service

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One Rate Schedule Scenario

All Customers Minimum monthly charge by Meter Size			
Inside City	***Monthly Rate***		
3/4"	$	22.66	
1"	$	26.73	
1.5"	$	36.80	
2"	$	48.95	
3"	$	81.37	
4"	$	117.80	
6"	$	218.95	
8"	$	340.38	
10"	$	482.09	
12"	$	648.03	
All Water Use	$	1.68	/100 cu. Ft

- Pros
  - ✓ Consistency – same rate structure
  - ✓ Minimal billing changes
  - ✓ Promotes efficient use (w/ elimination of allowance)
- Cons
  - ✓ Not cost of service based - does not differentiate between cost drivers (peak & fire)
  - ✓ Revenue stability decreases (higher percentage of use based revenue)
    - 43% from monthly charge and 57% from use charge

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One Rate Schedule Scenario

Monthly Bill Comparisons

Customer Type	Meter Size	Water Use	Existing	Scenario	Difference
Single Family	3/4"	200 cu. ft.	$ 22.36	$ 26.02	$ 3.66
Single Family	3/4"	400 cu. ft.	$ 22.36	$ 29.38	$ 7.02
Single Family	3/4"	2,200 cu. ft.	$ 52.60	$ 59.62	$ 7.02
Multi Family	1"	3,000 cu. ft.	$ 78.36	$ 77.13	$ (1.23)
Commercial	3/4"	200 cu. ft.	$ 22.36	$ 26.02	$ 3.66
Commercial	1"	6,200 cu. ft.	$ 132.12	$ 130.89	$ (1.23)
Commercial	2"	10,000 cu. ft.	$ 281.58	$ 216.95	$ (64.63)
Irrigation	1"	20,000 cu. ft.	$ 363.96	$ 362.73	$ (1.23)
Deschutes	6"	340,000 cu. ft.	$ 6,669.22	$ 5,930.95	$ (738.27)
St. Charles	10"	470,000 cu. ft.	$ 9,933.20	$ 8,378.09	$ (1,555.11)

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Charge by Customer Class Scenarios

- Rates by Class
  - ✓ Class revenues set at their allocated cost of service
- Single Family Conservation
  - ✓ Single Family: conservation rate on water use
  - ✓ Other classes: same as 'Rates by Class' scenario

Single Family Rate Schedule

- All scenarios at cost of service: **10.0% Increase** for the class

Single Family Customers			
Minimum monthly charge by Meter Size			
Inside City	***Monthly Rate***		
3/4"	$	22.68	
1"	$	27.16	
1.5"	$	38.26	
All Water Use	$	1.60	/100 cu. Ft

- Pros
  - ✓ COS based
  - ✓ Billed for all water use (no allowance)
- Cons
  - ✓ Decreased volume charge from existing
  - ✓ Decreased revenue stability
    - Existing revenue split between monthly charge and use charge = 61%/39% **to** 52%/48%
  - ✓ Changes to billing system

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Single Family Bill Comparison

Monthly Bill Comparisons

Use		Existing	Rate by Class	Difference
Low (3/4")	200 cu. ft.	$ 22.36	$ 25.88	$ 3.52
Medium (3/4")	400 cu. ft.	$ 22.36	$ 29.08	$ 6.72
High (1")	2,200 cu. ft.	$ 64.92	$ 62.36	$ (2.56)

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Multi Family Rate Schedule

- All scenarios at cost of service: **8.8% Decrease** for the class

Multi Family Customers			
Minimum monthly charge by Meter Size			
Inside City	***Monthly Rate***		
3/4"	$	23.87	
1"	$	28.27	
1.5"	$	39.18	
2"	$	52.33	
3"	$	87.43	
4"	$	126.87	
6"	$	236.39	
All Water Use	$	1.45	/100 cu. Ft

- Pros
  - ✓ COS based
  - ✓ Benefits from low peaking factor
  - ✓ Billed for all water use
- Cons
  - ✓ Decreased volume charge from existing
  - ✓ Decreased revenue stability
    - (existing revenue split between monthly charge and use charge = 50%/50% **to** 43%/57%
  - ✓ Changes to billing system

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Multi Family Bill Comparison

Monthly Bill Comparisons

Use (1" Meter)		Existing	Rate by Class	Difference
Low	1,000 cu. ft.	$ 44.76	$ 42.77	$ (1.99)
Medium	3,000 cu. ft.	$ 78.36	$ 71.77	$ (6.59)
High	5,000 cu. ft.	$ 111.96	$ 100.77	$ (11.19)

Commercial Rate Schedule

- All scenarios at cost of service: **4.0% Decrease** for the class

Commercial Customers			
Minimum monthly charge by Meter Size			
Inside City	***Monthly Rate***		
3/4"	$	31.60	
1"	$	38.14	
1.5"	$	54.35	
2"	$	73.88	
3"	$	126.03	
4"	$	184.62	
6"	$	347.31	
8"	$	542.62	
10"	$	770.54	
12"	$	1,037.43	
All Water Use	$	1.52	/100 cu. Ft

- Pros
  - ✓ COS based
  - ✓ Benefits from low peaking factor
  - ✓ Billed for all water use
- Cons
  - ✓ Decreased revenue stability
    - Existing revenue split between monthly charge and use charge = 40%/60% **to** 37%/63%
  - ✓ Changes to billing system

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Commercial Bill Comparison

Monthly Bill Comparisons

Use (1" Meter)		Existing	Rate by Class	Difference
Low	200 cu. ft.	$ 34.68	$ 41.18	$ 6.50
Medium	6,200 cu. ft.	$ 132.12	$ 132.38	$ 0.26
High	10,000 cu. ft.	$ 195.96	$ 190.14	$ (5.82)

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Irrigation Only Rate Schedule

- All scenarios at cost of service: **11.2% Increase** for the class

Irrigation Customers		
Minimum monthly charge by Meter Size		
Inside City	***Monthly Rate***	
3/4"	$ 31.06	
1"	$ 43.76	
1.5"	$ 75.22	
2"	$ 113.13	
3"	$ 214.35	
4"	$ 328.08	
All Water Use	$ 1.75	/100 cu. Ft

- Pros
  - ✓ COS based
  - ✓ Billed for all water use
  - ✓ Conservative signal higher than current use charge
  - ✓ Fairly stable revenue
    - Existing revenue split between monthly charge and use charge =31%/69% **to** 30%/70%
- Cons
  - ✓ Changes to billing system

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Irrigation Only Bill Comparison

Monthly Bill Comparisons

Use (1" Meter)		Existing	Rate by Class	Difference
Low	1,000 cu. ft.	$ 44.76	$ 61.26	$ 16.50
Medium	9,000 cu. ft.	$ 179.16	$ 201.26	$ 22.10
High	20,000 cu. ft.	$ 363.96	$ 393.76	$ 29.80

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Large Volume Rate Schedule

- All scenarios at cost of service: **7.2% Decrease** for the class

Large Volume Customers		
For customers > 3,000 monthly average ccf		
Minimum monthly charge by Meter Size		
Inside City	***Monthly Rate***	
6"	$ 1,223.41	
8"	$ 1,944.43	
10"	$ 2,785.86	
12"	$ 3,771.14	
All Water Use	$ 1.37	/100 cu. Ft

- Pros
  - ✓ COS based
  - ✓ Benefits from low peaking factor
  - ✓ Billed for all water use
  - ✓ Increased revenue stability
    - Existing revenue split between monthly charge and use charge =13%/87% **to** 20%/80%
- Cons
  - ✓ Decreased volume charge from existing
  - ✓ Changes to billing system

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Large Volume Bill Comparison

Monthly Bill Comparisons

DESCHUTES BREWERY

Use (6" Meter)		Existing	Rate by Class	Difference
Low	220,000 cu. ft.	$ 4,653.22	$ 4,237.41	$ (415.81)
Medium	340,000 cu. ft.	$ 6,669.22	$ 5,881.41	$ (787.81)
High	470,000 cu. ft.	$ 8,853.22	$ 7,662.41	$ (1,190.81)

ST. CHARLES MEDICAL CENTER

Use (10" Meter)		Existing	Rate by Class	Difference
Low	330,000 cu. ft.	$ 7,581.20	$ 7,306.86	$ (274.34)
Medium	470,000 cu. ft.	$ 9,933.20	$ 9,224.86	$ (708.34)
High	700,000 cu. ft.	$ 13,797.20	$ 12,375.86	$ (1,421.34)

Single Family Conservation Scenario

- All scenarios at cost of service: **10.0% Increase** for the class

Single Family Customers Minimum monthly charge by Meter Size			
Inside City	***Monthly Rate***		
3/4"	$	13.53	
1"	$	14.49	
1.5"	$	16.87	
All Water Use	$	2.35	/100 cu. Ft

- Pros
  - ✓ COS based
  - ✓ Billed for all water use
  - ✓ Large variable rate promotes water conservation
- Cons
  - ✓ Decreased revenue stability
    - Existing revenue split between monthly charge and use charge =61%/39% **to** 30%/70%
  - ✓ Changes to billing system

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Single Family: Conservation Scenario

Monthly Bill Comparisons

Use		Existing	SF Conservation	Difference
Low (3/4")	200 cu. ft.	$ 22.36	$ 18.23	$ (4.13)
Medium (3/4")	400 cu. ft.	$ 22.36	$ 22.93	$ 0.57
High (1")	2,200 cu. ft.	$ 64.92	$ 66.19	$ 1.27

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Rate Scenario Summary: Water

Scenario	3/4" Meter	
	$ / meter / month	$ / ccf
One Rate Schedule	$ 22.66	$ 1.68
Rates By Class		
Single Family Conservation	$ 13.53	$ 2.35
Single Family	$ 22.68	$ 1.60
Multi-Family	$ 23.87	$ 1.45
Commercial	$ 31.60	$ 1.52
Irrigation	$ 31.06	$ 1.75
Large Volume	$ 57.88	$ 1.37

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Break

Class	General Public Comments
SF Res.	1. Rates are too high 2. Flat sewer and 400CF water allowance are unfair for small households 3. Should pay for what you use from zero 4. Tiered rates to incentivize conservation v. charge same from first unit to last 5. Charge large water users more 6. Charge lower fixed fee and higher volume fee to discourage wasteful practices; also makes non-use charge more affordable
Non-Res.	1. Rates should reflect actual usage 2. Rates are too high for small business 3. High water use does not mean inefficient water use so don't penalize high water users 4. Charge for sewer based on discharge 5. Unfair to single out big business to pay – system costs should be shared collectively as we all benefit from business 6. Need better low-income programs

Feedback from ESC Customers

User	Common	Unique
Highly Impacted	1. Already have treatment on site 2. Already made an investment 3. Paying already	1. Residential customers regularly poor grease down drains 2. Landlord w/ many tenants at different strengths feels the charge is unfair 3. Existing programs to monitor and penalize for pollution—why another?
Barely Impacted	1. Only have two employees and one bathroom – why am I commercial? 2. Bill is already too high 3. Another example of Gov't. trying to get $ any way it can.	1. Businesses are struggling to stay open as is, why another fee? 2. Why only penalize businesses

Water and Sewer Combined Bill

Single Family

	Water	Sewer	Total Combined Bill
Existing Mo. Bill*	$ 39.16	$ 48.36	$ 87.52

**Assumes 10/1/14 rate increases*

** Based on 1,400 cubic feet of monthly water use*

Water Scenario	Water Bill	Sewer Bill [a]	Total Combined Bill	Difference
One Rate Schedule	$ 46.18	$ 38.54	$ 84.72	$ (2.80)
Rates by Class	$ 45.08	$ 38.54	$ 83.62	$ (3.90)
SF Conservation	$ 46.43	$ 38.54	$ 84.97	$ (2.55)

[a] Sewer bill assumes 'Balanced Fixed' Scenario

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Water and Sewer Combined Bill

Non-Residential: Low Extra Strength

	Water	Sewer	Total Combined Bill
Existing Mo. Bill*	$ 77.47	$ 48.36	$ 125.83

**Assumes 10/1/14 rate increases*

** Based on 1,000 cubic feet of monthly water use*

Water Scenario	Water Bill	Sewer Bill [a]	Total Combined Bill	Difference
One Rate Schedule	$ 53.60	$ 167.38	$ 220.98	$ 95.15
Rates by Class	$ 69.55	$ 167.38	$ 236.93	$ 111.10
SF Conservation	$ 69.55	$ 167.38	$ 236.93	$ 111.10

[a] Sewer bill assumes 'Balanced Fixed' Scenario

Water and Sewer Combined Bill

Non-Residential: High Extra Strength

	Water	Sewer	Total Combined Bill
Existing Mo. Bill*	$ 348.78	$ 542.36	$ 891.14

**Assumes 10/1/14 rate increases*

** Based on 14,000 cubic feet of monthly water use*

Water Scenario	Water Bill	Sewer Bill [a]	Total Combined Bill	Difference
One Rate Schedule	$ 284.15	$ 1,848.98	$ 2,133.13	$ 1,241.99
Rates by Class	$ 286.68	$ 1,848.98	$ 2,135.66	$ 1,244.52
SF Conservation	$ 286.68	$ 1,848.98	$ 2,135.66	$ 1,244.52

[a] Sewer bill assumes 'Balanced Fixed' Scenario

Wrap-Up

- Vote on rate scenarios for water and sewer
- Discuss where there isn't consensus

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Summary of Sewer Scenarios (Single Family)

	Existing Rate	Fixed Only	Volume; High Fixed	Volume; Low Fixed	Volume Balance Fixed
Fixed Charge/Month	$44.37	$38.52	$36.59	$2.18	$19.26
	+	+	+	+	+
Volume Charge/cu. Ft.	N/A	N/A	$0.36	$6.78	$3.59

	1-10 Ranking				
Equitable	5.0	=	++	+	+
Affordable	6.0	+	+	+	+
Promote Efficient Use	4.0	=	+	++	++
Revenue Stability	8.0	=	=	−−	−
Administratively Feasible	7.5	=	−	−	−

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Rate Scenario Summary: Sewer

A. LOW FIXED

	Existing Rate	Standard Low	Standard High	ESC Low	ESC High	ESC Super High
Fixed	$48.36	$2.18	$2.18	$66.50	$66.50	$66.50
Volume	$3.80 > 1,000CF	$5.78 From zero CF	$5.78 From zero CF	$8.77 From zero CF	$12.75 From zero CF	$14.74 From zero CF

B. BALANCED FIXED

	Existing Rate	Standard Low	Standard High	ESC Low	ESC High	ESC Super High
Fixed	$48.36	$19.26	$19.26	$83.58	$83.58	$83.58
Volume	$3.80 > 1,000CF	$4.83 From zero CF	$5.75 From zero CF	$8.38 From zero CF	$12.61 From zero CF	$14.70 From zero CF

Rate Scenario Summary: Water

Scenario	3/4" Meter	
	$ / meter / month	$ / ccf
One Rate Schedule	$ 22.66	$ 1.68
Rates By Class		
Single Family Conservation	$ 13.53	$ 2.35
Single Family	$ 22.68	$ 1.60
Multi-Family	$ 23.87	$ 1.45
Commercial	$ 31.60	$ 1.52
Irrigation	$ 31.06	$ 1.75
Large Volume	$ 57.88	$ 1.37

Next Steps

- Nov. 5th rate structure options
- Open houses?
- Dec. 3rd final recommendations
- Dec. 17th formal commitment to changes

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Rate Design

- Produce cost of service revenue targets for each class
- In total should meet the overall financial requirements of the utility
- Balance rate policy objectives
  - ✓ Equitable
  - ✓ Affordable
  - ✓ Promote efficient use
  - ✓ Revenue stability
  - ✓ Administratively feasible

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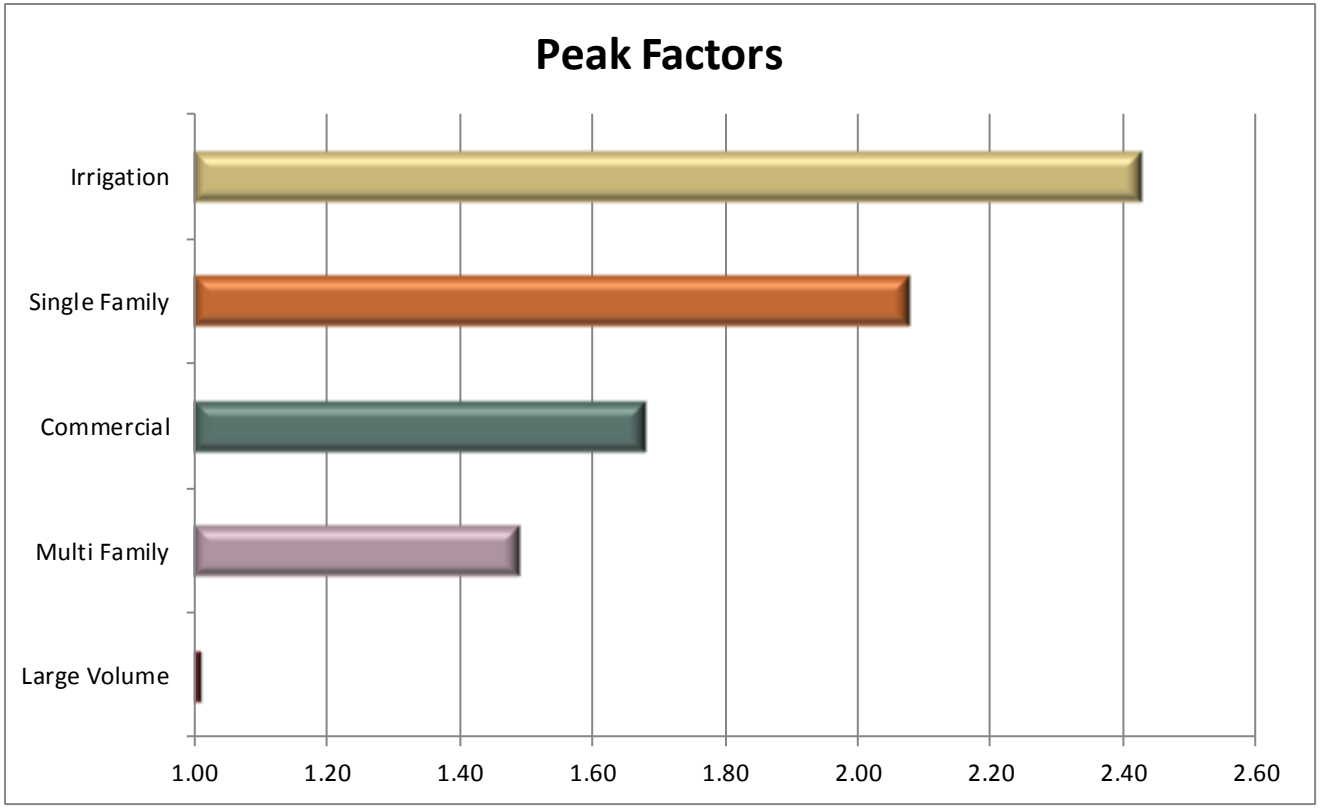
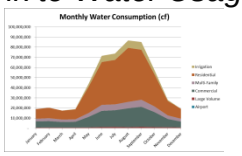
Peaking Factors



**By Class: Usage during system peak month (Aug) divided by average monthly usage*

Link to Water Usage



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AWWA Meter Capacity Equivalents

- Flow factors are derived from the maximum continuous flow of each meter size

Meter Size	Maximum Continuous Flow (gpm)	Flow Factor		
		AWWA: 5/8" x 3/4"	AWWA: 3/4" x 3/4"	Existing
5/8" x 3/4"	10	1.00	0.67	1.00
3/4" x 3/4"	15	1.50	1.00	1.00
1"	25	2.50	1.67	1.55
1-1/2"	50	5.00	3.33	3.01
2"	80	8.00	5.33	5.38
3"	160	16.00	10.67	14.11
4"	250	25.00	16.67	22.07
6"	500	50.00	33.33	43.11
8"	800	80.00	53.33	64.40
10"	1150	115.00	76.67	91.41
12"	1560	156.00	104.00	

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Back

Rate Scenario Detail: Water

Existing	Single Family	Multi Family	Commercial	Irrigation	Large Volume	Total
Meters	18,685	1,561	2,175	337	4	22,763
Fixed Revenue	$ 5,734,414	$ 718,613	$ 1,362,193	$ 248,149	$ 24,837	$ 8,088,207
Variable Revenue	$ 3,730,623	$ 707,144	$ 2,021,355	$ 562,430	$ 164,826	$ 7,186,379
Total Revenue	$ 9,465,037	$ 1,425,757	$ 3,383,548	$ 810,580	$ 189,664	$ 15,274,585
% Fixed	*61%*	*50%*	*40%*	*31%*	*13%*	*53%*
% Variable	*39%*	*50%*	*60%*	*69%*	*87%*	*47%*

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Rate Scenario Detail: Water

One Rate Schedule	Single Family	Multi Family	Commercial	Irrigation	Large Volume	Total
Meters	18,685	1,561	2,175	337	4	22,763
Fixed Revenue	$ 5,420,687	$ 525,274	$ 827,823	$ 138,105	$ 6,444	$ 6,918,332
Variable Revenue	$ 5,216,986	$ 861,031	$ 2,263,438	$ 605,144	$ 173,383	$ 9,119,983
Total Revenue	$ 10,637,673	$ 1,386,306	$ 3,091,261	$ 743,248	$ 179,827	$ 16,038,315
% Fixed	*51%*	*38%*	*27%*	*19%*	*4%*	*43%*
% Variable	*49%*	*62%*	*73%*	*81%*	*96%*	*57%*

Rates by Class	Single Family	Multi Family	Commercial	Irrigation	Large Volume	Total
Meters	18,685	1,561	2,175	337	4	22,763
Fixed Revenue	$ 5,460,270	$ 556,235	$ 1,204,638	$ 270,414	$ 34,574	$ 7,526,131
Variable Revenue	$ 4,954,263	$ 743,561	$ 2,042,070	$ 630,942	$ 141,348	$ 8,512,184
Total Revenue	$ 10,414,533	$ 1,299,796	$ 3,246,709	$ 901,356	$ 175,921	$ 16,038,315
% Fixed	*52%*	*43%*	*37%*	*30%*	*20%*	*47%*
% Variable	*48%*	*57%*	*63%*	*70%*	*80%*	*53%*

SF Conservation	Single Family	Multi Family	Commercial	Irrigation	Large Volume	Total
Meters	18,685	1,561	2,175	337	4	22,763
Fixed Revenue	$ 3,116,295	$ 556,235	$ 1,204,638	$ 270,414	$ 34,574	$ 5,182,155
Variable Revenue	$ 7,298,238	$ 743,561	$ 2,042,070	$ 630,942	$ 141,348	$ 10,856,159
Total Revenue	$ 10,414,533	$ 1,299,796	$ 3,246,709	$ 901,356	$ 175,921	$ 16,038,315
% Fixed	*30%*	*43%*	*37%*	*30%*	*20%*	*32%*
% Variable	*70%*	*57%*	*63%*	*70%*	*80%*	*68%*

FCS GROUP
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