

Tacoma Water 2019/2020 Budget and Rate Proposal

Scott Dewhirst, Superintendent

September 12, 2018



BUDGET & RATE DRIVERS

TACOMA WATER
TACOMA PUBLIC UTILITIES

<http://cityshare/teams/WTR/strategy>

VISION: Growing trust through
extraordinary service

2018 STRATEGY MAP

STRATEGIC THEMES AND RESULTS



Community understanding & support

Educated and supportive
customers and stakeholders



Workforce development

A culture of talented,
hard-working, adaptive, and
value-driven employees



Operational innovation

Achieve business needs through
transformational programs



Operational optimization

A continuously improving utility

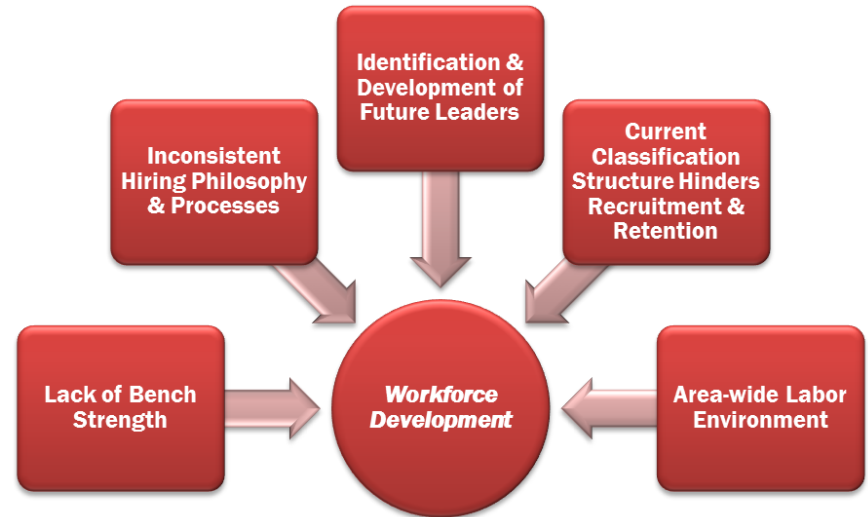
BUDGET & RATE DRIVERS



Community
understanding & support



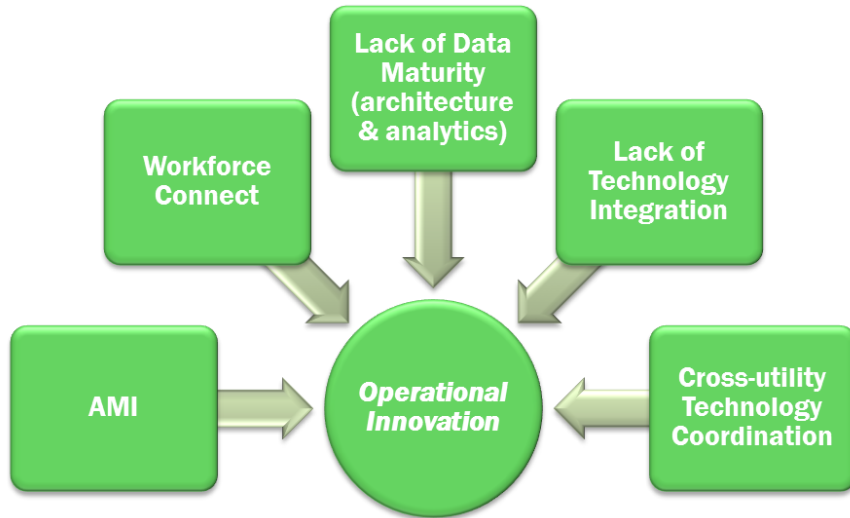
Workforce development



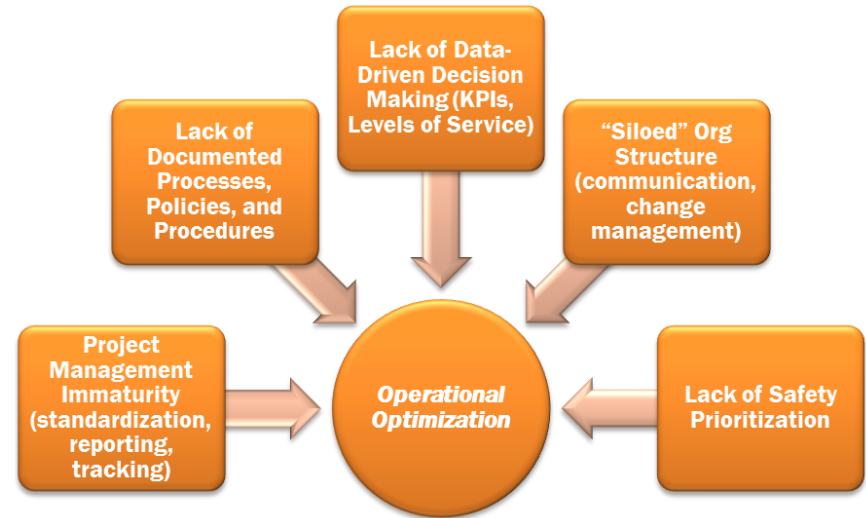
BUDGET & RATE DRIVERS



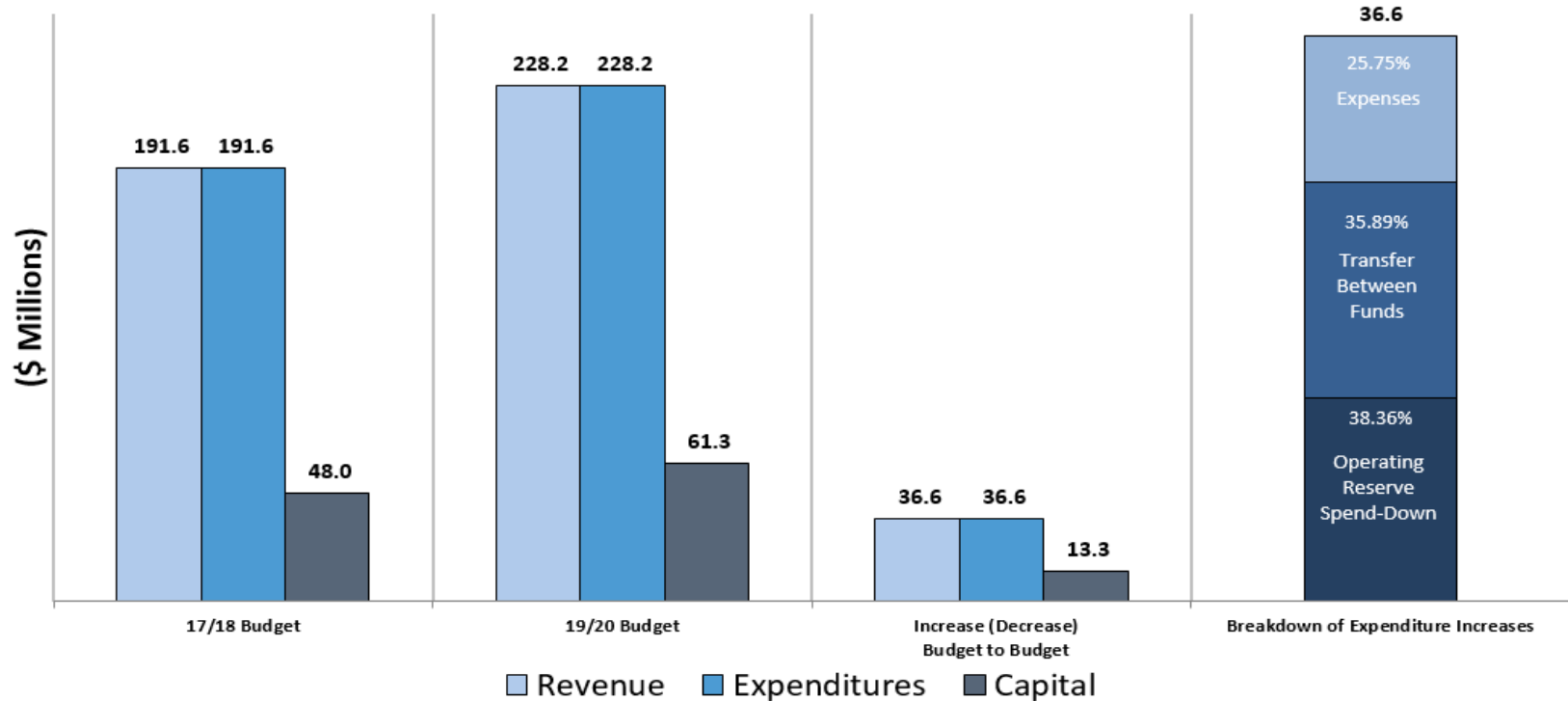
Operational innovation



Operational optimization



BUDGET COMPARISONS



BUDGET ASSUMPTIONS

- Updated short term Demand Forecast
- Increased Wholesale and Large Volume Revenues
- Capital Funded with Existing Bond Funds and Reserves
- Commodity rates remain at assumed levels
- Staffing to support our plan
- Additional support for Low-Income Assistance Programs

BUDGET RISKS AND MITIGATION

- **Risks**
 - Weather
 - Assumptions around projects of opportunity
- **Mitigation**
 - Continue to work with other utilities in the region and market surplus capacity
 - Continue to implement operational efficiencies and actively manage expenditures
 - Draw down built up reserves
 - FTE vacancy factor
 - Stakeholder engagement

REVENUE

(\$ in millions)	Current		Proposed	Increase (Decrease)		Increase (Decrease)	
	17/18 Actual	17/18 Budget	19/20 Budget	Budget to Actuals		Budget to Budget	
Operating Revenue							
• Residential Water Sales*	\$105.1	\$94.3	\$111.6	\$6.5	6.2%	\$17.3	18.3%
• Pulp Mill Water Sales	13.0	12.6	13.3	0.3	2.3%	0.7	5.6%
• Wholesale Water Sales	5.6	4.2	5.6	0.0	0.0%	1.4	33.3%
• Other Water Sales	38.7	34.4	37.8	-0.9	-2.3%	3.4	9.9%
• Other Operating Revenue*	14.7	14.2	8.0	-6.7	-45.6%	-6.2	-43.7%
• Anticipated Rate Increase	-	7.9	6.4	6.4	-	-1.5	-19.0%
• Operating Reserve Appropriation	-	9.8	16.9	16.9	-	7.1	72.4%
Total Operating Revenue	\$177.1	\$177.4	\$199.6	\$22.5	12.7%	\$22.2	12.5%
Non-Operating Revenue							
• Interest and Other	2.2	0.7	1.1	-1.1	-50.0%	0.4	57.1%
• Transfers In From Capital Reserve Fund	-	8.0	22.0	22.0	-	14.0	175.0%
• BABs Subsidy	5.5	5.5	5.5	0.0	0.0%	0.0	0.0%
Total Non-Operating Revenue	\$7.7	\$14.2	\$28.6	\$20.9	271.4%	\$14.4	101.4%
Total Revenue & Available Funds	\$184.8	\$191.6	\$228.2	\$43.4	23.5%	\$36.6	19.1%

*Public Fire Protection budgeted in Residential Water Sales in 19/20 (\$7.5 million)

Public Fire Protection budgeted in Other Operating Revenue in 17/18 (\$6.4 million)

EXPENSES

(\$ millions)	Current		Proposed	Increase (Decrease)		Increase (Decrease)	
	17/18 Actual	17/18 Budget	19/20 Budget	Budget to Actuals		Budget to Budget	
Expenditures							
Personnel Expenses	\$49.7	\$54.5	\$58.0	\$8.3	16.7%	\$3.5	6.4%
Supplies/Other	49.8	53.4	57.0	7.2	14.5%	3.6	6.7%
Capital Outlay	6.9	8.0	35.1	28.2	408.7%	27.1	338.8%
Debt Service	53.0	53.0	53.2	0.2	0.4%	0.2	0.4%
Taxes	24.5	22.7	24.9	0.4	1.6%	2.2	9.7%
Total Expenditures	\$183.9	\$191.6	\$228.2	\$44.3	24.1%	\$36.6	19.1%
Capital Funding							
Capital Reserve Fund	\$0.0	\$8.0	\$22.0	\$22.0	-	\$14.0	175.0%
Operating Reserve Fund	6.9	0.0	13.1	6.2	89.9%	13.1	100.0%
Existing Bond Funds	22.5	40.0	26.2	3.7	16.4%	-13.8	-34.5%
Total Capital	\$29.4	\$48.0	\$61.3	\$31.9	66.5%	\$13.3	27.7%

CHANGES IN PERSONNEL EXPENSE

- Overall increase \$3.5 million or 6.4% above previous biennium
 - Cost of living and negotiated contract increases
 - 15 additional FTE's
- Includes \$3.4 million deduction to salaries and benefits for vacancy factor

CHANGES IN SUPPLIES/OTHER EXPENSE

- Assessments Increase \$1.7 million
 - Customer Service - Low-Income Assistance Programs
- Tacoma Share of RWSS Debt Service \$1 million increase
- Non-Capital Technology project expenses nearly \$1 million
 - Automated Metering Infrastructure
 - Workforce Connect
 - Mobile Radio Upgrade
- Other expense categories neutral expense impact

ASSESSMENTS

(\$ millions)	2017/18 Budget	2019/20 Budget	Budget to Budget	
GG Assessments				
Information Technology	\$4.6	\$4.4	-\$0.2	-4.3%
Human Resources	0.9	1.3	0.4	44.4%
Legal	0.4	0.4	0.0	0.0%
Finance	1.8	1.3	-0.5	-27.8%
Other	0.4	0.6	0.2	50.0%
Total GG Assessments	8.1	8.0	-0.1	-1.2%
Customer Services	8.5	9.9	1.4	16.5%
Public Affairs & Communication	2.0	2.2	0.2	10.0%
Administration & Support	2.4	2.6	0.2	8.3%
Total TPU Assessments	12.9	14.7	1.8	14.0%
Total Assessments	21.0	22.7	1.7	8.1%

TAXES

(\$ millions)	Current		Proposed	Increase (Decrease)		Increase (Decrease)	
	2017/18 Actuals	2017/18 Budget	2019/20 Budget	Budget to Actuals		Budget to Budget	
Taxes to the General Fund	\$14.6	\$13.4	\$14.7	\$0.1	0.7%	\$1.3	9.7%
State Utility Taxes	8.5	8.0	8.7	0.2	2.4%	0.7	8.7%
Other Taxes (including Franchise Fees)	1.4	1.3	1.5	0.1	7.1%	0.2	15.4%
Total Taxes	24.5	22.7	24.9	0.4	1.6%	2.2	9.7%

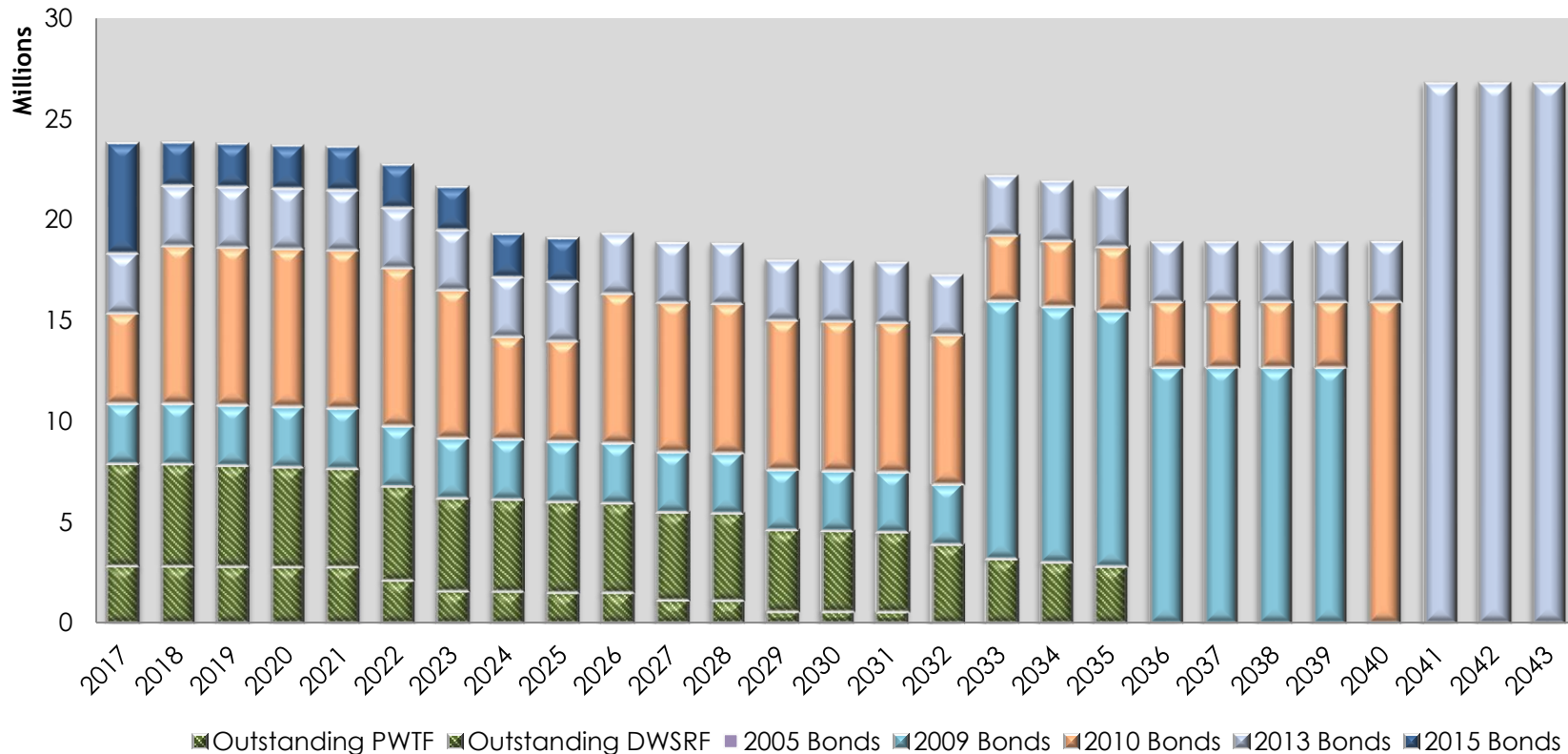
CAPITAL BUDGET

(\$ in millions)	17/18 Budget	19/20 Budget	Budget to Budget	
Capital Projects				
General Plant	\$5.1	\$16.8	\$11.7	229.4%
Water Distribution Section	27.9	32.0	4.1	14.7%
Water Quality Section	5.3	4.2	-1.1	-20.8%
Water Supply Section	9.7	8.3	-1.4	-14.4%
Total Capital Projects	\$48.0	\$61.3	\$13.3	27.7%
Capital Funding Sources				
Reserve Funded	\$8.0	\$35.1	\$27.1	338.8%
Existing Bonds	40.0	26.2	-13.8	-34.5%
Total Sources of Funds	\$48.0	\$61.3	\$13.3	27.7%

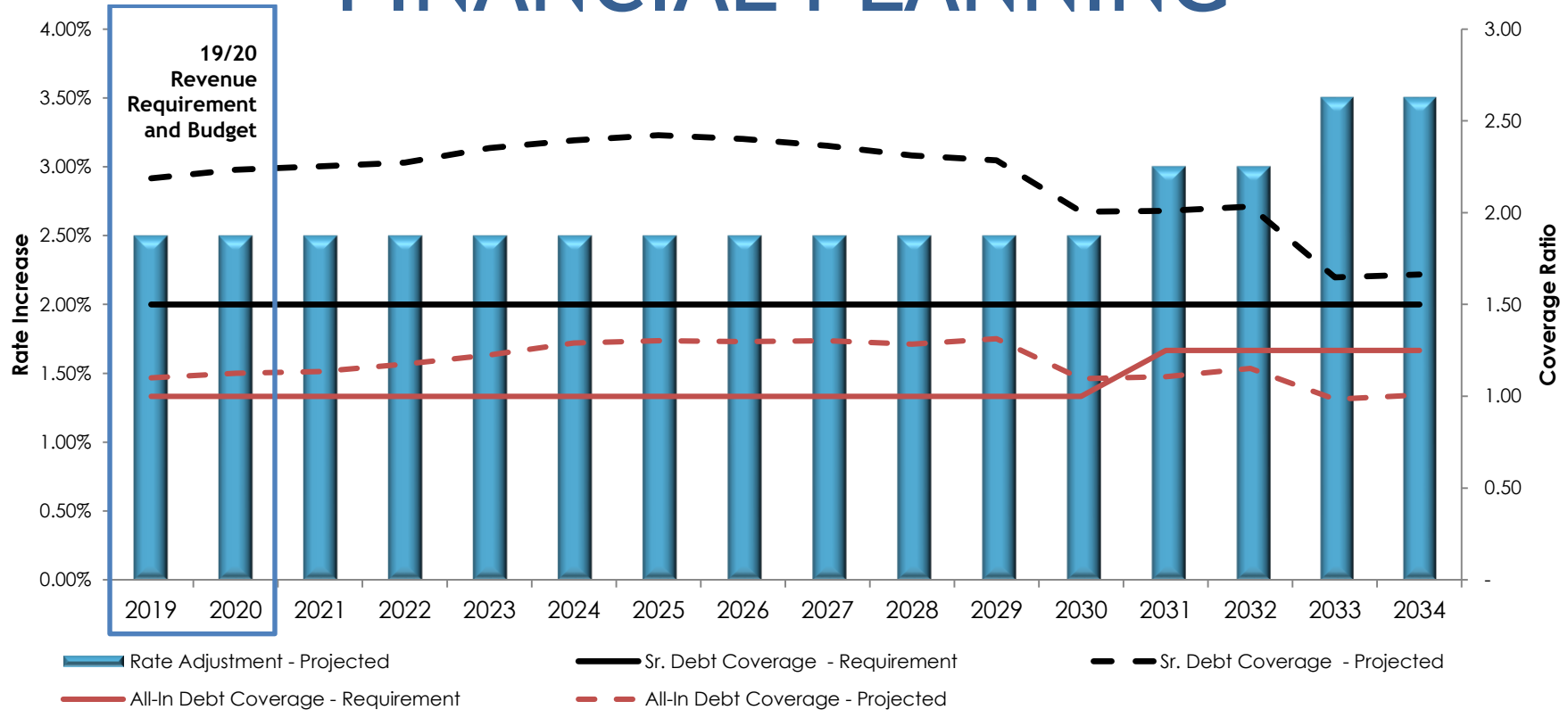
CAPITAL BUDGET

- General Plant
 - Advanced Metering Infrastructure (AMI)
 - Workforce Connect
- Distribution
 - Main Replacement Projects
 - Projects of Opportunity
 - Galvanized Main Replacement
 - Lead Gooseneck Replacement
- Supply
 - Seismic Improvements
 - Hood Street and South Tacoma Pump Station
 - Water Operations Building

DEBT SERVICE

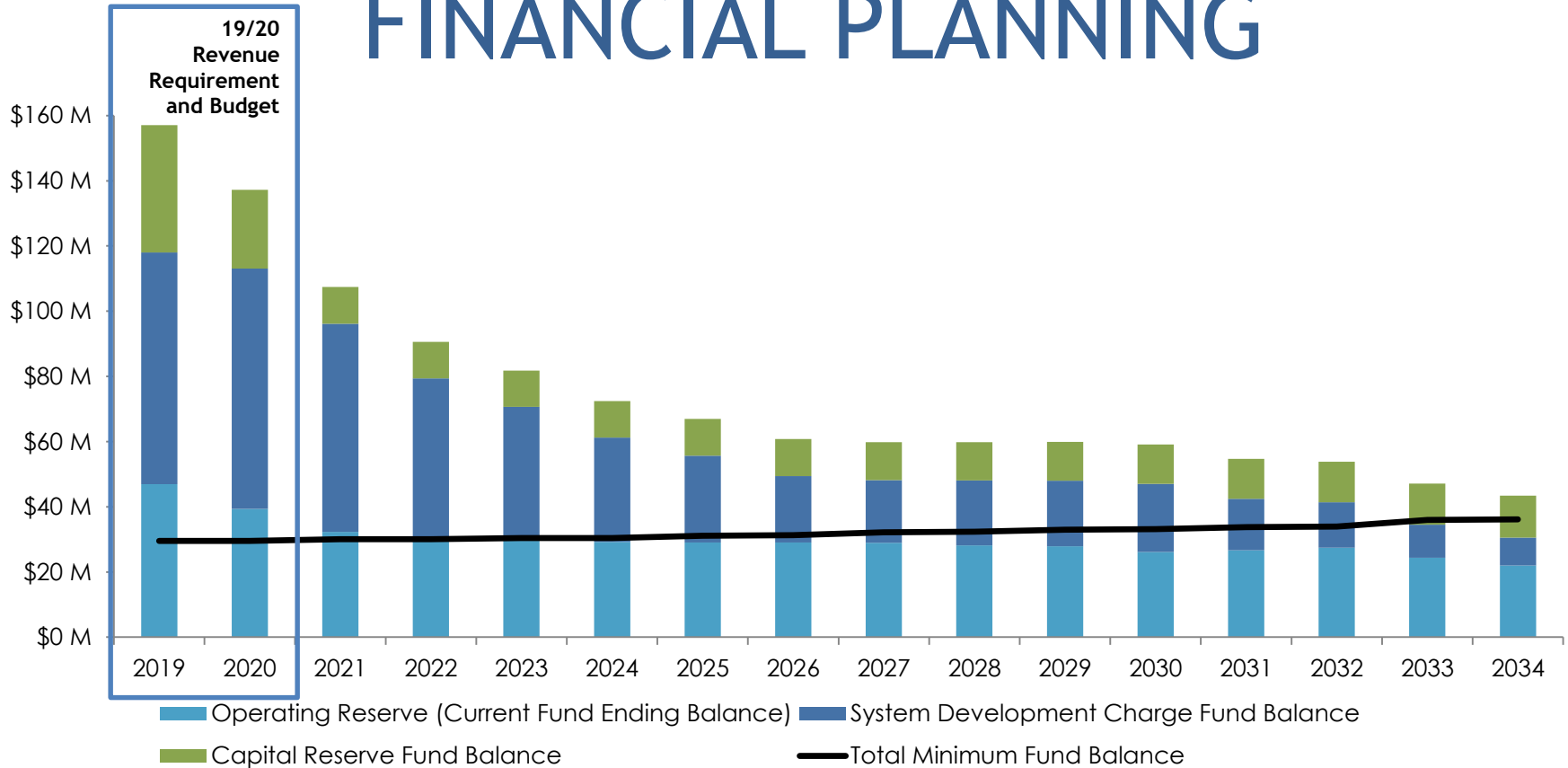


FINANCIAL PLANNING



This forecast is subject to change, and is dependent upon actual financial performance.

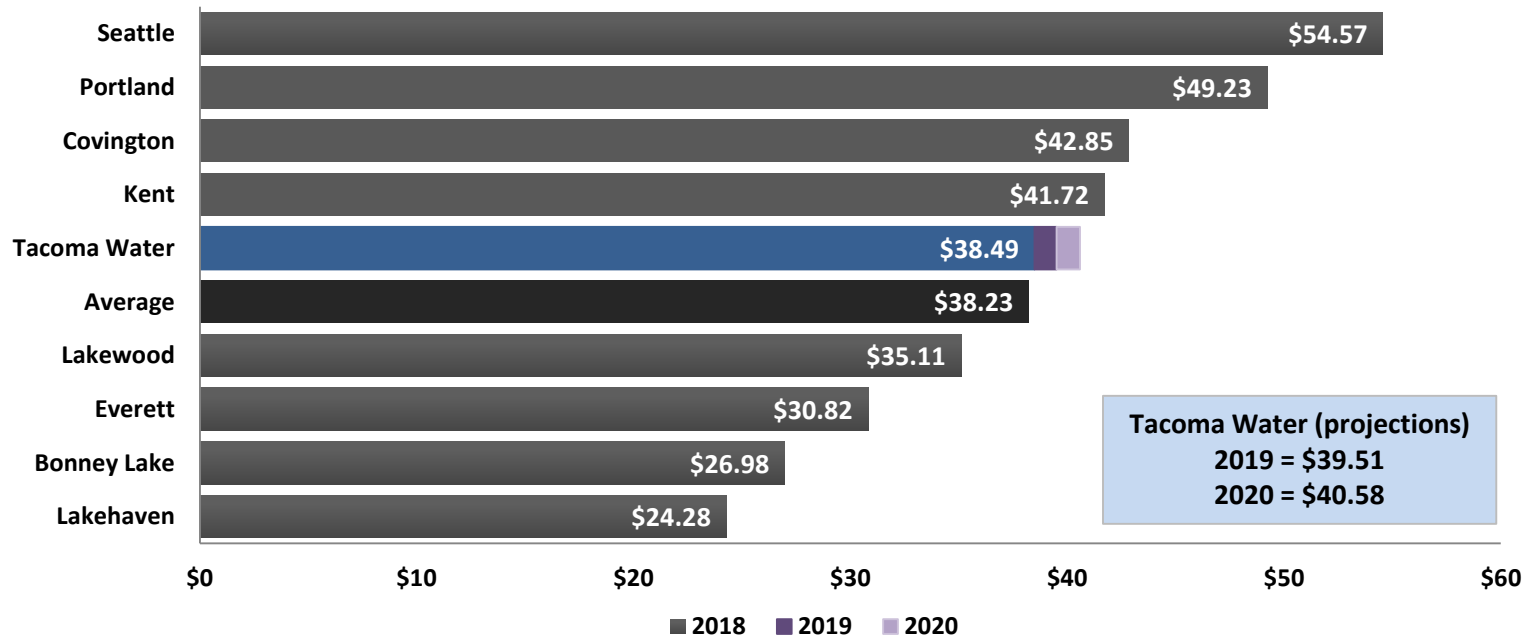
FINANCIAL PLANNING



This forecast is subject to change, and is dependent upon actual financial performance.

BILL COMPARISON - RESIDENTIAL

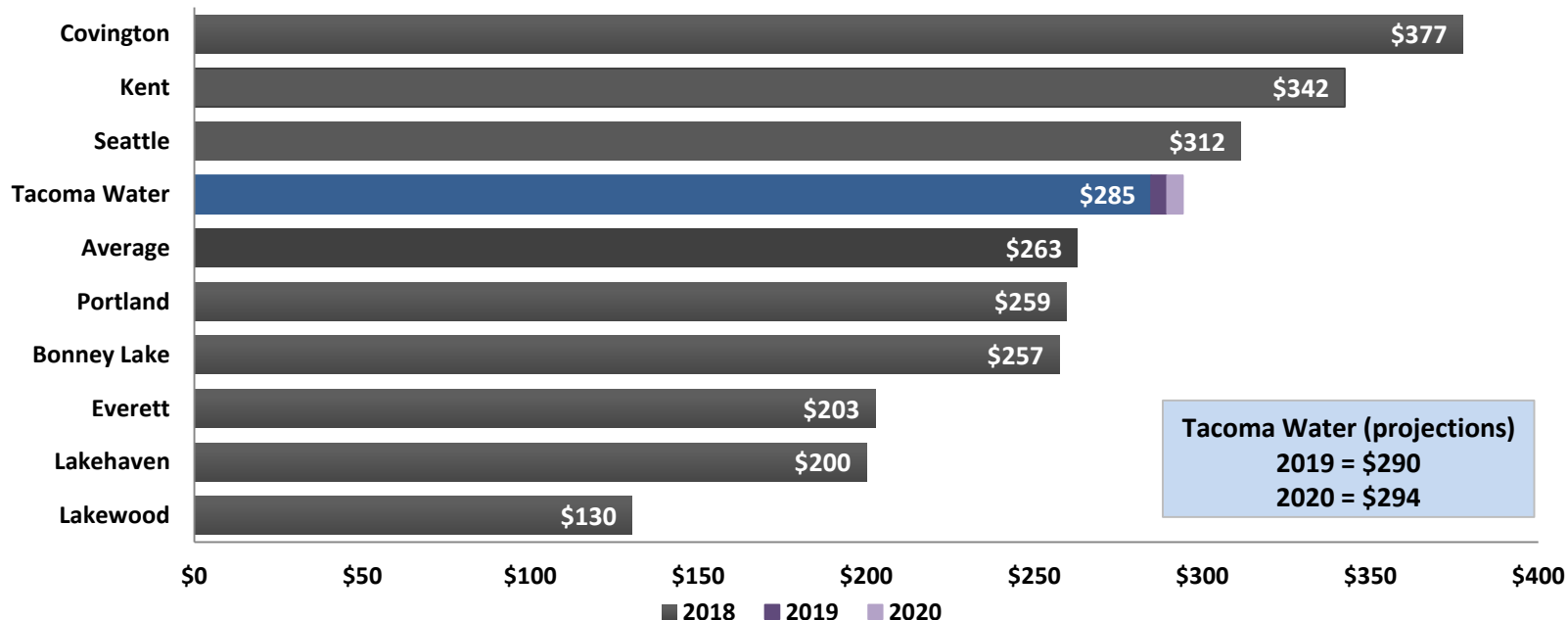
2018 Residential Inside City Monthly Average Bill



ASSUMPTIONS: 5/8" Meter with 6 CCF per month demand in winter for 8 months and 9 CCF per month demand in summer for 4 months.

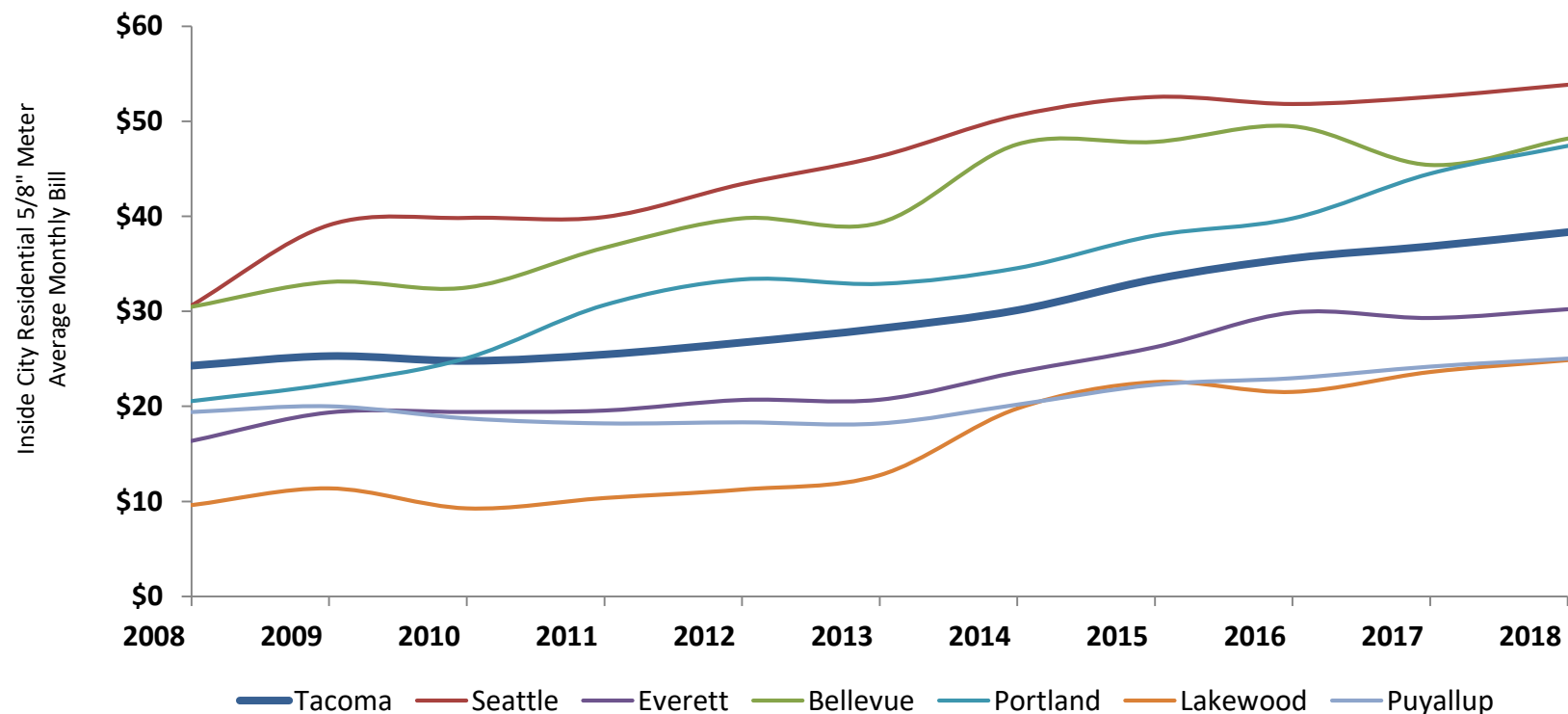
BILL COMPARISON - COMMERCIAL

2018 Commercial Inside City Monthly Average Bill



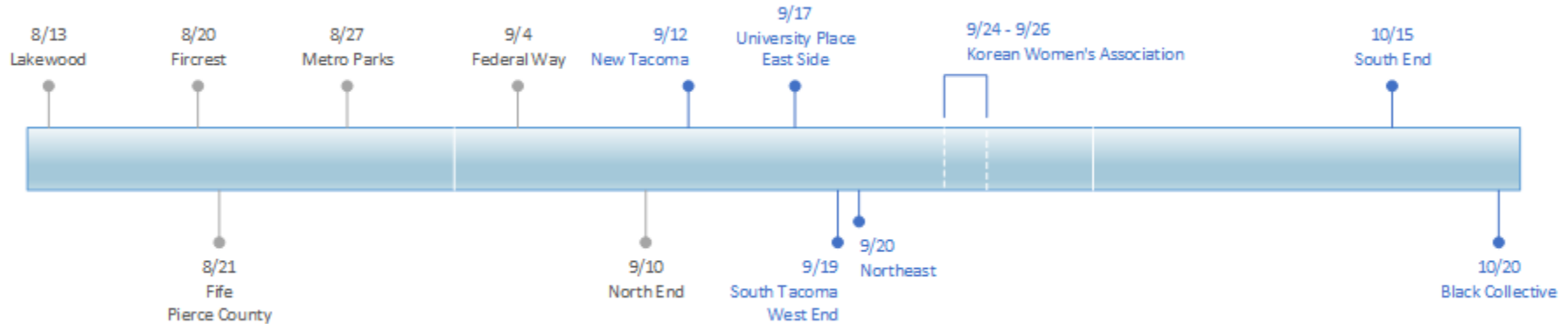
ASSUMPTIONS: 2" Meter with 50 CCF per month demand.

RESIDENTIAL RATE ADJUSTMENT COMPARISON



RATES OUTREACH & COMMUNICATIONS

- Where we've been and where we'll go



RATES OUTREACH & COMMUNICATIONS

- Communications
 - Complete
 - July Utilities and You newsletter story
 - Updated web page and banners
 - Email list sign up online
 - Bill message
 - Handout for public meetings
 - Upcoming
 - Press release announcing Jackie's attendance at public meetings
 - October Utilities and You newsletter update
 - Video
 - Email notification to customers
 - Newsletter content for business customers and other orgs
 - Translated versions of handouts

RATES OUTREACH & COMMUNICATIONS

- Outreach feedback and lessons learned
 - COSA, bill assistance, community outreach, AMI, and tailored information (accounts, consumption, rate impact)
 - Value proposition generally well-received by audiences
 - Common theme of interest in water quality and supply over the long term
 - Good coordination with other City Public Works Departments

BUDGET & RATE SUMMARY

- Supports the development of the new 2019 Strategic Plan
- Minimizes rate impact while preserving strong financial performance
- Projected 2019/20 rate impact for an average residential bill (inside city) is approximately \$1.02 per month in 2019 and \$1.08 per month in 2020

NEXT STEPS

- October 2nd
 - GPFC Power & Water Rates Presentation
- October 10th
 - Public Utility Board presentation of Preliminary Budget & Rates
- October 16th
 - Joint Council/PUB Study Session Presentation
- October 24th
 - Public Utility Board consideration of Preliminary Budget & Rates
- November 13th & November 20th
 - 1st and 2nd Council Reading

APPENDIX

- Proposed Rate Schedules

RESIDENTIAL SERVICE

Residential, Commercial & Large Volume - Ready to Serve Charge				
Meter Size (Inches)	Inside City of Tacoma		Outside City of Tacoma	
	Rate Effective Dates			
	1/1/19	1/1/20	1/1/19	1/1/20
5/8	\$24.76	\$24.95	\$29.94	\$30.21
3/4	\$35.79	\$35.98	\$43.18	\$43.45
1	\$57.84	\$58.03	\$69.64	\$69.91
1.5	\$112.96	\$113.15	\$135.78	\$136.05
2	\$179.11	\$179.30	\$215.16	\$215.43
3	\$333.46	\$333.65	\$400.38	\$400.65
4	\$553.96	\$554.15	\$664.98	\$665.25
6	\$1,105.21	\$1,105.40	\$1,326.48	\$1,326.75
8	\$1,766.71	\$1,766.90	\$2,120.28	\$2,120.55
10	\$2,538.46	\$2,538.65	\$3,046.38	\$3,046.65
12	\$3,723.65	\$3,723.84	\$4,468.61	\$4,468.88

Residential Service				
Range in CCF (100 cubic feet)	Inside City of Tacoma		Outside City of Tacoma	
	Rate Effective Dates			
	1/1/19	1/1/20	1/1/19	1/1/20
For each CCF of water consumption during the winter months of October through and including May	\$2.011	\$2.132	\$2.413	\$2.558
For the first five CCF of water consumption per month during the summer months of June through and including September	\$2.011	\$2.132	\$2.413	\$2.558
For each CCF of water consumption over five CCF during the summer months of June through and including September	\$2.514	\$2.665	\$3.016	\$3.198

COMMERCIAL AND INDUSTRIAL SERVICE

Residential, Commercial & Large Volume - Ready to Serve Charge				
Meter Size (Inches)	Inside City of Tacoma		Outside City of Tacoma	
	Rate Effective Dates			
	1/1/19	1/1/20	1/1/19	1/1/20
5/8	\$24.76	\$24.95	\$29.94	\$30.21
3/4	\$35.79	\$35.98	\$43.18	\$43.45
1	\$57.84	\$58.03	\$69.64	\$69.91
1.5	\$112.96	\$113.15	\$135.78	\$136.05
2	\$179.11	\$179.30	\$215.16	\$215.43
3	\$333.46	\$333.65	\$400.38	\$400.65
4	\$553.96	\$554.15	\$664.98	\$665.25
6	\$1,105.21	\$1,105.40	\$1,326.48	\$1,326.75
8	\$1,766.71	\$1,766.90	\$2,120.28	\$2,120.55
10	\$2,538.46	\$2,538.65	\$3,046.38	\$3,046.65
12	\$3,723.65	\$3,723.84	\$4,468.61	\$4,468.88

Commercial and Industrial - General Service				
Range in CCF (100 cubic feet)	Inside City of Tacoma		Outside City of Tacoma	
	Rate Effective Dates			
	1/1/19	1/1/20	1/1/19	1/1/20
For each CCF of water consumption	\$2.209	\$2.298	\$2.651	\$2.758

Commercial and Industrial - Large Volume Service *				
Range in CCF (100 cubic feet)	Inside City of Tacoma		Outside City of Tacoma	
	Rate Effective Dates			
	1/1/19	1/1/20	1/1/19	1/1/20
For each CCF of water consumption	\$1.784	\$1.787	\$2.141	\$2.144
* Customers may qualify for this rate based on an established consumption history greater than 65,000 CCF annually.				

PARKS AND IRRIGATION SERVICE

Parks & Irrigation - Ready to Serve Charge				
Meter Size (Inches)	Inside City of Tacoma		Outside City of Tacoma	
	Rate Effective Dates			
	1/1/19	1/1/20	1/1/19	1/1/20
5/8	\$11.03	\$7.35	\$13.23	\$8.82
3/4	\$16.54	\$11.03	\$19.85	\$13.23
1	\$27.57	\$18.38	\$33.08	\$22.05
1.5	\$55.13	\$36.75	\$66.15	\$44.10
2	\$88.20	\$58.80	\$105.84	\$70.56
3	\$165.38	\$110.25	\$198.45	\$132.30
4	\$275.63	\$183.75	\$330.75	\$220.50
6	\$551.25	\$367.50	\$661.50	\$441.00
8	\$882.00	\$588.00	\$1,058.40	\$705.60
10	\$1,267.88	\$845.25	\$1,521.45	\$1,014.30
12	\$1,860.47	\$1,240.31	\$2,232.57	\$1,488.38

Parks and Irrigation Service				
Range in CCF (100 cubic feet)	Inside City of Tacoma		Outside City of Tacoma	
	Rate Effective Dates			
	1/1/19	1/1/20	1/1/19	1/1/20
For each CCF of water consumption	\$3.739	\$3.998	\$4.487	\$4.798

WHOLESALE & PULP MILL SERVICE

Wholesale - Ready to Serve Charge		
Meter Size (Inches)	Rate Effective Dates	
	1/1/19	1/1/20
5/8	\$26.46	\$26.46
3/4	\$39.70	\$39.70
1	\$66.16	\$66.16
1.5	\$132.30	\$132.30
2	\$211.68	\$211.68
3	\$396.90	\$396.90
4	\$661.50	\$661.50
6	\$1,323.00	\$1,323.00
8	\$2,116.80	\$2,116.80
10	\$3,042.90	\$3,042.90
12	\$4,465.13	\$4,465.13

Wholesale Constant Use Customer		
Range in CCF (100 cubic feet)	Rate Effective Dates	
	1/1/19	1/1/20
Per CCF for winter months (October - May)	\$2.042	\$1.973
Per CCF for summer months (June - September)	\$2.553	\$2.466

Wholesale Summer Season, Peaking		
Range in CCF (100 cubic feet)	Rate Effective Dates	
	1/1/19	1/1/20
For each CCF of water consumption	\$3.829	\$3.699

Pulp Mill		
Billing Components	1/1/19	1/1/20
Distribution Charge per Month	\$82,296.95	\$84,354.37
Supply Charge/CCF	\$0.7620256	\$0.7810762
Daily or Monthly Excess Water Usage Charge (Commercial and Industrial - Large Volume Rate) per CCF	\$1.784	\$1.787

FIRE PROTECTION SERVICE

Fire Protection Service - Ready to Serve Charge					
Meter Size (Inches)	Inside City of Tacoma		Outside City of Tacoma		Maximum Allowable Monthly Water Usage for Testing and Leakage, CCF
	Rate Effective Dates				
	1/1/19	1/1/20	1/1/19	1/1/20	
2	\$27.37	\$28.78	\$32.84	\$34.54	2.99
3	\$39.85	\$41.91	\$47.82	\$50.29	2.99
4	\$66.58	\$70.01	\$79.90	\$84.01	2.99
6	\$149.35	\$157.04	\$179.22	\$188.45	2.99
8	\$265.87	\$279.57	\$319.04	\$335.48	2.99
10	\$415.86	\$437.28	\$499.03	\$524.74	2.99
12	\$665.16	\$699.43	\$798.19	\$839.32	2.99

Fire Protection Service				
Range in CCF (100 cubic feet)	Inside City of Tacoma		Outside City of Tacoma	
	Rate Effective Dates			
	1/1/19	1/1/20	1/1/19	1/1/20
For each CCF of water consumption	\$3.960	\$3.960	\$4.752	\$4.752

TACOMA PUBLIC UTILITY BOARD

**2019 - 2020 BUDGET
TACOMA WATER**

**Wednesday September 12, 2018
3:00 p.m.
TPU Conference Room Lt1**

Tacoma Water

Recap of Biennial Budget	1
Revenue	2
Division Consolidation	3
Taxes	4
Debt Service	5
Capital Outlay	6-8

Tacoma Water Recapitulation of Biennial Budget	2017-2018 Budget	2019-2020 Proposed Budget	2017-18 to 2019-20 Budget Comparison	
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REVENUE

Operating Revenue

Water Sales	\$ 145,440,571	\$ 168,370,780	\$ 22,930,209	15.8%
Anticipated Additional Revenue	7,872,671	6,363,724	(1,508,947)	-19.2%
Other Operating Revenue	14,145,816	7,992,092	(6,153,724)	-43.5%
Total Operating Revenue	167,459,058	182,726,596	15,267,538	9.1%

Non-Operating Revenue

Interest	600,000	600,000	0	0.0%
BABS Interest Federal Subsidy	5,540,624	5,540,624	0	0.0%
Miscellaneous	90,000	465,384	375,384	417.1%
Transfers from other Funds:				
Capital Reserve Fund	8,010,973	22,002,893	13,991,920	174.7%

Appropriation from Fund Balance	9,863,115	16,888,070	7,024,955	71.2%
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Total Revenue & Available Funds	\$ 191,563,770	\$ 228,223,567	\$ 36,659,797	19.1%
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EXPENDITURES

Personnel Costs	\$ 54,522,063	\$ 57,987,809	\$ 3,465,746	6.4%
Supplies, Other Services & Charges	53,274,970	57,040,901	3,765,931	7.1%
Taxes - Current Revenue Estimate	21,643,155	24,037,673	2,394,518	11.1%
Taxes - Anticipated Additional Revenue	1,099,631	829,129	(270,502)	-24.6%
Debt Service	53,012,978	53,216,486	203,508	0.4%
Capital Outlay	8,010,973	35,111,569	27,100,596	338.3%

Total Expenditures	\$ 191,563,770	\$ 228,223,567	\$ 36,659,797	19.1%
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CAPITAL OUTLAY FINANCING DETAIL

Funded from Existing Bonds	\$ 40,040,521	\$ 26,254,910	\$ (13,785,611)	-34.4%
Funded from Operating Fund	8,010,973	35,111,569	27,100,596	338.3%

Total Capital Outlay	\$ 48,051,494	\$ 61,366,479	\$ 13,314,985	27.7%
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PERSONNEL - Budgeted FTE	272.50 / 274.50	287.79 / 290.79
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Tacoma Water Revenue	2017-2018 Budget	2019-2020 Proposed Budget	2017-18 to 2019-20 Budget Comparison	
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REVENUE SUMMARY

Water Sales	\$ 145,440,571	\$ 168,370,780	\$ 22,930,209	15.8%
Anticipated Additional Revenue	7,872,671	6,363,724	(1,508,947)	-19.2%
Other Operating Revenue	14,145,816	7,992,092	(6,153,724)	-43.5%
Total Operating Revenue	167,459,058	182,726,596	15,267,538	9.1%
Non-Operating Revenue	14,241,597	28,608,901	14,367,304	100.9%
Appropriation from Fund Balance	9,863,115	16,888,070	7,024,955	71.2%
Total Revenue & Available Funds	\$ 191,563,770	\$ 228,223,567	\$ 36,659,797	19.1%

REVENUE DETAIL

Water Sales

Residential	\$ 94,234,074	\$ 111,573,358	\$ 17,339,284	18.4%
Paper Mills (WestRock)	12,562,228	13,305,108	742,880	5.9%
Wholesale	4,228,737	5,674,463	1,445,726	34.2%
Other Water Sales	34,415,532	37,817,851	3,402,319	9.9%
	145,440,571	168,370,780	22,930,209	15.8%
Anticipated Additional Revenue	7,872,671	6,363,724	(1,508,947)	-19.2%
Total Water Sales	153,313,242	174,734,504	22,930,209	15.0%
Cascade Water Alliance	5,278,268	5,036,541	(241,727)	-4.6%
Public Fire Protection	6,442,965	0	(6,442,965)	-100.0%
Miscellaneous Water Revenue	2,424,583	2,955,551	530,968	21.9%
Total Other Operating Revenue	14,145,816	7,992,092	(6,153,724)	-43.5%
Total Operating Revenue	167,459,058	182,726,596	15,267,538	9.1%
Other Income				
Interest	600,000	600,000	0	0.0%
BABS Interest Federal Subsidy	5,540,624	5,540,624	0	0.0%
Miscellaneous	90,000	465,384	375,384	417.1%
Transfers from Other Funds:				
Capital Reserve Fund	8,010,973	22,002,893	13,991,920	174.7%
Total Non-Operating Revenue	14,241,597	28,608,901	14,367,304	100.9%
Appropriation from Fund Balance	9,863,115	16,888,070	7,024,955	71.2%
Total Revenue & Available Funds	\$ 191,563,770	\$ 228,223,567	\$ 36,659,797	19.1%

Tacoma Water	2017-2018 Budget	2019-2020 Proposed Budget	2017-18 to 2019-20 Budget Comparison
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SUMMARY - Operation & Maintenance by Section

Water Administration	\$ 54,140,281	\$ 58,892,018	\$ 4,751,737	8.8%
Distribution Engineering	7,164,471	6,475,944	(688,527)	-9.6%
Distribution Operations	22,491,158	26,908,707	4,417,549	19.6%
Quality	14,654,658	15,331,047	676,389	4.6%
Supply	21,354,696	19,329,324	(2,025,372)	-9.5%
Asset & Information Management	8,158,758	8,324,368	165,610	2.0%
Finance & Analytics	2,575,797	4,634,104	2,058,307	79.9%

Total for Division	\$ 130,539,819	\$ 139,895,512	\$ 9,355,693	7.2%
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SUMMARY - Operation & Maintenance by Category

Salaries & Wages	\$ 46,316,908	\$ 51,193,139	\$ 4,876,231	10.5%
Employee Benefits	19,368,085	19,870,775	502,690	2.6%
Capital Credit & Labor To/From Others	(11,162,930)	(13,076,105)	(1,913,175)	-17.1%
Total Personnel Costs	54,522,063	57,987,809	3,465,746	6.4%
Supplies	13,970,211	16,202,238	2,232,027	16.0%
Services	15,485,414	14,749,607	(735,807)	-4.8%
Other Charges	2,876,580	3,459,298	582,718	20.3%
Total Assessments	20,942,765	22,629,758	1,686,993	8.1%
Taxes	22,742,786	24,866,802	2,124,016	9.3%
Total Supplies & Other Charges	76,017,756	81,907,703	5,889,947	7.7%

Total for Division	\$ 130,539,819	\$ 139,895,512	\$ 9,355,693	7.2%
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Tacoma Water Taxes	2017-2018 Budget	2019-2020 Proposed Budget	2017-18 to 2019-20 Budget Comparison	
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TAX PAYMENTS

City of Tacoma:

Gross Earnings Tax (8.0%)	\$ 12,759,190	\$ 14,132,161	\$ 1,372,971	10.8%
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State of Washington:

Utility & Business Tax	7,562,879	8,380,257	817,378	10.8%
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Other*	1,321,086	1,525,255	204,169	15.5%
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Subtotal	21,643,155	24,037,673	2,394,518	11.1%
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Anticipated Additional Revenue**

Gross Earnings Tax (8.0%)	675,190	509,098	(166,092)	-24.6%
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Utility & Business Tax	424,441	320,031	(104,410)	-24.6%
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Other*	0	0	0	
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	1,099,631	829,129	(270,502)	-24.6%
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Total City and Utility Tax	22,742,786	24,866,802	2,124,016	9.3%
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Federal Taxes (FICA)	3,411,093	3,829,662	418,569	12.3%
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Total Tacoma Water Taxes	\$ 26,153,879	\$ 28,696,464	\$ 4,396,099	16.8%
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Note: State Sales Tax is included in O & M budget line items for materials.

FICA tax is included in O & M budget line items for personnel costs/employee benefits.

*Other includes franchise, administrative and other fees paid to other cities and entities and fire patrol assessments paid to WA State DNR.

**Taxes on anticipated additional revenue due to rate increase.

Tacoma Water Debt Service	2017-2018 Budget	2019-2020 Proposed Budget	2017-18 to 2019-20 Budget Comparison	
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DEBT SERVICE SUMMARY

Interest	\$ 30,078,524	\$ 27,890,453	\$ (2,188,071)	-7.3%
Principal	22,934,454	25,326,033	2,391,579	10.4%

Total Debt Service	\$ 53,012,978	\$ 53,216,486	\$ 203,508	0.4%
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DEBT SERVICE DETAIL

BONDS

2005 Bonds	Interest	\$ 500	\$ 500	\$ 0	0.0%
\$5,000 remaining after refund	Principal	0	0	0	0.0%
2009 Build America Bonds	Interest	8,830,661	8,830,661	0	0.0%
\$76,775,000					
2010 Refunding of 2001 Bonds	Interest	2,349,300	1,853,400	(495,900)	-21.1%
\$26,395,000	Principal	4,505,000	8,360,000	3,855,000	85.6%
2010 Build America Bonds	Interest	8,154,705	8,154,705	0	0.0%
\$74,985,000					
2013 Refunding of 2003 Bonds	Interest	5,948,400	5,948,400	0	0.0%
\$74,355,000	Principal	0	0	0	0.0%
2015 Refunding Bonds	Interest	1,485,128	1,158,000	(327,128)	-22.0%
\$18,430,000	Principal	6,090,000	3,110,000	(2,980,000)	-48.9%

LOANS

Public Works Trust Fund Loans	Interest	240,564	186,629	(53,935)	-22.4%
\$50,000,000	Principal	5,393,541	5,393,542	1	0.0%
State Drinking Water Fund Loans					
\$85,918,885	Interest	3,069,266	1,758,158	(1,311,108)	-42.7%
	Principal	6,945,914	8,462,492	1,516,578	21.8%

Total Debt Service	\$ 53,012,978	\$ 53,216,486	\$ 203,508	0.4%
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Tacoma Water Capital Outlay	2017-2018 Budget	2019-2020 Proposed Budget
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SUMMARY

General Plant	\$5,111,724	\$16,795,574
Water Distribution	27,935,816	32,067,914
Water Quality	5,301,255	4,173,620
Water Supply	9,702,699	8,329,371

Sub-Total	\$48,051,494	\$61,366,479
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Projects Funded from Existing Bonds	(40,040,521)	(26,254,910)
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Total Operating Fund Capital Outlay	\$8,010,973	\$35,111,569
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General Plant

UTS Projects	\$2,770,107	\$2,506,266
Advanced Meter Infrastructure (AMI)	1,181,617	13,108,675
Land Acquisition and Strategy	500,000	500,000
Unanticipated Capital & Plant/Equipment Failure Contingency	660,000	680,633
General Plant Total	\$5,111,724	\$16,795,574

Water Distribution

FRP: Franchise Required Projects	\$200,000	\$200,000
Projects of Opportunity (Prop 3 and Prop A)	200,000	200,000
WDP: Water Division Projects	716,602	1,867,250
MRP: Main Replacement Projects	9,755,190	9,333,398
MRP: Galvanized Main Replacement Projects	1,292,108	2,307,596
MRP: Sound Transit Light Rail Ext MLK	0	3,297,204
MRP: Curran Road Improvements	0	2,196,414
Main Retirements	155,638	100,000
LID/Contract Contributions	200,000	200,000
Lead Gooseneck Replacement Program	5,200,000	5,527,052
Hydrant Installation and Replacement	721,933	460,000
Water Service Renewal and Replacement	4,253,590	4,685,000
Valve Installation and Replacement	615,487	655,000
Capital Meter Replacements	700,000	650,000
Blowoff Installation and Replacement	346,985	335,000
Water Bottle Refill Stations	0	54,000
TPU Decant Facility	1,162,287	0
WDP: Tehaleh Main Extension	1,038,996	0
Curran Road System Acquisition	1,000,000	0
Meter Upgrade Project	300,000	0
Leak Detection Equipment	59,000	0
Ground Penetrating Radar Equipment	18,000	0
Water Distribution Total	\$27,935,816	\$32,067,914

Tacoma Water Capital Outlay	2017-2018 Budget	2019-2020 Proposed Budget
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Water Quality

Water Quality Tools and Equipment	\$200,000	\$200,000
Built Forestland Assets	75,000	75,000
Dedicated Distribution System Sample Stations	96,000	48,000
Muckleshoot Agreement	500,000	500,000
Palmer Area Improvements	200,000	50,000
Corrosion Control GPL Wells	2,000,000	2,000,000
MIT Kapowsin Remediation	600,000	594,902
Portable Sample Stations	50,000	0
Pipeline 4 Swan Creek Crossing	700,000	0
1st Diversion:		
Watershed Tools and Equipment	43,452	43,452
Watershed Betterments	94,292	86,905
Major Treatment and Equipment	108,631	123,839
North Fork Wells Control Valves	275,556	53,052
North Fork 7 Motor	133,333	15,916
HCP Culvert Replacement	37,778	24,444
Security Gates and Cameras	0	58,364
North Fork Wells Renewal and Replacement	0	299,746
Connection to USACE Early Warning System at HHD	16,946	0
Smay Creek Forest Road Crossing	170,267	0
Water Quality Total	\$5,301,255	\$4,173,620

Water Supply

Cathodic Protection	\$500,000	\$500,000
Well Renewal and Replacement	650,000	400,000
Supply Tools	50,000	50,000
Supply System Improvements	450,000	702,825
Hood Street Facilities Seismic Improvements	414,180	1,047,600
Water Distribution Operations Building Seismic Improvement	175,500	4,129,800
Replace PL1 at Puyallup River	5,723,162	200,000
Seismic Improvement to Steel Reservoirs	0	304,146
Addition of Isolation Valve at Indian Hill Reservoir	0	100,000
Well 12A Pipe Supports	0	100,000
Add Seismic Valves to Alaska Street Reservoir	0	195,000
McMillin PS#1 and McMillin Gate House Genset Replacement	0	200,000
Re-Architecture of SCADA Network for connection to TPU Ops LAN	0	400,000
SCADA Systems - Intrusion Alarm Security Improvements	75,000	0
STPS Building Seismic Improvements	151,576	0
Replace/Improve Large Valves	300,000	0
Demo of McMillin Building/Standpipe	121,787	0

Tacoma Water Capital Outlay	2017-2018 Budget	2019-2020 Proposed Budget
West McDonald Ridge Permanent Power	84,494	0
Meter Installation Project	237,000	0
Pipeline 1 at Deep Creek	670,000	0
Emergency Intertie with LUD at 356th Pump Station	100,000	0
Supply Total	\$9,702,699	\$8,329,371
Total Capital Outlay	\$48,051,494	\$61,366,479

TACOMA RAIL 2019/2020 BUDGET

Dale King, Superintendent

September 12, 2018



BUDGET OVERVIEW

- **Mission**
 - Tacoma Rail provides services that are vital to the economic well-being of our customers.
- **Budget Goals**
 - Safety
 - Cost control
 - Right size staff
 - Railroad infrastructure investment
 - Locomotive repowers
 - Financial health & stability

BUDGET DRIVERS & ASSUMPTIONS

- **Flat line haul growth from actuals**
 - **Intermodal**
 - No intermodal volume incentive
 - **Commercial**
 - Only traffic increase due to Parcel 77 (new auto facility)
- **Personnel Costs**
 - **Cost of living adjustments**
 - **New positions**
- **Regulatory requirements**
 - **Positive Train Control**
 - **Oil spill response plan & drills**

BUDGET RISKS & MITIGATION

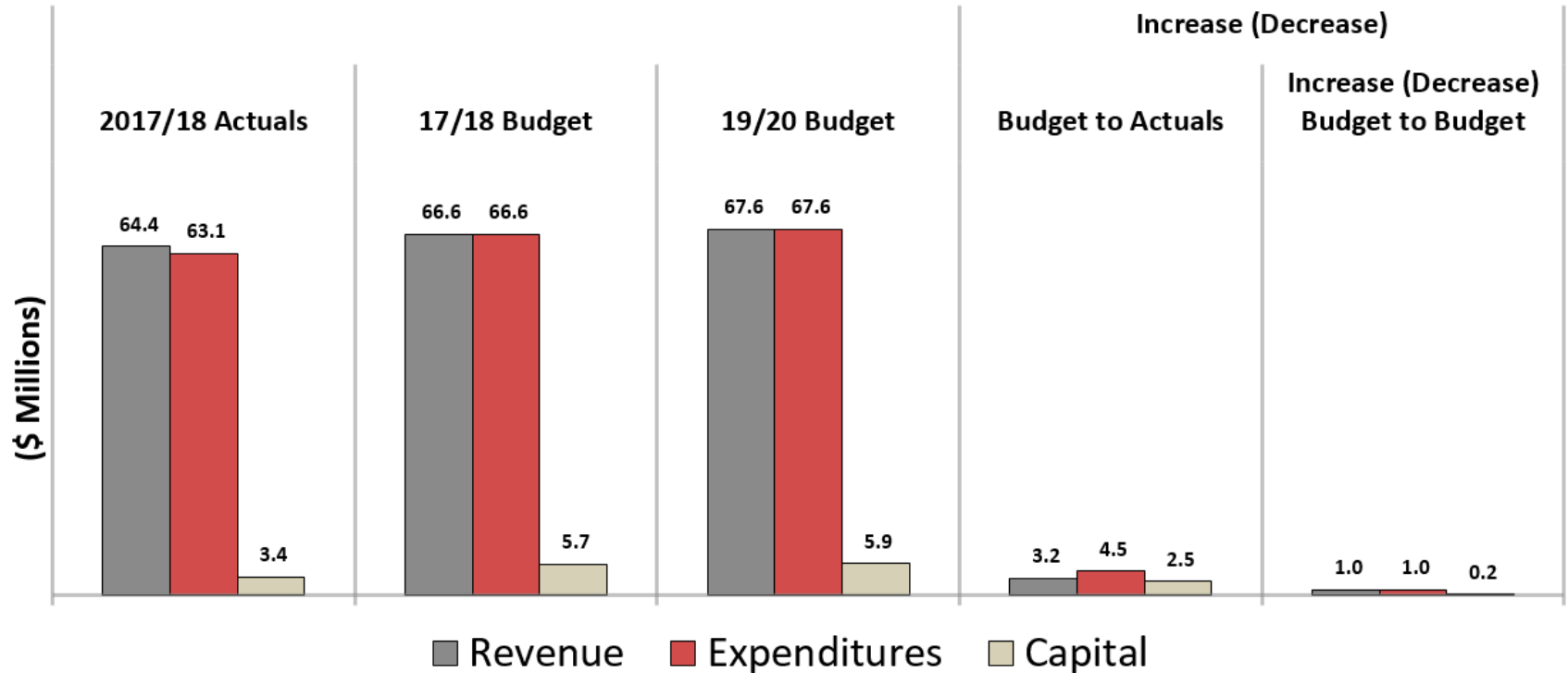
- **Risks**

- **Line haul volumes**
- **New & existing mandates**

- **Mitigation**

- **Furlough process**
- **Budgeted more than \$600K**
 - **Positive Train Control**
 - **WA Ecology Oil Spill Response Plan drills**

BUDGET COMPARISONS



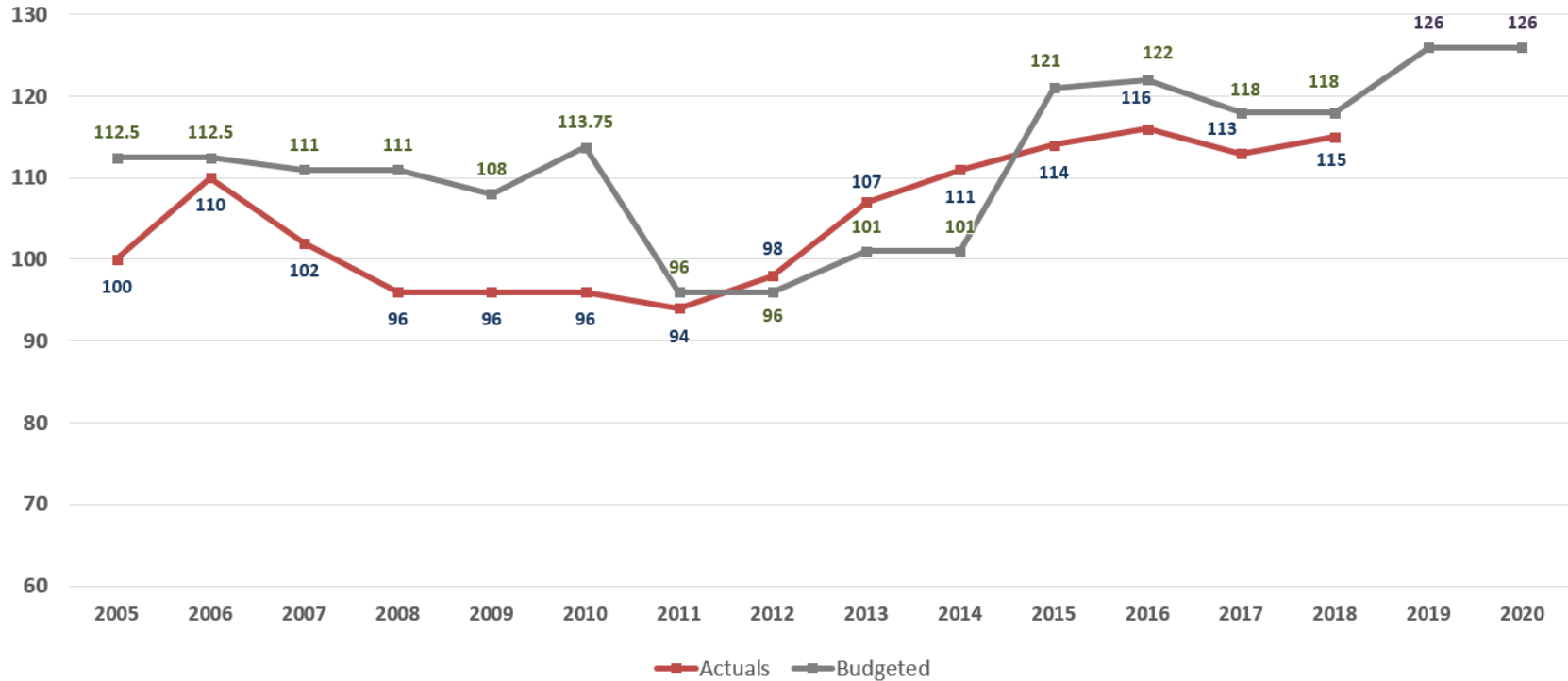
REVENUE

(\$ millions)	Current		Proposed	Increase (Decrease)		Increase (Decrease)	
	17/18 Actual	17/18 Budget	19/20 Budget	Budget to Actual		Budget to Budget	
Operating Revenue							
Line Hauls & Local	\$53.5	\$56.3	\$56.0	\$2.5	4.7%	\$(0.3)	(0.5)%
Demurrage	2.8	2.3	2.3	(0.5)	(17.9)%	0.0	0.0%
Locomotive Servicing	5.6	3.7	4.8	(0.8)	(14.3)%	1.1	29.7%
Miscellaneous Revenues	0.5	0.5	0.7	0.2	40.0%	0.2	40.0%
Anticipated Rate Adjustment	-	1.4	1.2	-	-	(0.2)	(12.7)%
Total Operating Revenue	62.1	64.3	65.0	2.9	4.7%	0.7	1.1%
Non-Operating Revenue							
Rent Income	2.1	2.1	2.2	0.1	4.8%	0.1	4.8%
Interest Income	0.2	0.2	0.2	0.0	0.0%	0.0	0.0%
Total Non-Operating Revenue	2.3	2.3	2.3	0.1	4.3%	0.1	4.3%
Current Fund Appropriation	-	-	0.2	-	-	0.2	100%
Total Revenue & Available Funds	\$64.4	\$66.6	\$67.6	\$3.2	5.0%	\$1.0	1.5%

EXPENSES

(\$ millions)	Current		Proposed	Increase(Decrease)		Increase (Decrease)	
	17/18 Actual	17/18 Budget	19/20 Budget	Budget to Actual		Budget to Budget	
Expenditures							
Personnel Costs	\$30.7	\$31.5	\$34.0	\$3.3	10.7%	\$2.5	7.9%
Supplies, Other Services & Charges	20.4	22.7	21.1	0.7	3.4%	(1.6)	(7.1)%
Taxes	6.0	6.3	6.4	0.4	6.7%	0.1	1.4%
Debt Service	1.7	1.8	1.6	(0.1)	(5.9)%	(0.2)	(8.9)%
Capital Outlay	2.6	4.3	4.5	1.9	73.1%	0.2	3.9%
Total Expenditures	63.1	66.6	67.6	4.5	7.1%	1.0	1.5%
Capital Outlay							
Anticipated Loan/Grants	0.8	1.4	1.5	0.7	87.5%	0.1	6.9%
Revenue Financed Capital	2.6	4.3	4.5	1.9	73.1%	0.2	3.9%
Total Capital	\$3.4	\$5.7	\$5.9	\$2.5	73.5%	\$0.2	3.5%

STAFFING LEVELS



PROMINENT O&M CHANGES

- **Administration**

- \$5.0M Intermodal Volume Incentive Allowance**

- +**\$1.0M Self Insurance Fund contributions**

- +**\$100K Oil Spill Contingency Plan drills**

- **Maintenance of Equipment**

- +**\$2.3M fuel in support of Locomotive Servicing & price**

ASSESSMENTS

	Current	Proposed	Increase (Decrease)	
(\$ millions)	17/18 Budget	19/20 Budget	Budget to Budget	
GG Assessments				
Information Technology	\$0.6	\$1.1	\$0.5	89.9%
Human Resources	0.4	0.6	0.2	57.3%
Legal	0.2	0.3	0.1	7.0%
Finance	0.9	0.6	(0.3)	(25.4)%
Other	0.2	0.3	0.1	64.9%
Total General Government	2.3	2.9	0.6	28.4%
TPU Assessments	1.1	1.1	<0.1	5.2%
Total Assessments	\$3.4	\$4.0	\$0.6	17.0%

Note: Assessments are not finalized at this time

TAXES

- Taxes to General Fund**

Current		Proposed	Increase (Decrease)		Increase (Decrease)	
17/18 Actuals	17/18 Budget	19/20 Budget	Budget to Actuals		Budget to Budget	
\$5.1	\$5.3	\$5.4	\$0.3	5.0%	\$0.1	1.5%

- State taxes**

Current		Proposed	Increase (Decrease)		Increase (Decrease)	
17/18 Actuals	17/18 Budget	19/20 Budget	Budget to Actuals		Budget to Budget	
\$0.9	\$1.0	\$1.0	\$0.1	10.0%	<\$0.1	0.7%

(\$ millions)

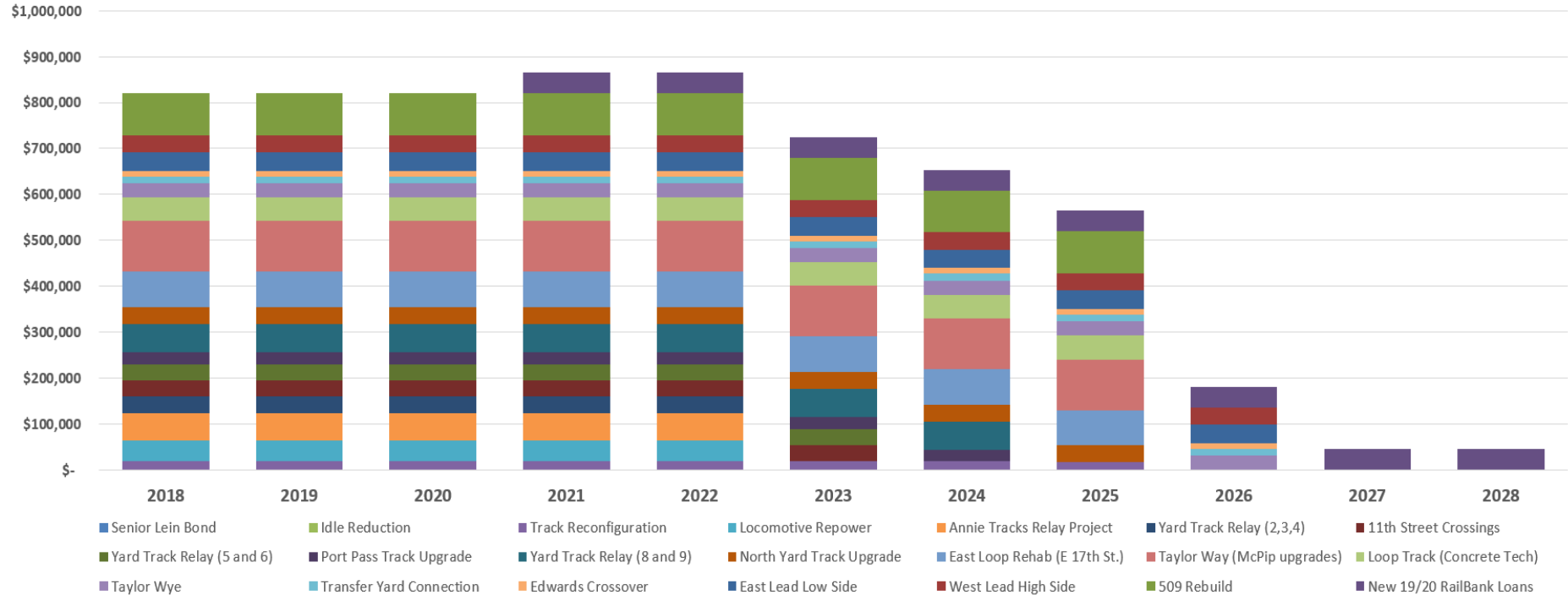
CAPITAL BUDGET

(\$ millions)	2017/18 Budget	2019/20 Budget	Budget to Budget	
Capital Projects				
General Plant	\$0.0	<0.1	\$0.0	100%
Communications	0.2	0.2	<0.1	(36.2)%
Facility Upgrades	1.1	2.3	1.2	124.4%
Rail Equipment	1.0	1.2	0.2	17.5%
Track Improvement Projects	3.4	2.3	(1.1)	(33.8)%
Total Capital Projects	\$5.7	\$5.9	\$0.2	4.5%
Capital Funding Sources				
Current Fund	\$4.3	\$4.5	\$0.2	3.9%
New Debt/Grants	1.4	1.5	0.1	6.5%
Total Sources of Funds	\$5.7	\$5.9	\$0.2	3.9%

BUDGET REDUCTIONS

- **\$5M for the reinstatement of the Taylor Way Wye**
 - **Operational efficiencies don't overcome cost of installation**
- **\$3.8M for locomotive acquisitions**
 - **Lease extension alternative**
- **\$800K TPU Fleet contributions**
 - **Utilize Rail's current TPU Fleet fund balance**
- **\$50K storm water treatment & filtration**
 - **Environmental partnership with Port of Tacoma**
 - **Low cost, off the shelf filtration making significant reductions in zinc & turbidity**

DEBT SERVICE & COVERAGE RATIO



- All 0% WA State Rail Bank loans

LINE HAUL RATE ANALYSIS

- **Intermodal**

- Less labor intensive
- More volume
- Yard management
- Higher track wear
- Service windows
- Fewer destinations
- Do not incur demurrage

- **Commercial**

- Labor intensive
- Lower volume
- Less track utilization
- Lower track wear
- Daily service
- More destinations
- Subject to demurrage

EXPECTED RATE IMPACT

- **Line haul rates**
 - **Last changed in 2017**
 - **Intermodal +\$1 per platform to \$51**
 - **Commercial +\$6 per railcar to \$306**
 - **Unit train single spot +\$4 per railcar to \$224**
 - **Unit train multiple spot +\$5 per railcar to \$300**
- **Rate evaluation in 2019 for 2020 rate adjustments**

LINE HAUL VOLUMES

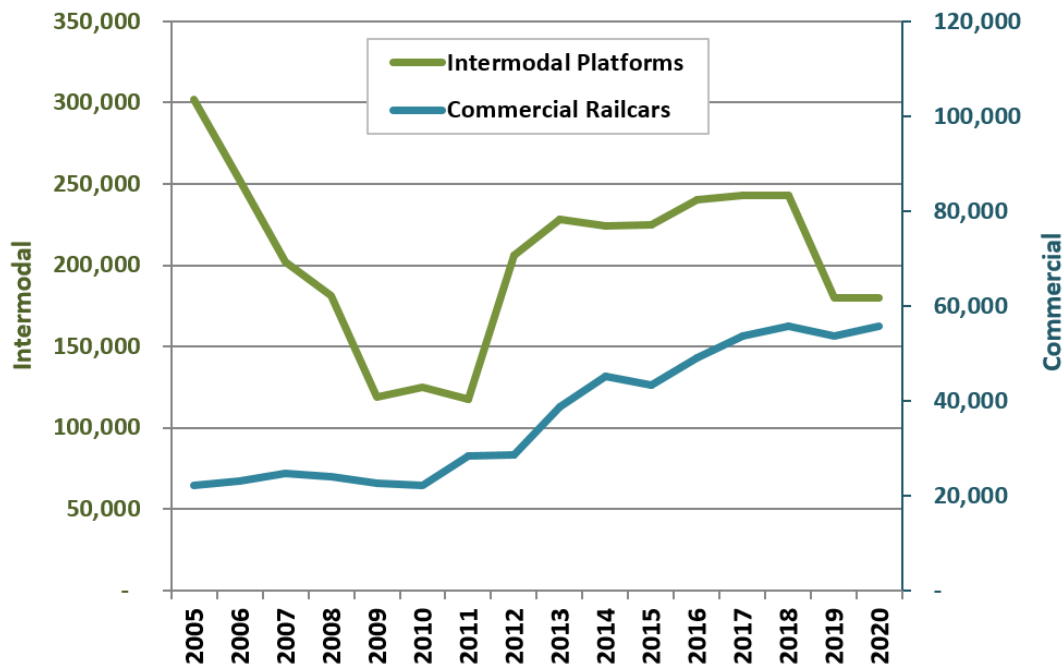
Budget to Proposed Budget Analysis

Commercial	Count	\$ Millions
17/18 Budget	103,432	\$ 28.6
*19/20 Budget	109,432	\$ 31.2
Budget to Budget	6,000	\$ 2.6

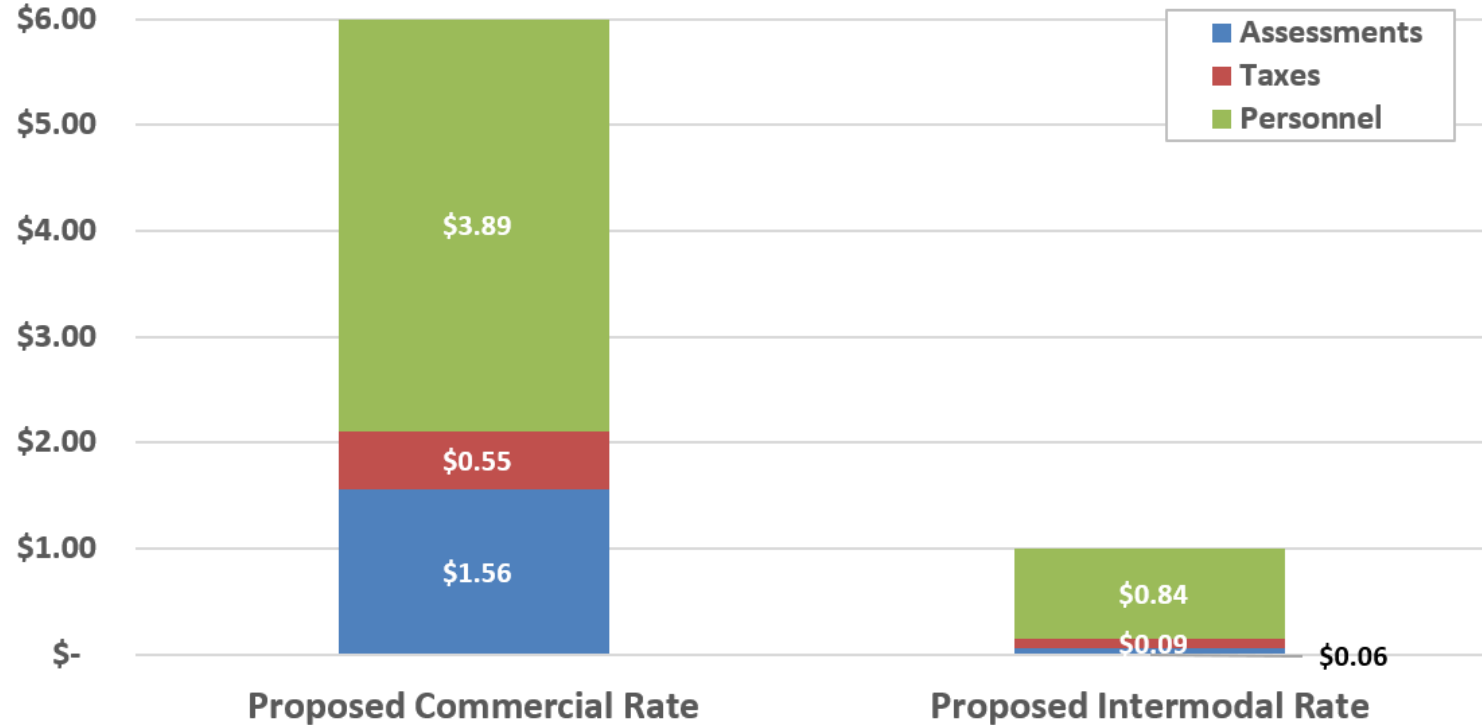
Intermodal	Count	\$ Millions
17/18 Budget	485,600	\$ 24.3
*19/20 Budget	360,000	\$ 18.5
Budget to Budget	(125,600)	\$ (5.8)

*With proposed rate adjustment

Actuals to Proposed Budget Analysis

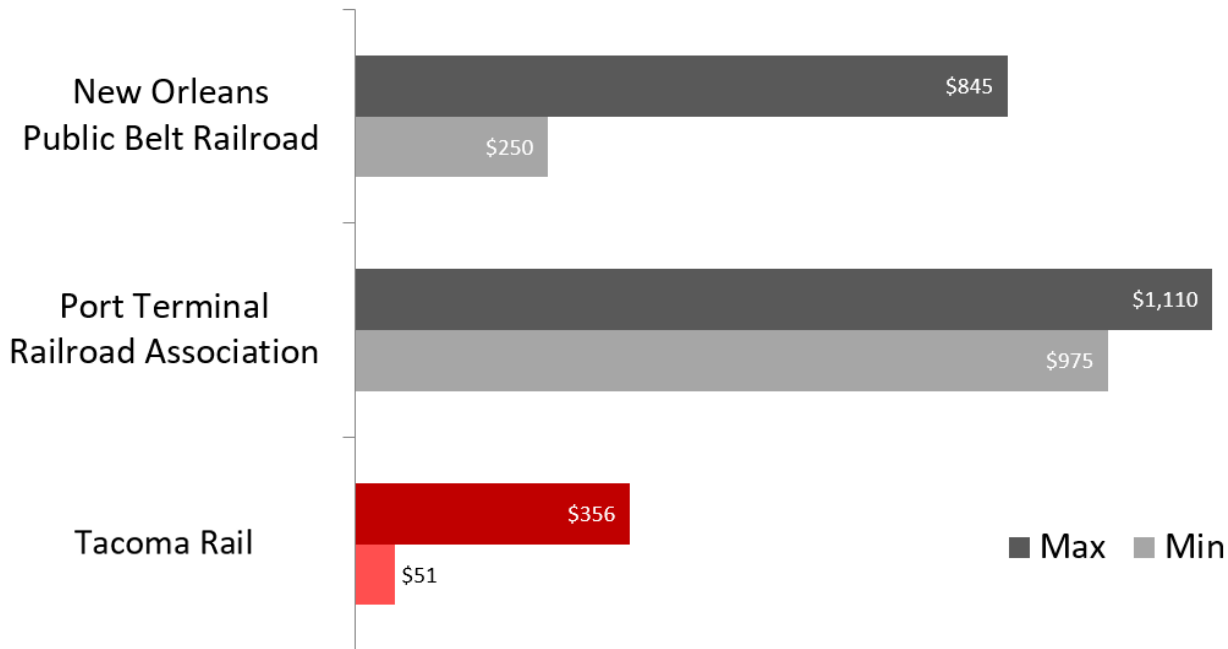


RATE DRIVER COMPARISON



SHORTLINE TARIFF RATES

Tacoma Interchange



RATES OUTREACH & COMMUNICATIONS

- **August – September**
 - **BNSF, Union Pacific, Port of Tacoma & US Oil**
- **October – November**
 - **All other customers**
- **December**
 - **Tariff published on the website**

BUDGET SUMMARY

- **FTE's up from 118 to 126**
- **Line haul volumes flat**
- **Regulations have an impact**
 - **Positive Train Control**
 - **WA Ecology Spill Response Plan**
- **Rates below benchmark short lines**
 - **Major rate payers: BNSF, Union Pacific & US Oil**

NEXT STEPS

- **October 2nd**
 - **GPFC Rates Presentation**
- **October 10th**
 - **Public Utility Board meeting presentation of Preliminary Budget & Rates**
- **October 16th**
 - **Joint Council/PUB Study Session Presentation**
- **October 24th**
 - **Public Utility Board consideration of Preliminary Budget & Rates**
- **November 13th & November 20th**
 - **1st and 2nd Council Readings**

TACOMA PUBLIC UTILITY BOARD

**2019 - 2020 BUDGET
TACOMA RAIL**

**Wednesday September 12, 2018
3:00 p.m.
TPU Conference Room Lt1**

Tacoma Rail

Recap of Biennial Budget	1
Revenue	2
Division Consolidation	3
Taxes	4
Debt Service	5
Capital Outlay	6-7

Tacoma Rail Recapitulation of Biennial Budget	2017-2018 Budget	2019-2020 Proposed Budget	2017-18 to 2019-20 Budget Comparison	
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REVENUE

Switching Revenue	\$ 60,027,884	\$ 59,490,512	\$ (537,372)	-0.9%
Miscellaneous Revenue	4,251,312	5,498,000	1,246,688	29.3%
Total Operating Revenue	64,279,196	64,988,512	709,316	1.1%

Other Income	2,364,000	2,615,966	251,966	10.7%
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Total Revenue & Available Funds	\$ 66,643,196	\$ 67,604,478	\$ 961,282	1.4%
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EXPENDITURES

Personnel Costs	\$ 31,543,815	\$ 34,031,673	\$ 2,487,858	7.9%
Supplies, Other Services & Charges	22,705,310	21,083,920	(1,621,390)	-7.1%
Taxes	6,295,643	6,382,314	86,671	1.4%
Debt Service	1,799,885	1,640,486	(159,399)	-8.9%
Capital Outlay	4,298,543	4,466,084	167,541	3.9%

Total Expenditures	\$ 66,643,196	\$ 67,604,478	\$ 961,282	1.4%
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CAPITAL OUTLAY FINANCING DETAIL

Anticipated Bank Loan Proceeds/Grants	\$ 1,361,457	\$ 1,450,000	\$ 88,543	6.5%
Funded from Operating Fund	4,298,543	4,466,084	167,541	3.9%

Total Capital Outlay	\$ 5,660,000	\$ 5,916,084	\$ 256,084	4.5%
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PERSONNEL - Budgeted FTE	118.0 / 118.0	126.0 / 126.0
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Tacoma Rail Revenue	2017-2018 Budget	2019-2020 Proposed Budget	2017-18 to 2019-20 Budget Comparison	
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REVENUE SUMMARY

Switching Revenue	\$ 60,027,884	\$ 59,490,512	\$ (537,372)	-0.9%
Miscellaneous Revenue	4,251,312	5,498,000	1,246,688	29.3%

Total Operating Revenue	64,279,196	64,988,512	709,316	1.1%
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Other Income	2,364,000	2,615,966	251,966	10.7%
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Total Revenue & Available Funds	\$ 66,643,196	\$ 67,604,478	\$ 961,282	1.4%
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REVENUE DETAIL

Switching Revenue

Line Hauls and Local	\$ 57,727,884	\$ 57,190,512	\$ (537,372)	-0.9%
Demurrage	2,300,000	2,300,000	0	0.0%

Total Switching Revenue	60,027,884	59,490,512	(537,372)	-0.9%
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Locomotive Servicing	3,729,312	4,800,000	1,070,688	28.7%
Miscellaneous Revenue	522,000	698,000	176,000	33.7%

Total Miscellaneous Revenue	4,251,312	5,498,000	1,246,688	29.3%
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Total Operating Revenue	64,279,196	64,988,512	709,316	1.1%
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Other Income

Rent Income	\$ 2,160,000	\$ 2,220,000	\$ 60,000	2.8%
Interest Income	204,000	225,000	21,000	10.3%

Total Non-Operating Revenue	2,364,000	2,445,000	81,000	3.4%
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Appropriation from Fund Balance	0	170,966	170,966	-100.0%
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Total Revenue & Available Funds	\$ 66,643,196	\$ 67,604,478	\$ 961,282	1.4%
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Tacoma Rail	2017-2018 Budget	2019-2020 Proposed Budget	2017-18 to 2019-20 Budget Comparison	
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SUMMARY - Operation & Maintenance by Section

Rail Administration	\$ 21,662,977	\$ 19,165,964	\$ (2,497,013)	-11.5%
Rail Operations	23,091,658	24,496,954	1,405,296	6.1%
Rail Mechanical	10,349,435	12,747,301	2,397,866	23.2%
Rail Construction	5,440,698	5,087,688	(353,010)	-6.5%

Total for Division	\$ 60,544,768	\$ 61,497,908	\$ 953,140	1.6%
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SUMMARY - Operation & Maintenance by Category

Salaries & Wages	\$ 23,205,388	\$ 25,728,734	\$ 2,523,346	10.9%
Employee Benefits	9,692,927	9,905,940	213,013	2.2%
Capital Credit & Labor To/From Others	(1,354,500)	(1,603,000)	(248,500)	-18.3%
Total Personnel Costs	31,543,815	34,031,673	2,487,858	7.9%

Supplies	2,873,441	2,899,812	26,371	0.9%
Services	7,748,242	9,547,202	1,798,960	23.2%
Other Charges	3,705,421	4,683,836	978,415	26.4%
Volume Incentive	5,000,000	0	(5,000,000)	-100.0%
Total Assessments	3,378,206	3,953,070	574,864	17.0%
Taxes	6,295,643	6,382,314	86,671	1.4%
Total Supplies & Other Charges	29,000,953	27,466,234	(1,534,719)	-5.3%

Total for Division	\$ 60,544,768	\$ 61,497,908	\$ 953,140	1.6%
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Tacoma Rail Taxes	2017-2018 Budget	2019-2020 Proposed Budget	2017-18 to 2019-20 Budget Comparison	
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TAX PAYMENTS

City of Tacoma:

Gross Earnings Tax (8.0%)	\$ 5,331,455	\$ 5,410,000	\$ 78,545	1.5%
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State of Washington:

Utility & Business Tax	964,188	971,000	6,812	0.7%
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Other Taxes

0	1,314	1,314	0.0%
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Subtotal	6,295,643	6,382,314	86,671	1.4%
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Federal Railroad Taxes	4,051,175	4,438,438	387,263	9.6%
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Total Tacoma Rail Taxes	\$ 10,346,818	\$ 10,820,752	\$ 473,934	4.6%
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Note: State Sales Tax is included in O & M budget line items for materials.

Federal Railroad Taxes are paid in lieu of FICA and Retirement and are included in personnel services.

Tacoma Rail Debt Service	2017-2018 Budget	2019-2020 Proposed Budget	2017-18 to 2019-20 Budget Comparison	
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DEBT SERVICE SUMMARY

Interest	\$ 866	\$ 0	\$ (866)	-100.0%
Principal	1,799,019	1,640,486	(158,533)	-8.8%

Total Debt Service	\$ 1,799,885	\$ 1,640,486	\$ (159,399)	-8.9%
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DEBT SERVICE DETAIL

Revenue Bond - \$2,000,000				
- Interest	\$ 866	\$ 0	\$ (866)	-100.0%
- Principal	64,238	0	(64,238)	-100.0%
Rail Bank Loans - \$9,137,895, 0% Interest				
- Principal	1,734,781	1,640,486	(94,295)	-5.4%

Total Debt Service	\$ 1,799,885	\$ 1,640,486	\$ (159,399)	-8.9%
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Tacoma Rail Capital Outlay	2017-2018 Budget	2019-2020 Budget
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SUMMARY

General Plant	\$0	\$41,084
Communications	235,000	150,000
Facility Upgrades	1,025,000	2,300,000
Rail Equipment/Vehicles	1,000,000	1,175,000
Track Improvements	3,400,000	2,250,000

Sub-Total	\$5,660,000	\$5,916,084
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Projects Funded from Grants	(\$400,000)	(\$1,000,000)
Projects Funded from Rail Bank Loan Proceeds	(311,457)	(450,000)
Projects Funded from Anticipated Bank Loan	(650,000)	0

Total Operating Fund Capital Outlay	\$4,298,543	\$4,466,084
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General Plant

TPU Auditorium TV Update	\$0	\$41,084
General Plant Total	\$0	\$41,084

Communications

Radio Repeater/Upgrades	\$150,000	\$150,000
Locomotive Health & Location Monitoring	85,000	0
Communications Total	\$235,000	\$150,000

Facility Upgrades

Locomotive Load Box	\$0	\$50,000
ITS Project	300,000	300,000
Stormwater Treatment and Filtration	100,000	50,000
Secondary Fueling Upgrades	500,000	1,900,000
Admin Building Window Replacement	25,000	0
West End Track Pan Replacement	100,000	0
Facility Upgrades Total	\$1,025,000	\$2,300,000

Rail Equipment/Vehicles

Locomotive Repower	\$1,000,000	\$1,000,000
Lift Truck (Fork Lift)	0	25,000
Trucks	0	150,000
Rail Equipment/Vehicles Total	\$1,000,000	\$1,175,000

Tacoma Rail Capital Outlay	2017-2018 Budget	2019-2020 Budget
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Track Improvement Projects

Tidelands Infrastructure Improvements	\$1,000,000	\$1,000,000
Marine View Drive Crossing Signals	0	1,000,000
Taylor Way Crossings	0	250,000
Taylor Wye and Hylebos Creek Bridge Relay	525,000	0
Port Road Main Rail Relay	505,000	0
South Lead Rail Relay	200,000	0
Kia Siding Rail Relay	270,000	0
Buffelen Curve Rehabilitation	420,000	0
Switch Replacements	480,000	0
Track Improvement Projects Total	\$3,400,000	\$2,250,000

TOTAL CAPITAL OUTLAY	\$5,660,000	\$5,916,084
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Tacoma Power

Demand Response Pilots

Clay Norris
Power Manager

Introduction

Executive Summary



Demand Response could be an important tool in Tacoma Power's long-term power supply strategy



Tacoma Power plans to implement a variety of Demand Response programs



Tacoma Power needs the ability to test and pilot programs before a major BPA contract decision in 2024-25

Demand Response Overview

Section 1

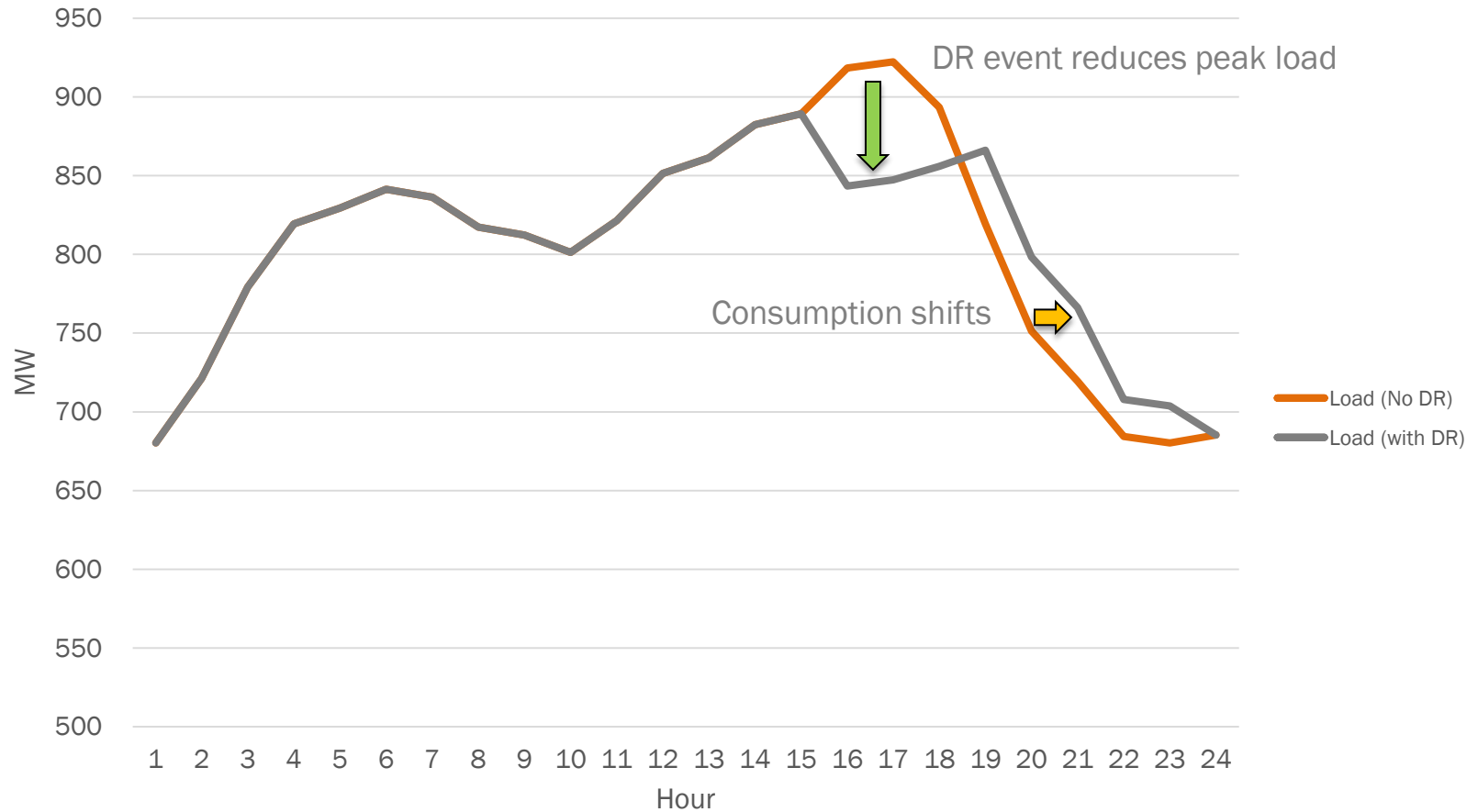
Demand Response Overview

What is Demand Response?

“Changes in electric usage by demand-side resources from their normal consumption patterns in response to changes in the price of electricity over time, or to incentive payments designed to induce lower electricity use at times of high wholesale market prices or when system reliability is jeopardized”.

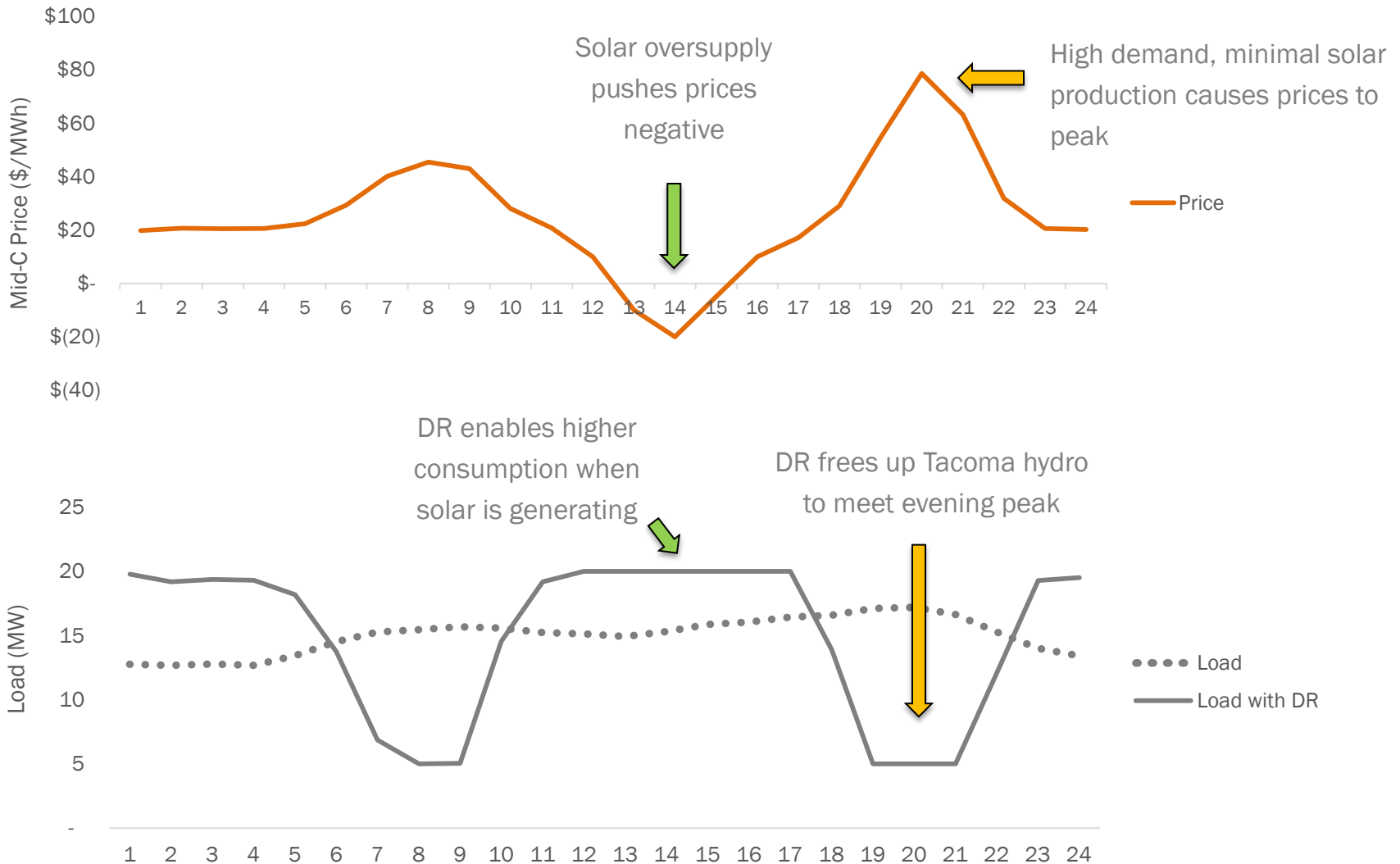
Demand Response Overview

Demand Response Illustration



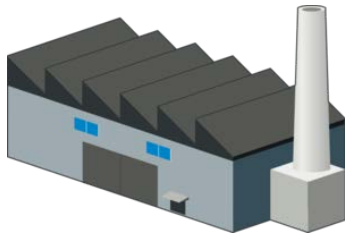
Demand Response Overview

Demand Response & Renewable Integration



Demand Response Overview

Potential Demand Response Programs



Industrial

- Curtailment
- Load-shaping incentive



Commercial

- HVAC
- Lighting



Residential

- Smart thermostats
- Hot water heaters
- Electric vehicles

Why is Demand Response Valuable to Tacoma Power?

Section 2

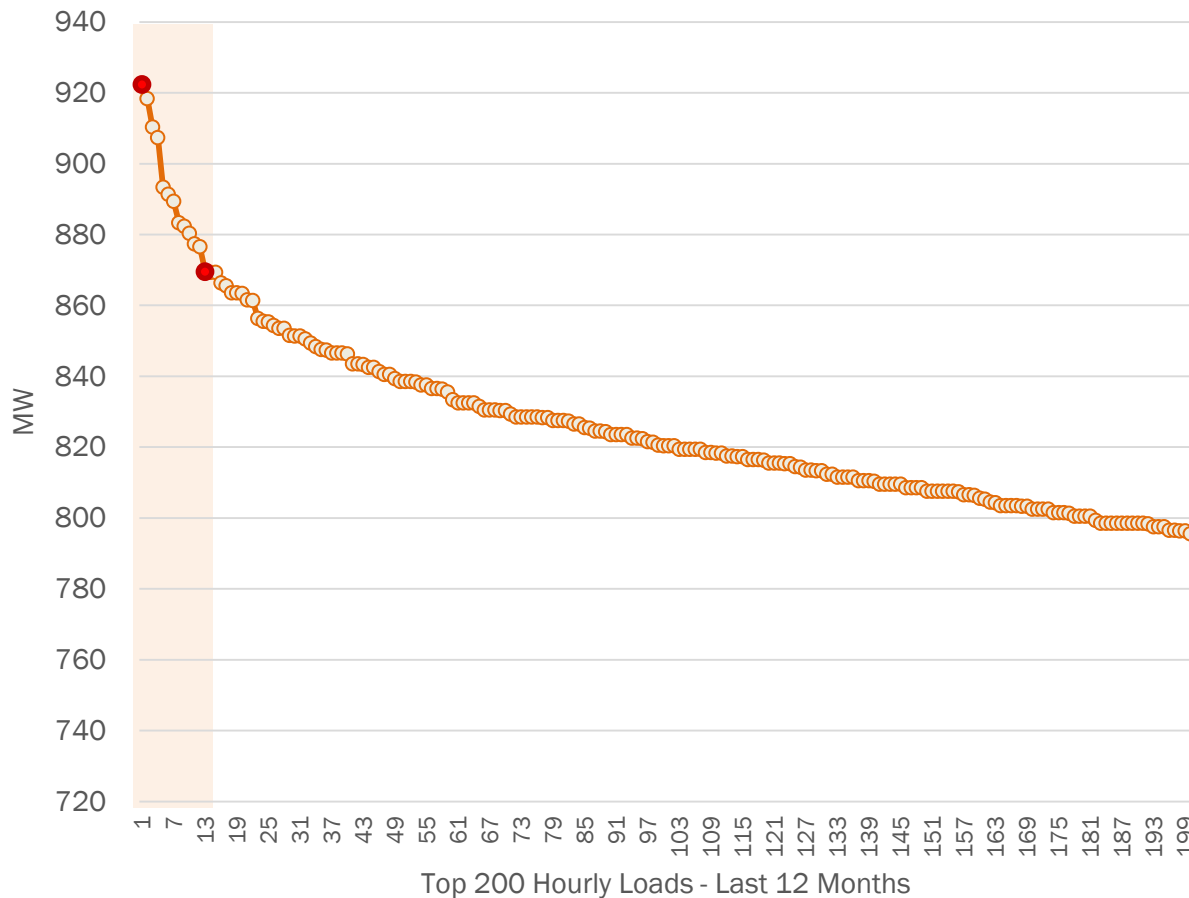
Demand Response Value

Why is Demand Response Valuable?

- Demand Response is a “Win-Win” for participating customers and Tacoma Power
- Demand Response programs would provide customers with an economic benefit for their participation
- Demand Response events would reduce Tacoma Power’s power supply expenses

Demand Response Value

Demand Response Can Reduce Peak Resources

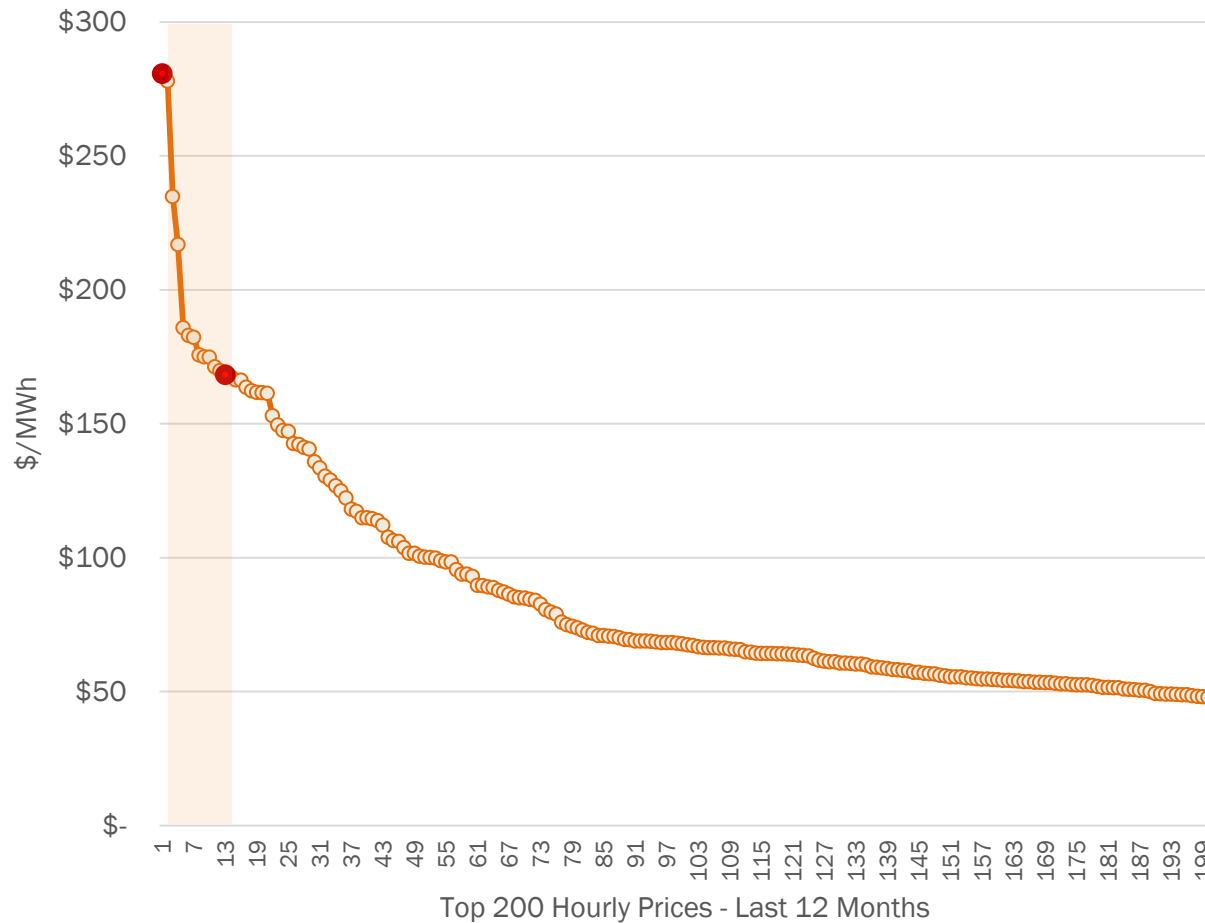


Demand Response can be used to reduce high loads, decreasing the amount of peaking resources Tacoma needs to procure.

It enables Tacoma Power to better utilize system flexibility to integrate renewables.

Demand Response Value

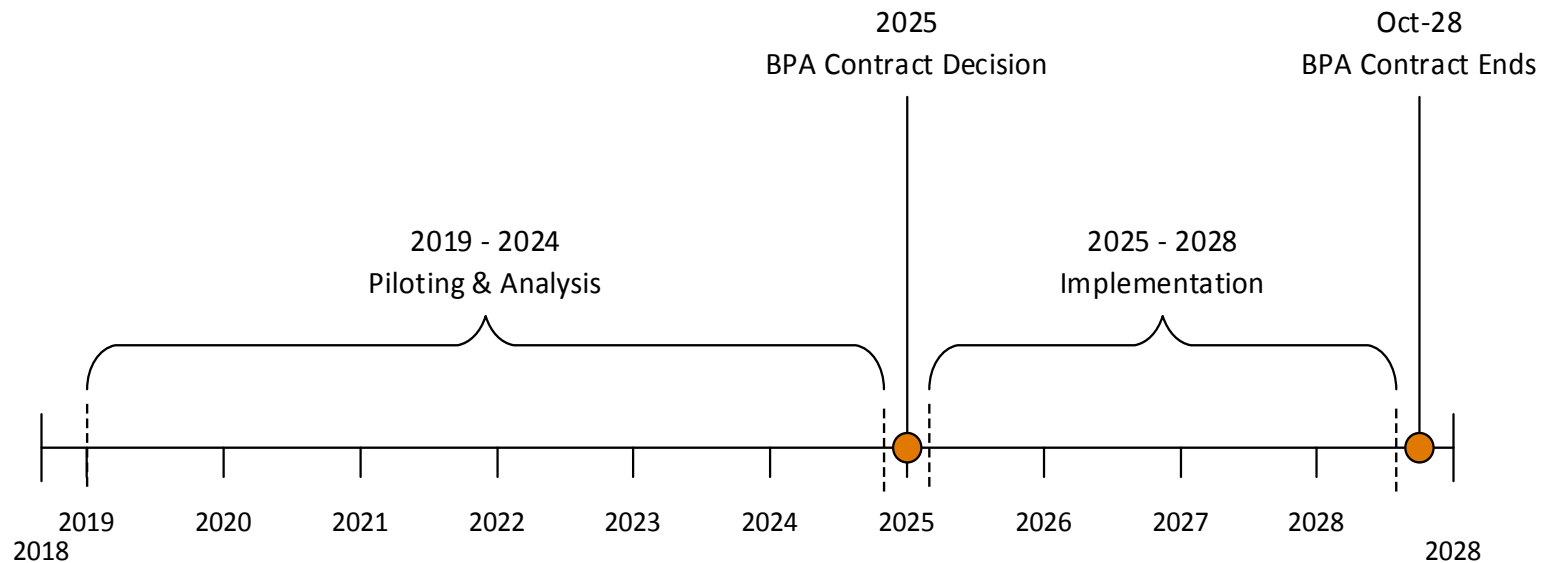
Demand Response Can Reduce Exposure to High Market Prices



When market prices are high, Tacoma Power could call on demand response to either avoid an expensive market purchase or make an advantageous market sale.

Demand Response Value

Demand Response Could Be Key Tool in Future Power Supply



Demand Response Value

Summary of Benefits

Demand Response Benefits

- Increases the ability of the grid to integrate variable renewable energy resources
- Decreases the amount of resources Tacoma Power needs to procure
- Avoids the purchase of high-priced energy; takes better advantage of market opportunities
- Provides greater reliability to the grid, which helps prevent blackouts
- Displaces carbon-emitting peaking resources

CP Load Shifting Pilot

Section 3

CP Load Shifting Pilot

Load Shaping Pilot Program



Plan

- Develop a daily load shifting pilot program for the Contract Power class customers
- Praxair will likely be first participant
- Present additional detail later this year or early 2019 at study session
- Ask for formal approval from Public Utility Board & City Council in early 2019



Purpose

- Enhance Tacoma's optimization of sales and purchases
- Allow customers to take advantage of plant flexibility to provide opportunity for mutual benefit
- Demonstration of DR potential for renewable integration
- Understand value of demand response in organized markets

CP Load Shifting Pilot

How it Works

1

Customer retrieves day-ahead hourly prices from CAISO website



Day-Ahead Prices



2

Customer sends Tacoma Power shaped hourly demand schedule



Shaped Schedule



3

Adjusted bill or incentive for participation is calculated on actual demand for each hour



4

Customer is billed on an adjusted rate or provided an incentive for participation

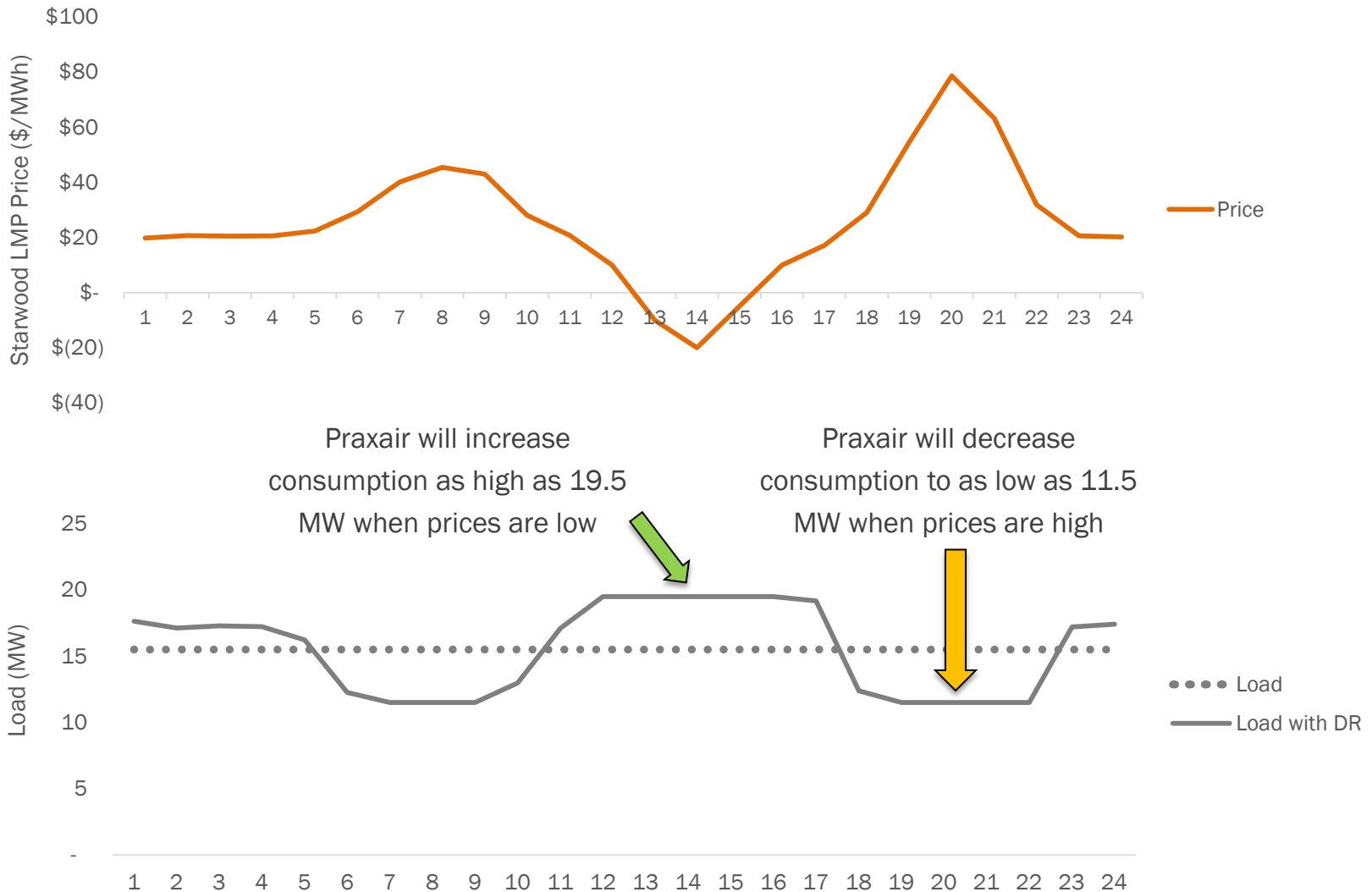


\$ Adjusted Power Bill



CP Load Shifting Pilot

CP Load Shifting Incentive Pilot Illustration



Questions or Concerns?