Budget Overview

Tacoma Public Utilities

Public Utility Board Retreat | October 13, 2023

Objectives

- Overview of Budget and Timeline
- Overview of Shared Services
- Overview of Current Rate and Financial Policies
- Overview of Ratemaking Fundamentals
- Discuss Emerging Needs to consider in upcoming Biennial Budget & Rate Development

Roles & Responsibilities

Utility Director

- Prepare and submit to the Public Utility Board the proposed departmental budget and monitor its administration after adoption.

Public Utility Board

- Oversee development of and vote on policies, rates, budgets, and debt issues presented to the Board for consideration.
- City Charter 4.12 – The Board shall submit an annual budget to the Council for approval, in the manner as prescribed by law.

Roles & Responsibilities (cont.)

Board Policy BL-1

- The Board shall…for the purposes of inquiry, seek information from staff consistent with section 4.19 of the City Charter and should funnel such requests through the Director of Utilities and members of the senior leadership team.
- The Director shall…prepare and submit the TPU operating divisions strategic plans to the Board for review and approval and ensure all TPU expenditures are within the authorized biennial budget.

What is a budget?

Legal spending limit as authorized by the legislative body

- Public Utility Board approves TPU budget and rates
- City Council approves City budget

What makes for a good budget?

- Incorporates long term perspective
- Aligns with Guiding Principles (formerly known as Strategic Directives)
- Focuses on results and outcomes
- Involves input from and communication with community

Terminology

Appropriation: legal spending limit (budget).

Preliminary Budget: budget proposed by staff but not yet approved.

Biennial Budget: a budget spanning two years.

Enterprise Fund: operates as a business where revenue is collected from charges to customers. Those who receive the benefit of the service pay for it.

FTE: Full-time equivalent of one person working full-time for one year (approx. 2,080 hours).

O&M: Operations & Maintenance; a category of costs as opposed to labor or capital. Sometimes referred to as M&O.

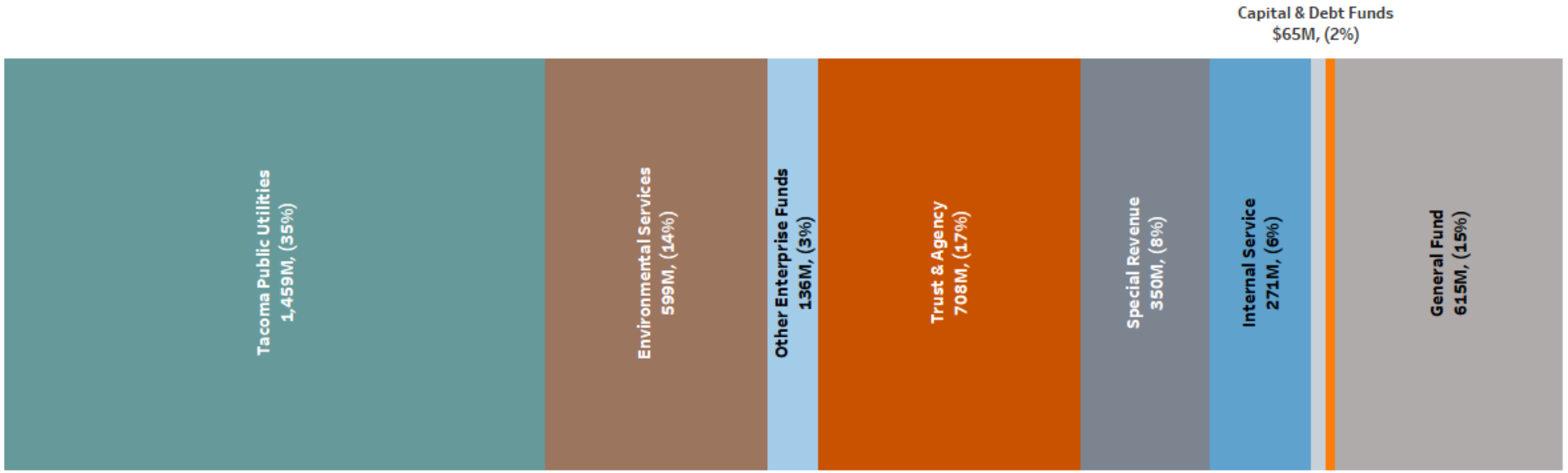
Debt Service: total principal and interest owed on debt.

Cost Allocation: distribution of costs to benefitting departments. Assessments.

Budget Amendment: any legal increase or decrease to the already approved spending limit.

2023-2024 Biennial Budget

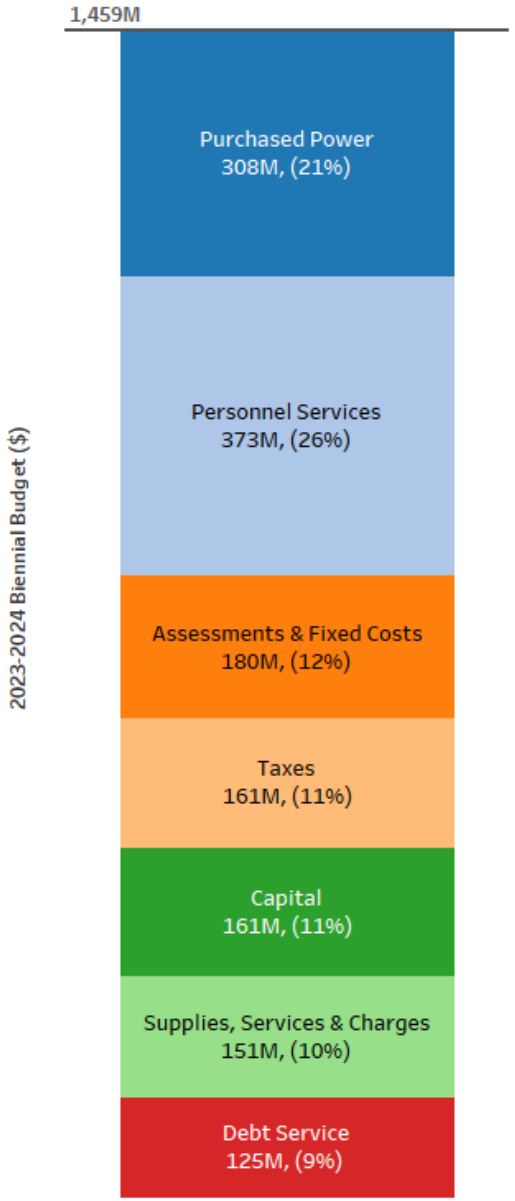
City of Tacoma Budget = $4.2B



TPU Operating Budget* = $1.459B

* TPU Operating Budget excludes debt and grant funded capital

TPU Expenditures by Category



Purchased Power – BPA power and transmission costs, power purchased in the wholesale market to balance system load requirements, renewable energy credits (RECs).

Personnel Services – salaries, wages, benefits, severance, overtime, labor credits, vacancy factor, etc.

Assessments & Fixed Costs – shared services (IT, HR, Finance, CS) as well as rent, insurance, phones, fleet maintenance & fuel, credit card usage fees, etc.

Taxes – City of Tacoma gross earnings, City of University Place utility, state utility, and other taxes.

Capital – current fund support for capital program; excludes debt and grant funding.

Supplies, Services, & Charges – operating supplies, materials, professional services, external contracts, travel, training, etc.

Debt Service – principal and interest owed on debt.

TPU Fund Structure

Operating Divisions: Separate business activities

- 4700 Power
- 4600 Water
- 4500 Rail

Service Divisions:

- Administration
- Management Services Office (MSO)
- Public Affairs & Communications
- Customer Services*

Reflected as *Assessments* in the Operating Division budgets

*Customer Services partially funded by Environmental Services

Other Funds:

- 4800 Self-Insurance
- 4805 Low Income Assistance
- 5050 Fleet Services

Reflected as *Contributions* or *O&M* in the Operating Division budgets

TPU Budget and Rates Timeline

City Budget Development

- Forecasts & Financial Position
- Priorities & Engagement
- Budget Proposals
- Wage Estimates
- Benefit Rates
- Shared Service Costs

City Budget Approval
(CC vote required)

Budget Workshops

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

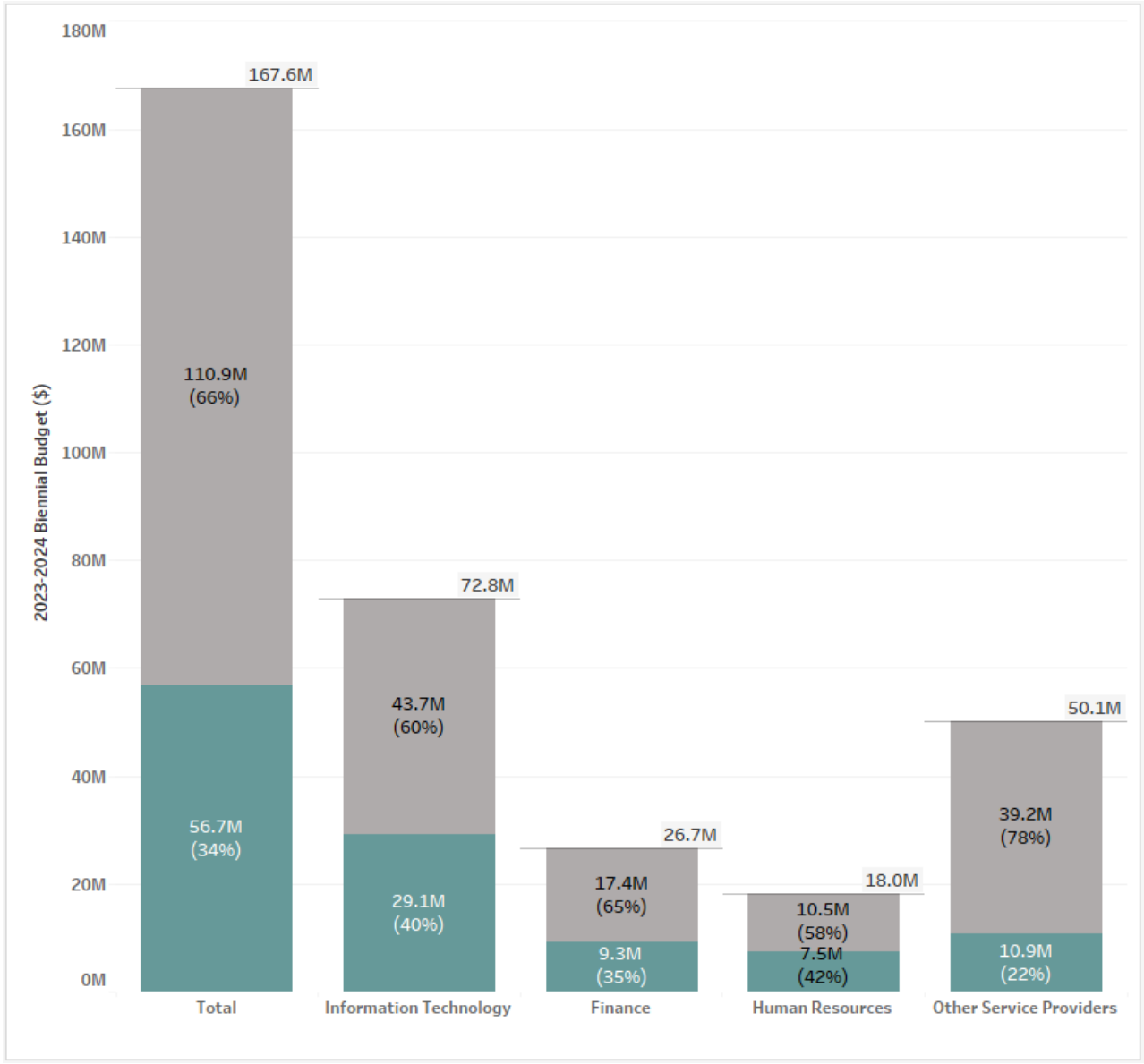
TPU Budget Development

- Director Priorities
- Long Rang Financial Plans
- Revenue Requirements
- Cost of Service Analysis
- PUB Study Sessions
- GPFC Engagement
- Shared Service Costs
- Military Protocol

- Rate Recommendations
- Community Outreach
- Budget Previews

TPU Budget & Rate Approvals
(PUB vote required)

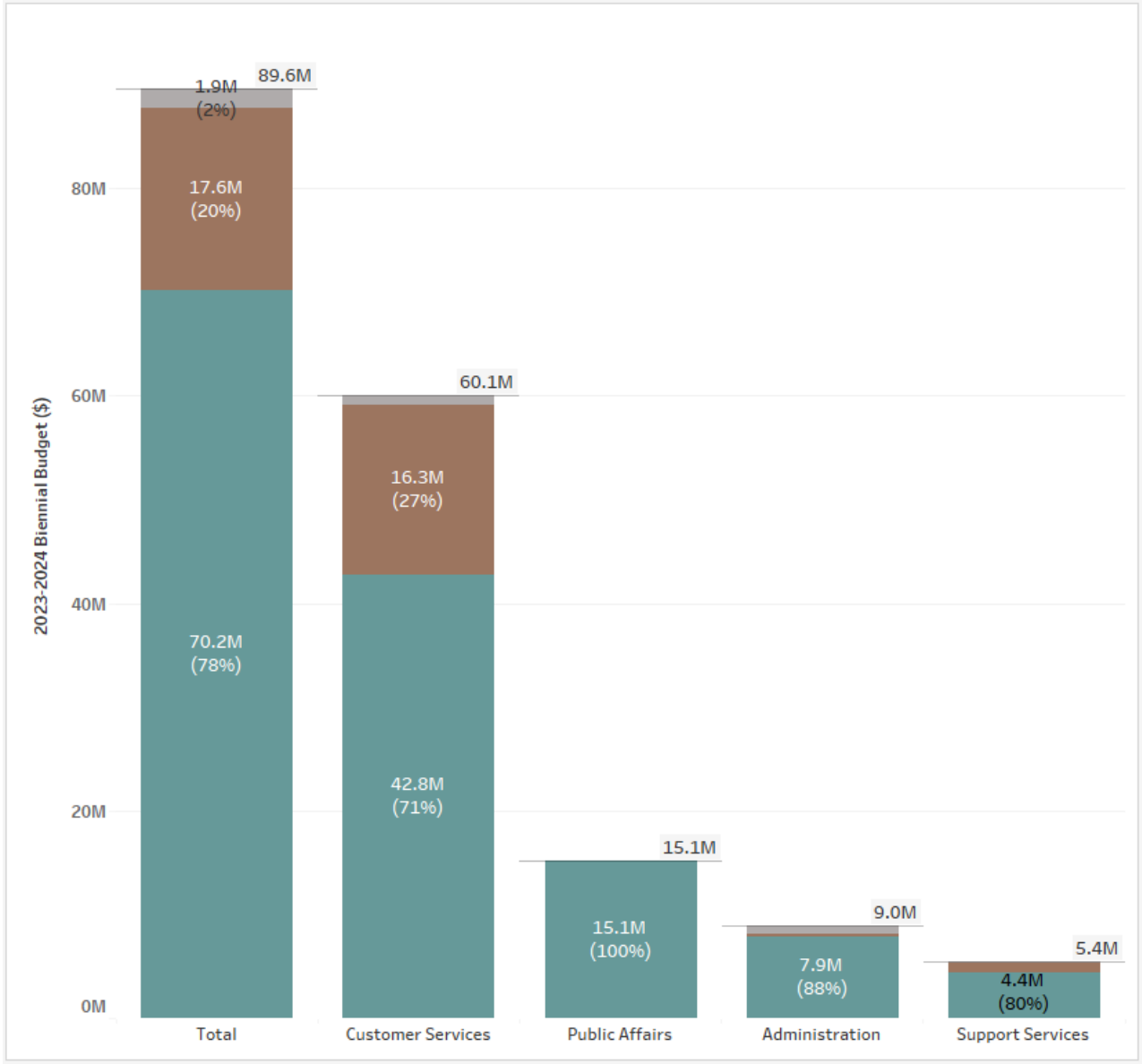
City Shared Services (budget based)



Allocation Factors

- *IT: various*
  - *Budget/FTE blended*
  - *GIS application users*
  - *Customer accounts*
  - *Permit count*
  - *Application count*
  - *Active directory count*
  - *Phone lines, handsets, etc.*
- *Finance*
  - *Budget*
- *HR*
  - *FTE*

TPU Shared Services (actuals based)



Allocation Factors

- Customer Services: *various*
  - *Utility service contracts*
  - *Mail Stops*
  - *Meter reads*
  - *Time study of activities performed*
- Public Affairs
  - *Biennial work plan*
- Administration & MSO
  - *Board motions/resolutions*
  - *Budget/FTE blended*
- Support Services
  - *Copier count*
  - *Blended average*

Budget Development & Monitoring

Our Budget Proposal is Part of a Continuous Process and is:

- Aligned with Rate and Financial Policies and Guiding Principles
- The result of collaborative processes across TPU and other departments across the City
- Used to develop the Revenue Requirement
- A Key Component of long-range financial planning and rate proposals
- Spending and revenue projections are updated regularly and included in monthly and quarterly stakeholder reporting

TPU Rate and Financial Policies

Tacoma Public Utilities

Public Utility Board Retreat | October 13, 2023

Purpose and Guiding Objectives

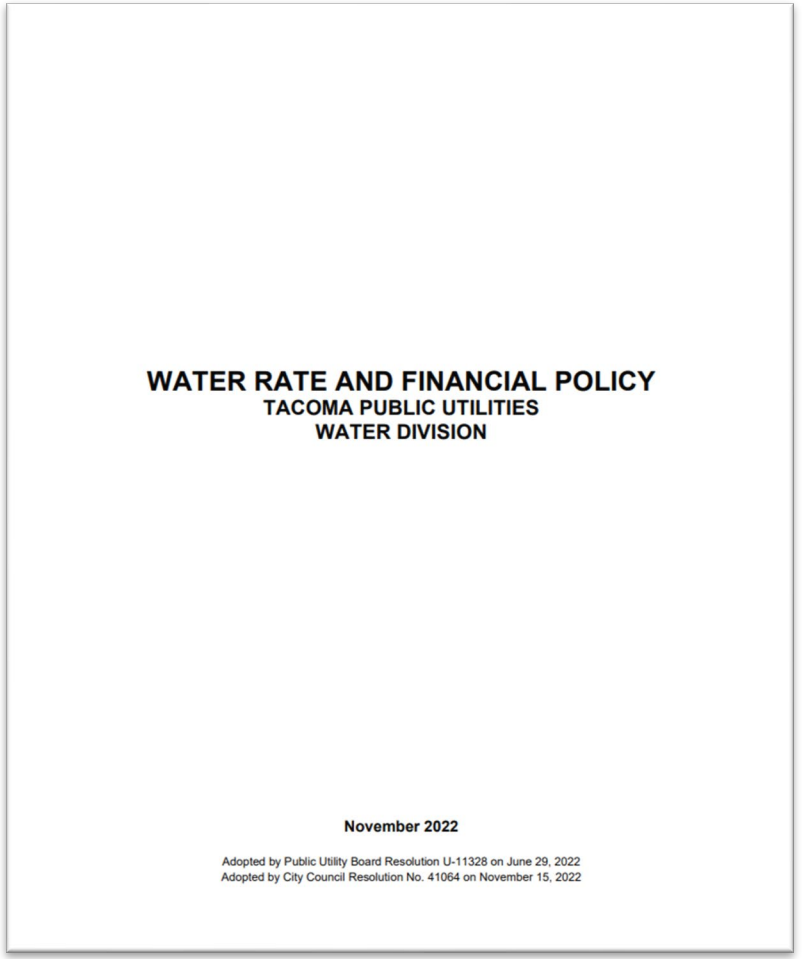
TACOMA WATER
TACOMA PUBLIC UTILITIES

Purpose

The Water Rate and Financial Policy gives direction to planning decisions and helps ensure that Tacoma Water provides an adequate supply of safe, clean water to all customers efficiently, reliably, and at the lowest possible cost consistent with prudent utility management.

Guiding Objectives

a. **Water Rates Should Ensure Adequate Supply.**
b. **Water Rates Should Be As Low As Is Responsible.**
c. **Water Rates Shall Be Fair and Equitable.**
d. **Water Rates Should Be Based on Long-Term Financial Planning and Adjusted Gradually.**
e. **Water Rates Should Be the Product of Customer Involvement.**


WATER RATE AND FINANCIAL POLICY
TACOMA PUBLIC UTILITIES
WATER DIVISION

November 2022

Adopted by Public Utility Board Resolution U-11328 on June 29, 2022
Adopted by City Council Resolution No. 41064 on November 15, 2022

Policy Summary

TACOMA WATER
TACOMA PUBLIC UTILITIES

Revenue Requirement	Cost-Based	Stable Rates	Financial Metrics	Rate Adjustments	Affordability
• Regular reviews with full study every two years	• Cost-of-Service Study determines the cost of serving each customer class	• Water Rates Should Be As Low As Is Responsible	• 60 days of current budgeted expenditures	• Sufficient to meet Tacoma Water budgets	• Special consideration for low-income, senior, and disabled customers
• Study includes projected revenue, expenses and capital improvements	• Allocates class responsibility for projected expenses of the system	• Water Rates Should Be Stable and Understandable	• Capital: $2M minimum in SDC Fund 1% of original plant in Capital Reserve	• Revenue collected to maintain financial sufficiency	
		• To the extent possible, apply gradualism in rate adjustments	• Senior Debt Service Coverage above 1.50x	• Short and long-run rate impacts presented	
			• All In Debt Service Coverage above 1.25x	• Minimize long-run costs to rate-payer	

Reviewing and Testing our Policy

TACOMA WATER
TACOMA PUBLIC UTILITIES

Our review for 2024 will include ensuring alignment with updated Guiding Principles for Rates and Financial Sustainability.

Quantitative Review

- In 2020, we developed a risk reserve analysis model, providing rigor behind our recommended reserve levels*
- Staff conducts annual updates to incorporate actual results and updated forecasts to retest policy sufficiency

* Our work with the risk reserve analysis model is discussed in more detail in our Tacoma Water Long-Range Financial Plan (LRFP)

Qualitative Review

- In 2018, we enhanced our policy addressing the needs of low-income customers
- In 2022, we updated language to highlight long-term financial planning, gradualism, equity, affordability, and climate change in our policy as areas of focus

Purpose and Policy Outline

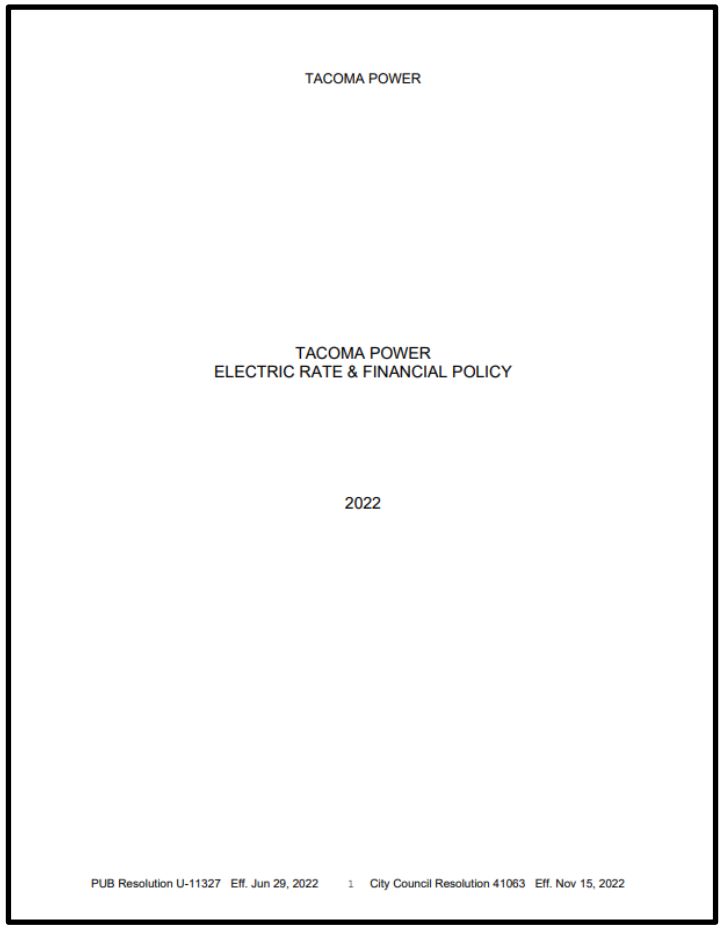
TACOMA POWER
TACOMA PUBLIC UTILITIES

Purpose

Tacoma Power's Electric Rate and Financial Policy gives direction to future short-term and long-term planning decisions and helps ensure that reliable service is provided to all customers at the lowest possible cost consistent with prudent utility management.

Elements

I. Rate Setting Objectives
II. Rate Review Process
III. Rate Setting Policies
IV. Financial Targets and Rate Setting Practices
V. Rate Stabilization Fund


TACOMA POWER

TACOMA POWER
ELECTRIC RATE & FINANCIAL POLICY

2022

PUB Resolution U-11327 Eff. Jun 29, 2022 1 City Council Resolution 41063 Eff. Nov 15, 2022

Policy Summary

TACOMA POWER
TACOMA PUBLIC UTILITIES

Revenue Requirement	Cost-Based	Stable Rates	Financial Metrics	Rate Adjustments	Affordability
• Monthly reviews with full study every two years	• Cost-of-Service Study determines the cost of serving each customer class	• Power rates should be stable and not exceed general inflationary trends	• 90 days of current budgeted expenditures	• Sufficient to meet Tacoma Power budgets	• Special consideration for low-income senior and/or disabled customers
• Study includes projected load, hydro conditions, revenues, expenses and capital improvements	• Allocates class responsibility for projected expenses of the system	• To the extent possible, apply gradualism in rate adjustments	• Debt Service Coverage above 1.50x based on adverse water revenue projections	• Revenue collected to maintain financial sufficiency	
			• Debt Service Coverage above 1.80x based on average water revenue projections	• Short and long-run rate impacts evaluated	
			• Liquidity levels set to maintain or improve current debt ratings at AA-level		

Reviewing and Testing our Policy

TACOMA POWER
TACOMA PUBLIC UTILITIES

Quantitative Review

- In 2010, we funded a Rate Stabilization Fund* (RSF) to stabilize rates and maintain AA-rated utility metrics.
- Staff conducts annual updates to incorporate actual results and updated forecasts to retest the sufficiency of the financial metrics.
- Based on our modeling, we do not need to change our policies around liquidity.
- Based on recent feedback, staff is considering an approval threshold in our policy for the RSF.
- We are evaluating our RSF balance through several analyses and comparisons to peer utilities.

*Our plans to use the Rate Stabilization Fund is discussed in more detail in our Tacoma Power Long-Range Financial Plan (LRFP).

Qualitative Review

- In 2018, we enhanced our policy addressing the needs of low-income customers and formalized our Long-Range Financial Plan with a long-term view on gradual rate adjustments
- In 2022, we updated language to highlight long-term financial planning, gradualism, equity, affordability, and climate change in our policy

Purpose and Guiding Objectives

TACOMA RAIL
TACOMA PUBLIC UTILITIES

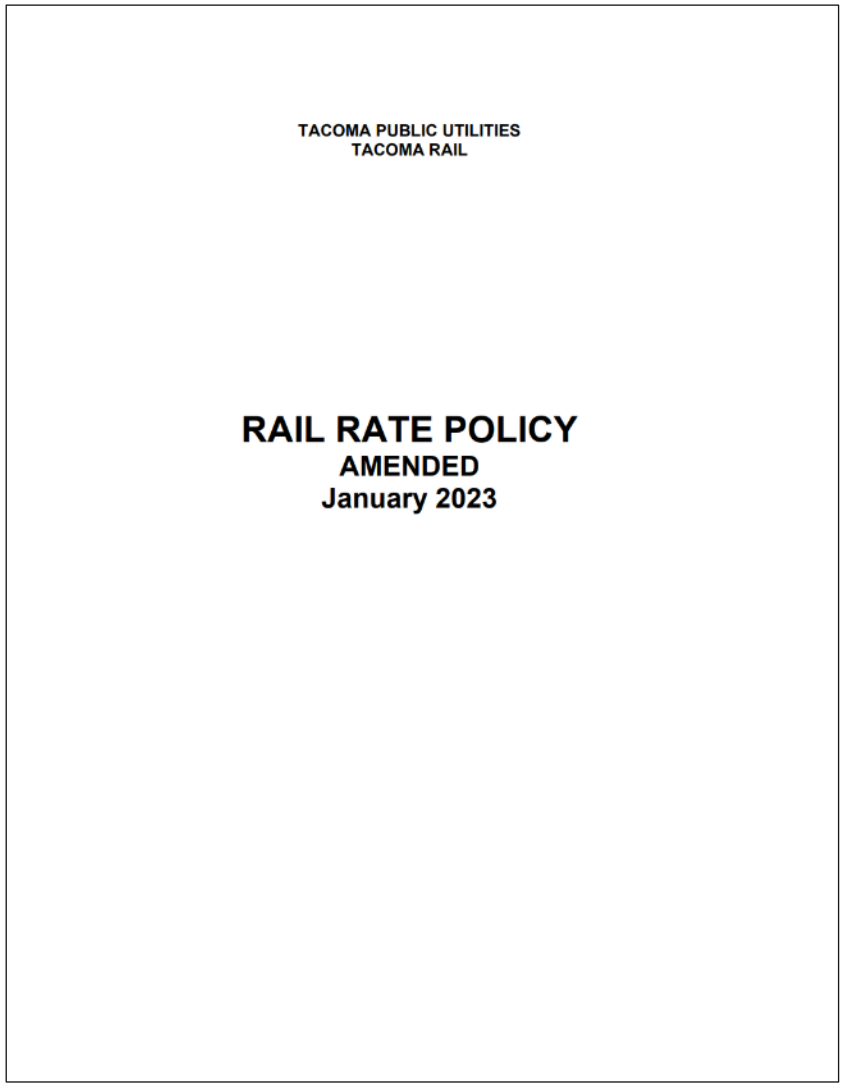
Purpose

The Tacoma Rail Rate Policy provides for rates adequate to ensure the operation, maintenance, and construction of the Department's railway system while providing safe, cost effective, and reliable service to customers within Tacoma Rail's service area.

Guiding Objectives

Rail rates should:

A. Be cost based and adequate to recover costs
B. Be stable
C. Ensure sufficient resource planning and acquisition for reliable service while being as competitive as possible
D. Have a customer involvement and review process


TACOMA PUBLIC UTILITIES
TACOMA RAIL

RAIL RATE POLICY
AMENDED
January 2023

Policy Summary

TACOMA RAIL
TACOMA PUBLIC UTILITIES

Revenue Requirement	Cost-Based	Stable Rates	Financial Metrics	Rate Adjustments
• Rates reviewed every two years at a minimum • Full revenue requirement study performed every two years	• Utilize an average embedded cost-of-service methodology • Allocates rate class responsibility for projected expenses of the system • Fuel surcharges shall be based on actual costs over an established threshold	• To the extent possible, rate adjustments will not exceed general inflationary trends • The term of debt financing will not be longer than the useful life of the capital project • Volume Investment Fund	• Minimum cash balance of 60 days of current budgeted expenditures • The limit of debt to total assets shall be set up to a maximum of 40% • Debt service coverage ratio shall be at least 1.5x	• Rates based on best estimates of rail volume • Rates will be designed to meet the changing needs of the customer • Rate classes may be established by blending customers • The character and volume of service is used to apportion costs, developing rates, and tariff revisions

TPU Ratemaking Principles and Cost-of-Service Analysis

Tacoma Public Utilities

Public Utility Board Retreat | October 13, 2023

Policies & Principles

Section 1

Principles Review

Legal

- Fair
- Just
- Reasonable
- Non-Discriminatory

Industry-Standard

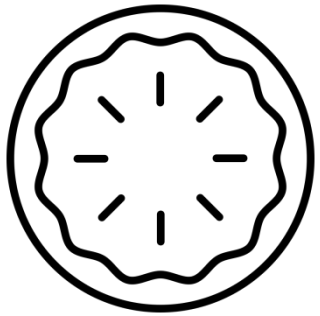
- Revenue Stability
- Cost Causation
- Economic Efficiency
- Equity
- Bill Stability

TPU Principles

- Affordability
- Environment
- Public Involvement

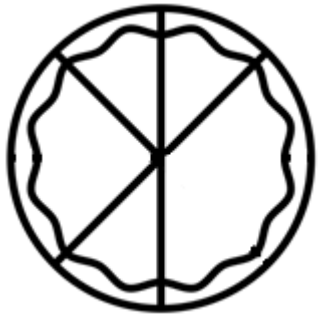
Ratemaking Process Overview

How Big is the Pie?



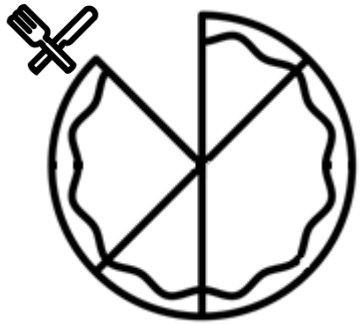
Revenue Requirement
Identifies revenue needed to sustain operations, **according to financial plan**.

How to Slice the Pie?



Cost-of-Service Analysis (COSA)
Divides revenue requirement into **total amount** to be paid by **each customer class**.

How to Make the Pie?



Rate Design
Sets rate structure to bill each customer (*e.g.* customer **charge** per month, energy **charge** per kWh, usage **charge** per CCF [100 cubic feet; 748 gallons], etc.)

Revenue Requirement

Ratemaking Process

Revenue Requirement

"How much money do we need?"

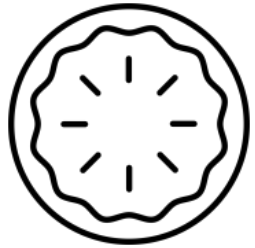
Cost-of-Service Analysis

"Who pays what?"

Rate Design

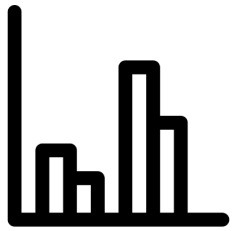
"How do customers pay?"

- Identifies revenues needed to sustain operations
- Supported by Long-Range Financial Plan (LRFP)
- Ensures achievement of key policy objectives

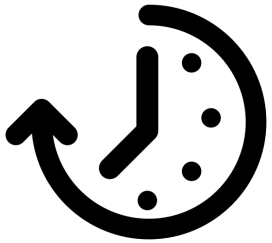


How Big is the Pie?

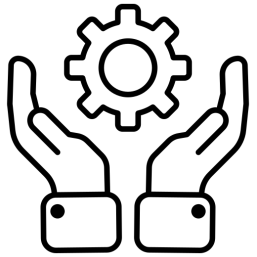
Revenue Requirement Takeaways



Compares forecasted costs to projected revenues prior to any rate adjustments



Conducted every two years as part of the budgeting and ratemaking cycle



Supports long-range financial plans

Long-Range Financial Plan (LRFP)

What is in a LRFP?

- Forecasting
- Strategic planning
- Decision-making tools
- Action steps

Why is a LRFP needed?

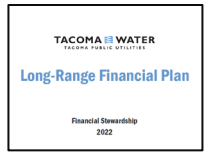
- Support proactive, informed financial management
- Provide a long-term view of financial health
- Plan for and mitigate risk
- Ensure achievement of policy objectives
- Good financial stewardship

How do we build our LRFP?

- Rate & Financial Policies
- Sensitivities & priorities
- Revenue requirement analysis

Where is the LRFP?

- Formalized into a document
- Most recent Power version: May 1, 2022
- Most recent Water version: May 1, 2023



Revenue Requirement

Requirement

- Identify financial obligations
- Evaluate sufficiency of current rates
- Develop strategy for sustainability

Development

- O&M Expense Forecast
- Capital Expense Forecast
- Revenue at Existing Rates
- Non-Rate Revenue Forecast

Any revenue requirement deficiencies must be addressed by rate adjustments.

Analysis

- Base Case
- Scenario Development

Scenarios provide a range of likely future rate adjustment paths.

Cost-of-Service Overview

Ratemaking Process

Revenue Requirement

"How much money do we need?"

Cost-of-Service Analysis

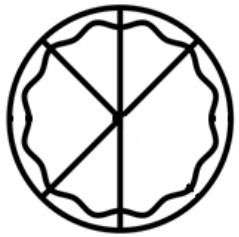
"Who pays what?"

Rate Design

"How do customers pay?"

- Determines total to be paid by each customer class

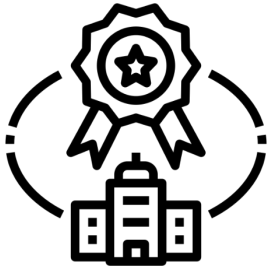
How to Slice the Pie?



COSA Primary Takeaways

Allocates utility expenses equitably by assigning them to those who cause the costs

Provides bill stability and prevents large rate spikes by phasing in adjustments



The cost-of-service methodology is a well-tested industry standard

COSA Overview

What Proportion of Utility Cost is Caused by the Class?

- Put similar customers together in **classes** based on how they use the system
- Update **data**: usage, customer count, *etc.*

Customer Characteristics

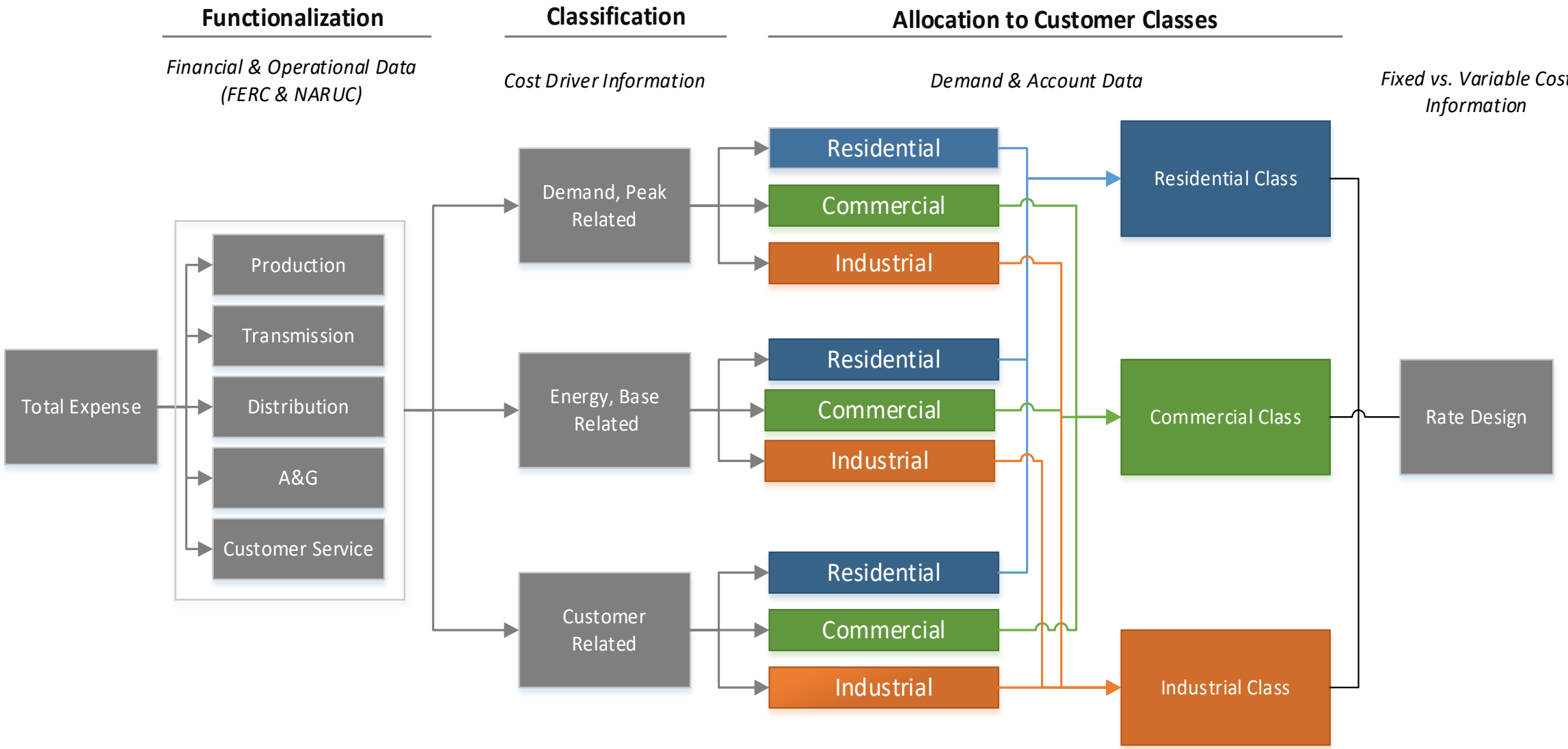
COSA Model

- **Functionalization**: What utility function is associated with this cost? (*e.g.* distribution)
- **Classification**: What customer characteristic drives this cost? (*e.g.* usage at peak, number of customers)
- **Allocation**: How much of the costs should be assigned to each customer class?

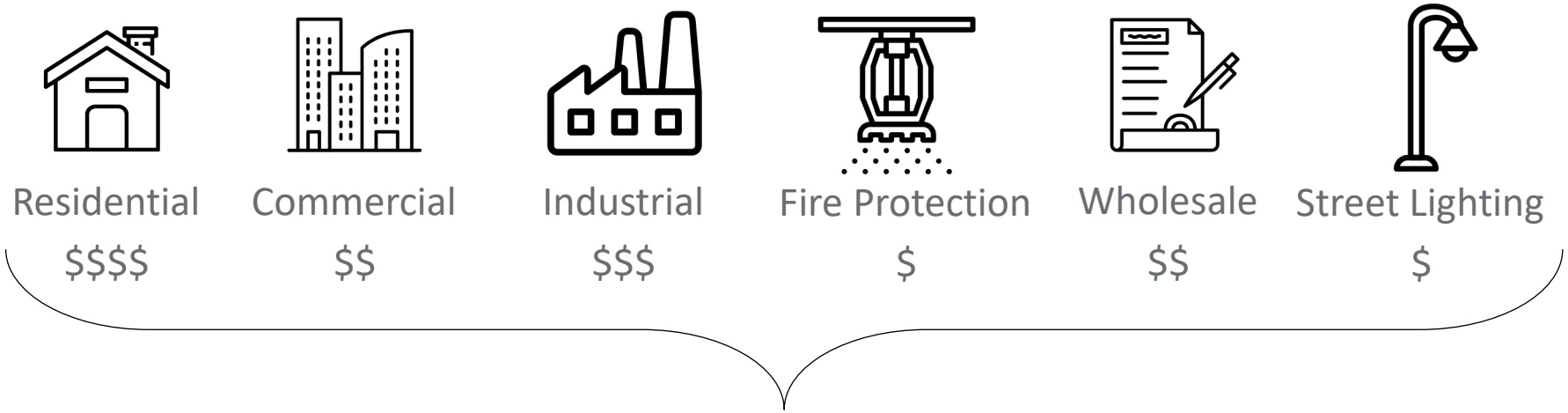
- **Dollar** value to be collected from each rate class
- Utility **prices** that collect revenues based on contribution to utility cost

Results

COSA Data-Flow Diagram



Using COSA Results



The utility may deviate from these results:

- ❑ If one class receives a much larger/smaller increase than the average
- ❑ For strategic directive considerations
- ❑ To phase adjustment in gradually
- ❑ If an increase would impact some customers in a class more than others
- ❑ For non-financial considerations (*e.g.* environmental incentives, economic development)

Benefit to Customers & Utilities

Legal Implications/Considerations

- Industry Standards and Precedents
- Cost-causation lens is widely recognized as meeting Legal standard of fair, just, reasonable, and non-discriminatory
- Matching revenue drivers to cost drivers promotes revenue stability and utility financial health
- Economic Efficiency
- Equity
- Bill Stability

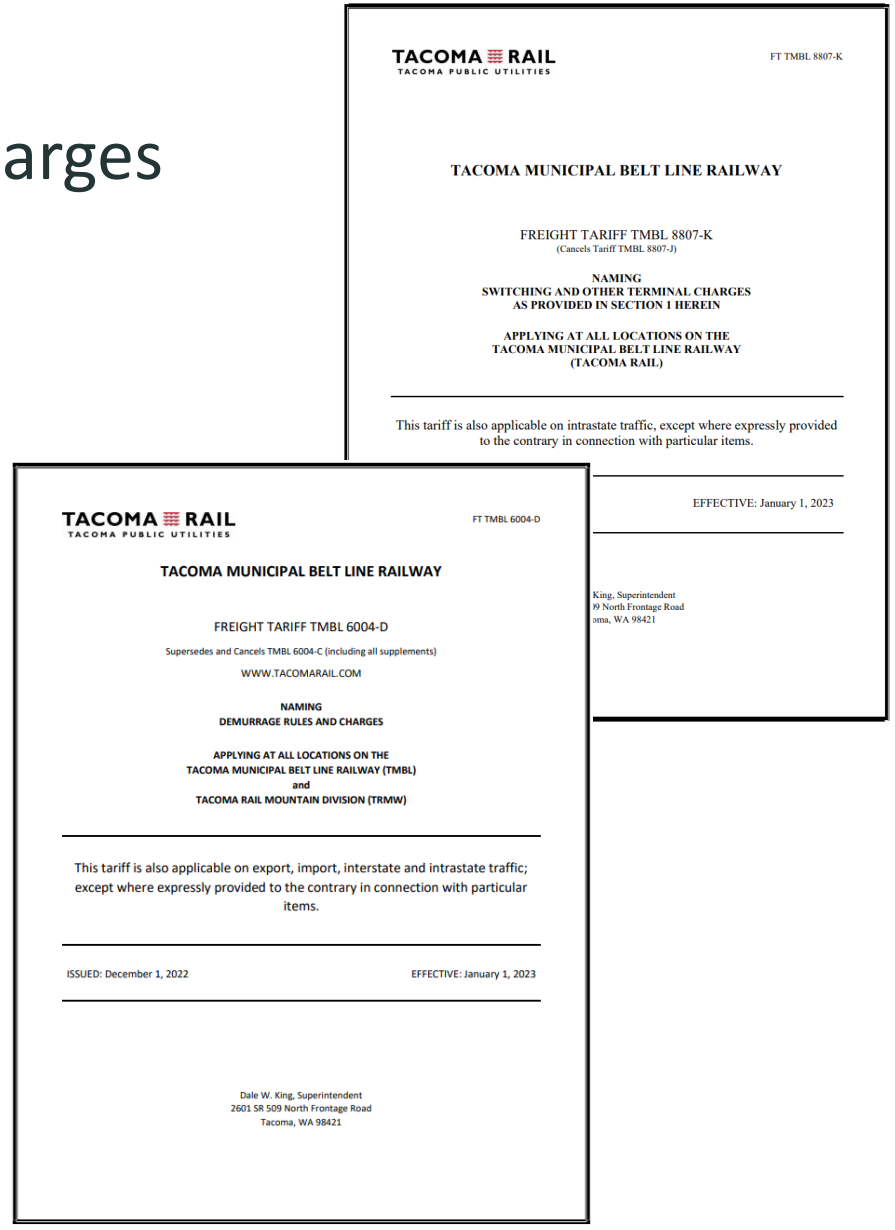
TACOMA RAIL
TACOMA PUBLIC UTILITIES

Tacoma Rail Ratemaking

Tariff Rates

TACOMA RAIL
TACOMA PUBLIC UTILITIES

- **Switching Tariff**
  - Line haul and related railcar movement charges
  - Last updated 1/1/2023



TACOMA RAIL
TACOMA PUBLIC UTILITIES

FT TMBL 8807-K

TACOMA MUNICIPAL BELT LINE RAILWAY

FREIGHT TARIFF TMBL 8807-K
(Cancels Tariff TMBL 8807-J)

NAMING
SWITCHING AND OTHER TERMINAL CHARGES
AS PROVIDED IN SECTION 1 HEREIN

APPLYING AT ALL LOCATIONS ON THE
TACOMA MUNICIPAL BELT LINE RAILWAY
(TACOMA RAIL)

This tariff is also applicable on intrastate traffic, except where expressly provided to the contrary in connection with particular items.

EFFECTIVE: January 1, 2023

King, Superintendent
9 North Frontage Road
oma, WA 98421

TACOMA RAIL
TACOMA PUBLIC UTILITIES

FT TMBL 6004-D

TACOMA MUNICIPAL BELT LINE RAILWAY

FREIGHT TARIFF TMBL 6004-D

Supersedes and Cancels TMBL 6004-C (including all supplements)

WWW.TACOMARAIL.COM

NAMING
DEMURRAGE RULES AND CHARGES

APPLYING AT ALL LOCATIONS ON THE
TACOMA MUNICIPAL BELT LINE RAILWAY (TMBL)
and
TACOMA RAIL MOUNTAIN DIVISION (TRMW)

This tariff is also applicable on export, import, interstate and intrastate traffic; except where expressly provided to the contrary in connection with particular items.

ISSUED: December 1, 2022

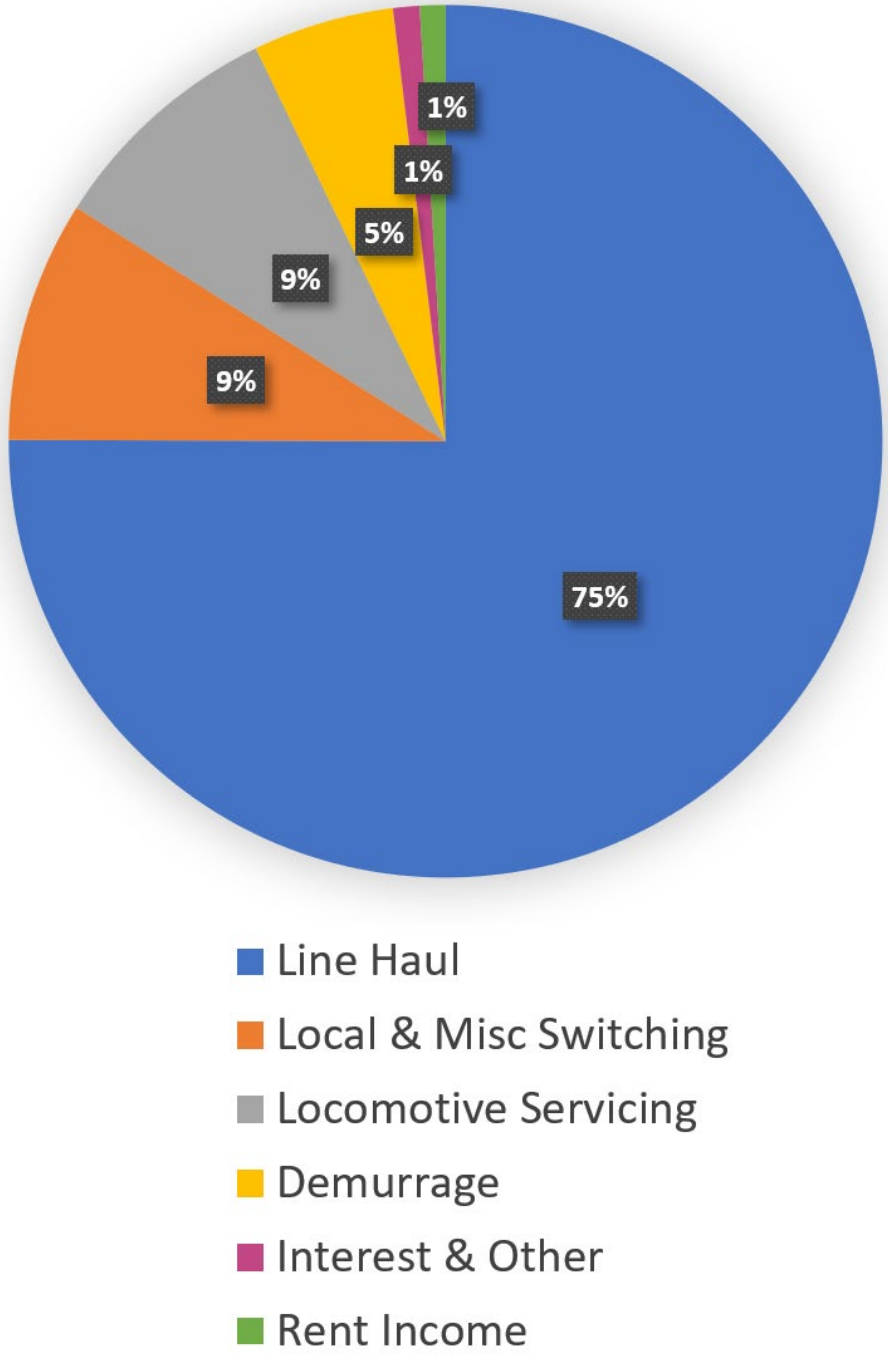
EFFECTIVE: January 1, 2023

Dale W. King, Superintendent
2601 SR 509 North Frontage Road
Tacoma, WA 98421

- **Demurrage Tariff**
  - For the undue detention of railcars
  - $65/day after credits
  - Last updated 1/1/2023

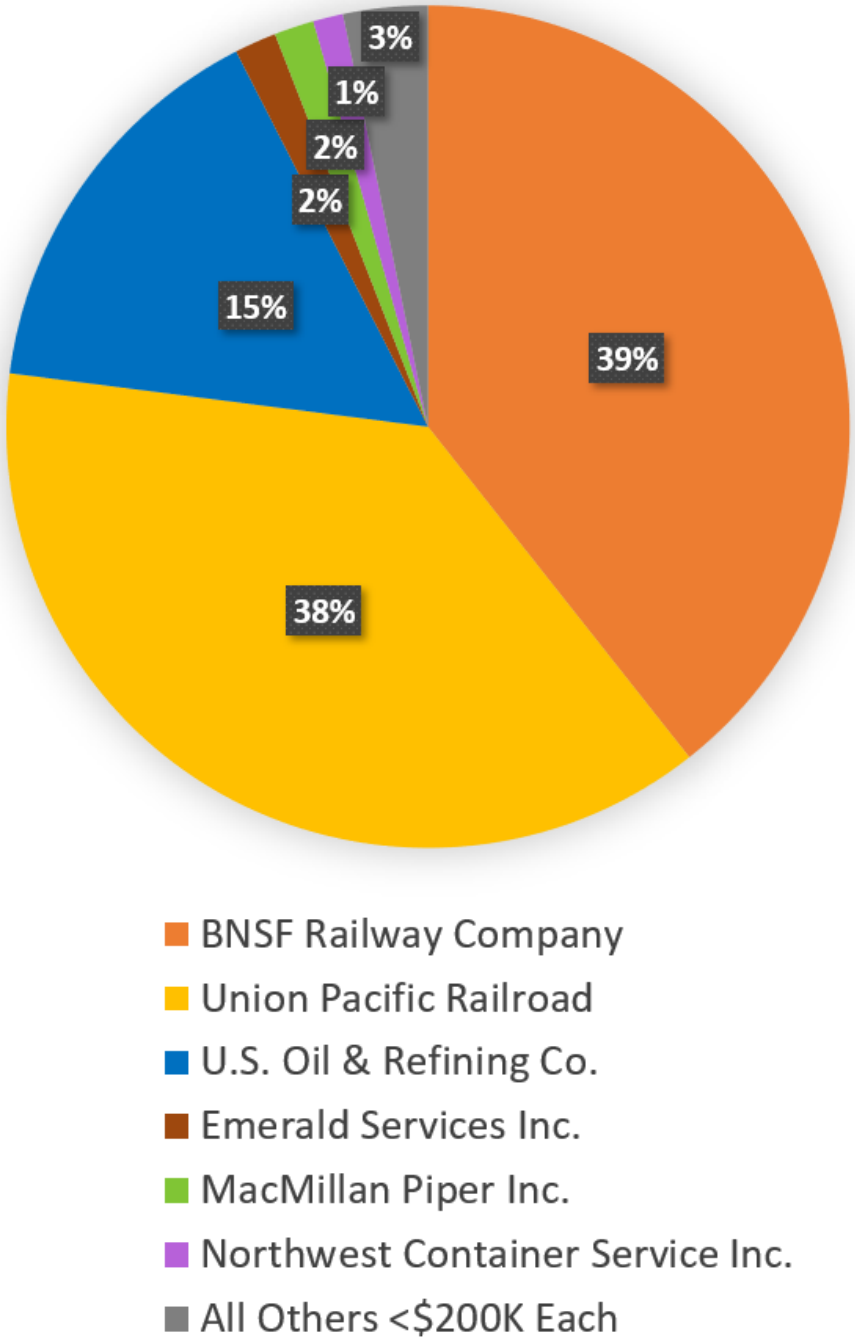
Sources of Revenue

- Tariff based
  - Line haul
  - Local & miscellaneous switching
  - Demurrage
- Agreement based
  - Locomotive servicing
  - Miscellaneous switching & other
  - Rent income
- Interest income
  - Treasury
- Other miscellaneous
  - 45G tax credit



Primary Rate Payers

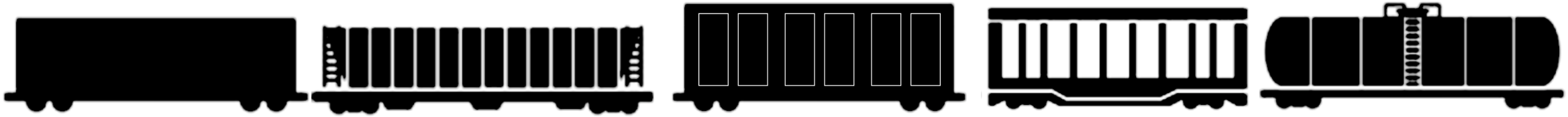
- Line haul traffic
  - BNSF Railway
  - Union Pacific Railroad
  - U.S. Oil Refining
- Miscellaneous switching
  - Local customers requesting additional service
- Locomotive servicing
  - BNSF Railway
  - Union Pacific Railroad
- Demurrage
  - Undo detention of a railcar
  - Local commercial customers
  - Excludes autorack railcar traffic



Line Haul Railcars vs Platforms

TACOMA RAIL
TACOMA PUBLIC UTILITIES

- Railcars can have multiple platforms
- A platform is a location within a railcar that is separated by articulations
  - Mostly limited to intermodal railcars
- Examples of single platform railcars:



Box car | Covered hopper | Autorack | Centerbeam | Tank car

- Examples of multiple platform railcars:

Intermodal 3 well

Intermodal 5 well

Line Haul Rate Analysis

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- **Intermodal**
  - $58.50
  - Less labor intensive
  - More volume
  - Yard management
  - Higher track wear
  - Service windows
  - Fewer destinations
  - Do not incur demurrage
- **Commercial**
  - $337 & $391
  - Labor intensive
  - Lower volume
  - Less track utilization
  - Lower track wear
  - Daily service
  - More destinations
  - Subject to demurrage
- **Lakeview Sub**
  - $623
  - Labor intensive
  - Much lower volume
  - Twice/week service
  - Few destinations
  - Subject to demurrage
  - Sound Transit
  - Subject to PTC
- **Unit Trains**
  - $250 & $334
  - Hybrid of Intermodal & Commercial
  - Oil spill response plan & drills

Demurrage Analysis

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49 CFR § 1333.1 - Demurrage defined.

Demurrage is a charge that both compensates rail carriers for the expenses incurred when rail cars are detained beyond a specified period of time (i.e., free time) for loading or unloading, and serves as a penalty for undue car detention to encourage the efficient use of rail cars in the rail network.

- Applies to:
  - Commercial customers
    - Excludes Autos
- Does not apply to intermodal
- Current rate is $65/day excluding weekends & holidays

- Offsets:
  - Car hire
    - Intermodal car hire recovered through line haul rates
  - Yard storage and track space
  - Billing & administration
- Discourages utilization of railroad infrastructure to offset costs of increasing customer facility capacity

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Tacoma Water Rate Design

Ratemaking Process

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TACOMA PUBLIC UTILITIES

Revenue Requirement

"How much money do we need?"

Cost-of-Service Analysis

"Who pays what?"

Rate Design

"How do customers pay?"

How to Make the Pie?

- Design rate structure to collect revenue from customers in class
- Set actual cost per CCF, hydrant charge per month, meter charge per month, *etc.*

Rate Design Primary Takeaways

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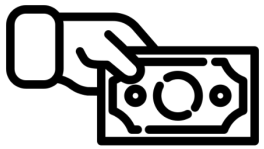
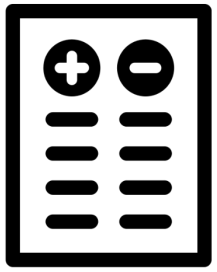
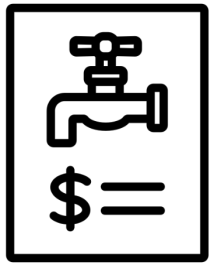


Rate design is how the utility goes about collecting the cost to serve each class *from* each class



Rate design is a push and pull of competing objectives



Fixed cost recovery ratio does not necessarily correlate with higher bills

Competing Objectives

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Objective	Definition	Goals
Revenue Stability	Generate stable and predictable revenue, regardless of external factors	• Reliably fund fixed operating and capital needs • Avoid regular emergency or reactive rate increases
Conservation	Encourage efficient water use (total/peak)	• Promote environmental stewardship • Delay future capital investments
Affordability	Provide affordable water at base levels of consumption	• Make critical services available to all customers • Reduce and avoid customer delinquency
Understandability	Keep structure simple to administer and explain to customers	• Effectively communicate intended price signals • Reduce administrative burden on staff

Rate and Non-Rate Solutions

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Objective	Rate Design	Non-Rate Solutions
Revenue Stability	Utilization of fixed component	Long-term planning and policymaker support
Conservation	Two-tier summer peaking structure	Rebate and education programs
Affordability	Summer tier 2 begins at or around non-discretionary use	Customer assistance programs like BCAP and LIE/LID
Understandability	Two-tier structure only occurs in summer months	Robust IT and communications teams

Tacoma Water Residential Rate Design

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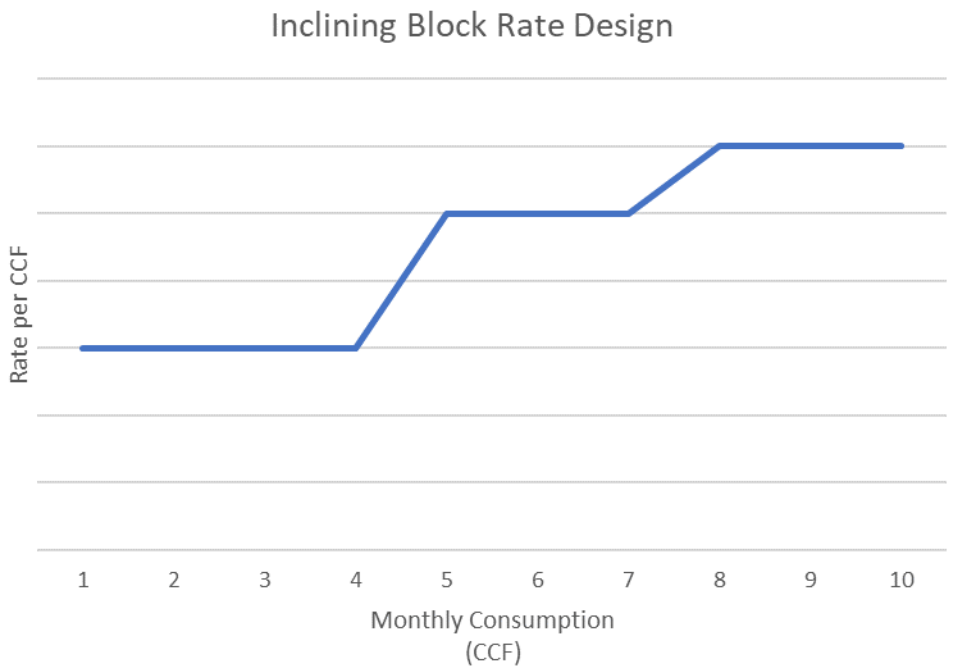
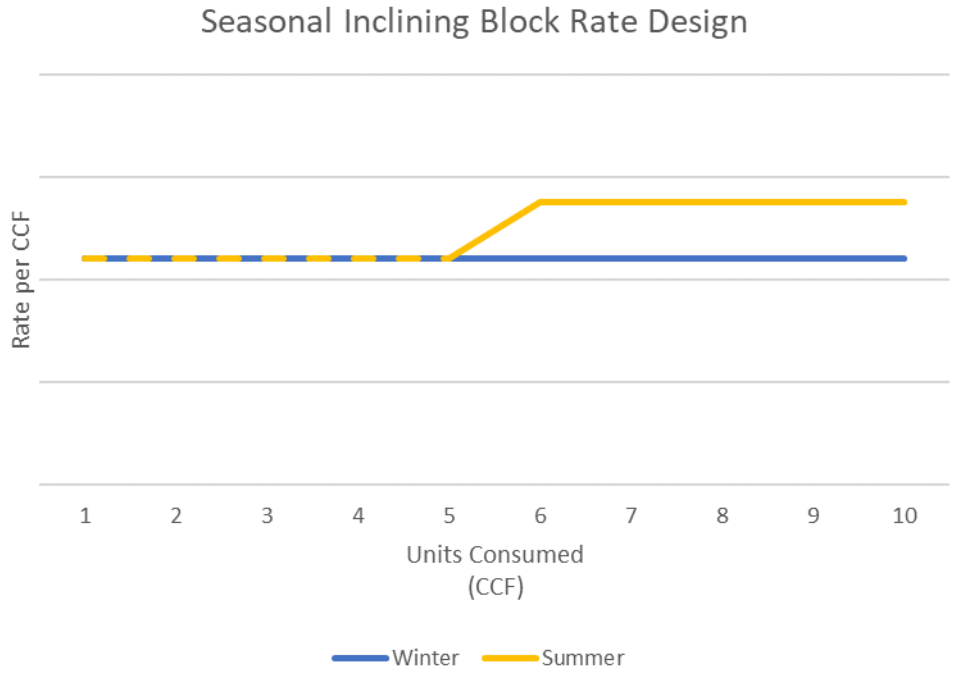
Rate Design Philosophy

An inclining block rate design may be best applied when the cost to produce water increases as more water is consumed. It can also be used to send a conservation message to high-water users.



Tacoma Water Rate Schedule

Tacoma Water applies a seasonal, block rate design to its residential class. In the winter season, residential customers pay a base rate per CCF consumed. In the summer season, residential customers pay the same base rate per CCF for the first five CCF consumed, and an increased rate for any monthly consumption beyond five CCF.



Consumption Declines, Costs Stable

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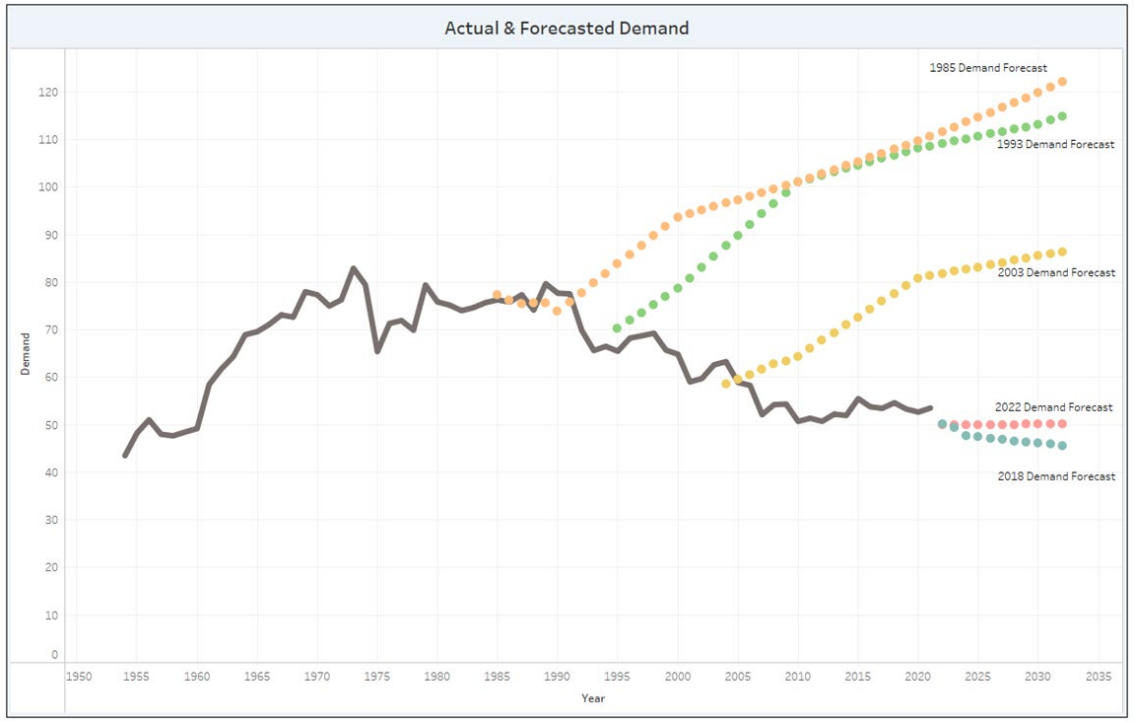
The hockey stick projections of the past explains why the utility built the Water system the way it did: to prepare for future growth.

Reliance on expectations of ever-increasing consumption allowed recovery of fixed costs in the variable portion of the rate.

Now, however, conservation measures, improved codes, standards, and more efficient household fixtures are leading to new forecasts of flat or declining water demand.



Costs and Revenue Structures Mismatched

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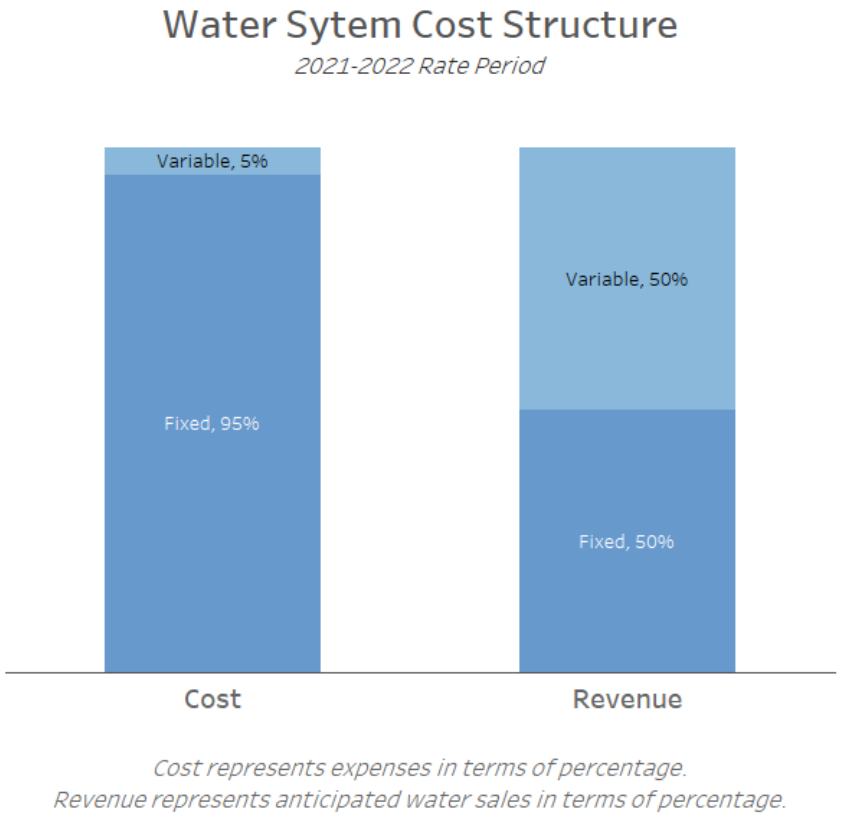
Water utilities exist in a capital-intensive business environment.

Over 95% of costs are “fixed” in the very short run; power, treatment, and solids handling are the only variable costs on this time horizon.

Rate design can be used to contribute to revenue stability, improve equity across customer classes, and send a conservation signal.



Fixed vs Variable Cost Recovery

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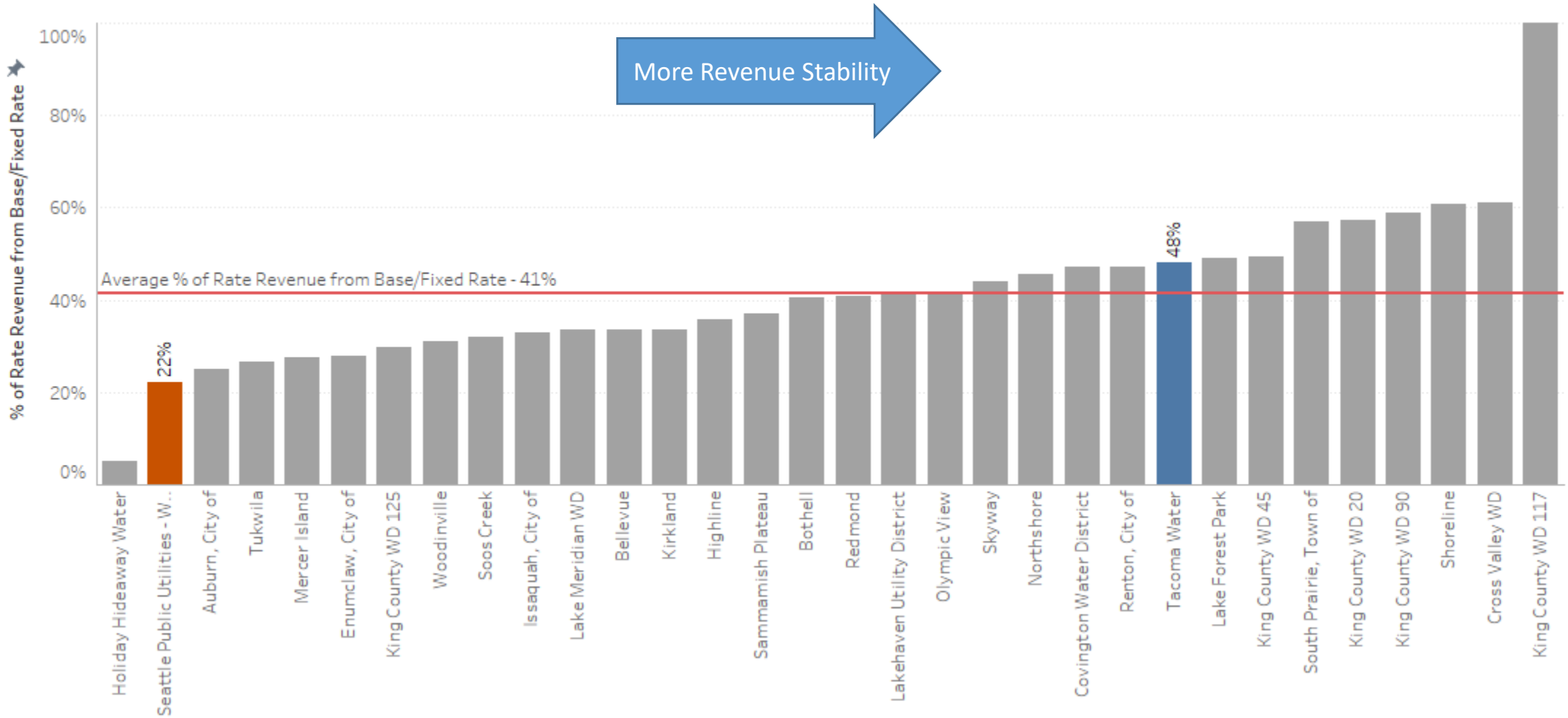

Fixed Cost Recovery Does Not Determine Bill

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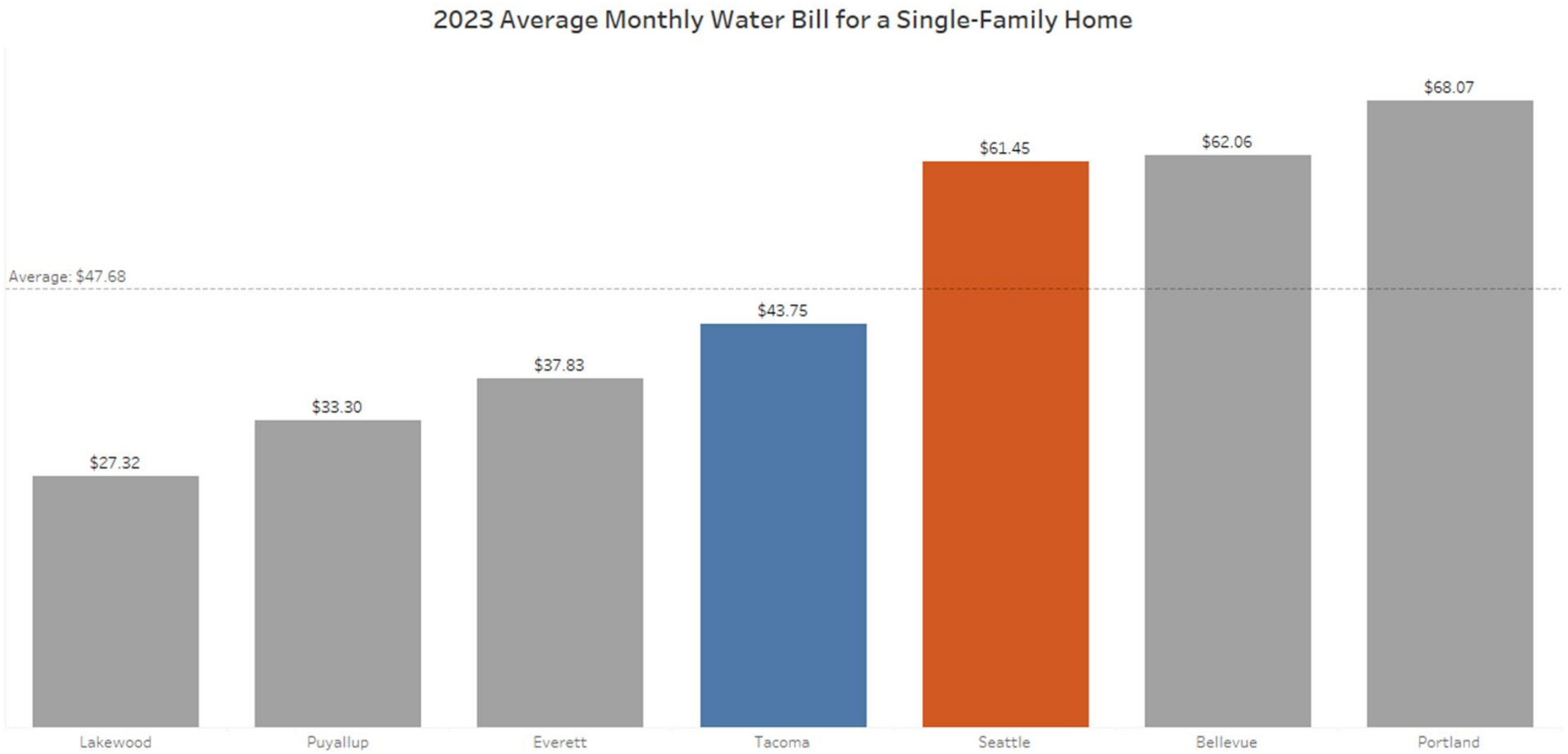

This comparison assumes an average inside-city single family account consumes 6 CCF per winter month and 9 CCF per summer month, utilizing a 5/8" meter.

Summary

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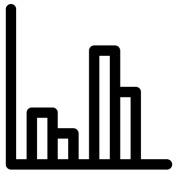
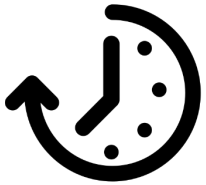
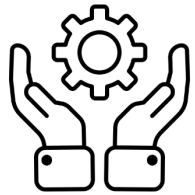
Revenue Requirement



Compares forecasted costs to projected revenues prior to any rate adjustments



Conducted every two years as part of the budgeting and ratemaking cycle

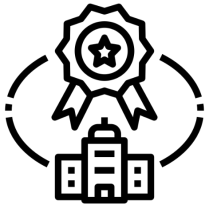


Support our long-range financial plans

Cost of Service Analysis

Allocates utility expenses equitably by assigning them to those who cause the costs

Provides bill stability as large swings using this method are rare and can be phased in

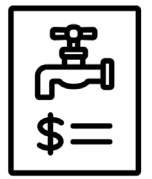


The cost-of-service methodology is a well-tested industry standard

Rate Design

Rate design is how the utility goes about collecting the cost to serve each class *from* each class

Rate design is a push and pull of competing priorities



Fixed cost recovery ratio does not necessarily correlate with higher bills

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Tacoma Power Rate Design

Ratemaking Process

TACOMA POWER
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Revenue Requirement

"How much money do we need?"

Cost-of-Service Analysis

"Who pays what?"

Rate Design

"How do customers pay?"

How to Make the Pie?

- Design rate structure to collect revenue from customers in class
- Set actual cents **per kWh**, customer charge **per month**, etc.

Fixed & Variable Cost Components

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CUSTOMER

- Based upon the **cost to maintain connection** to the system
- Recovered from "monthly charge"
- Does not vary by the amount of electricity used
- **Fixed Cost**

ENERGY

- Based upon the **cost to provide the total** electric energy consumed
- Related to kilowatt-hours (**kWh**)
- Varies by the overall amount of electricity used
- **Variable Cost**

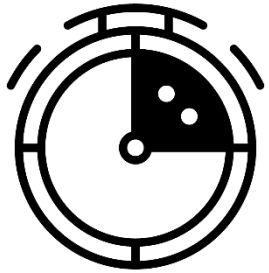
DEMAND

- Based upon the **cost to provide peak** electric capacity
- Related to kilowatts (**kW**)
- Determined by the maximum capacity needed.

Demand versus Energy

100 kW

×



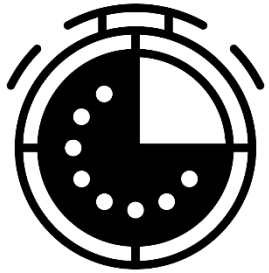
1 hour

1 kW

DEMAND

"How big is the pipe?"

×



100 hours

=

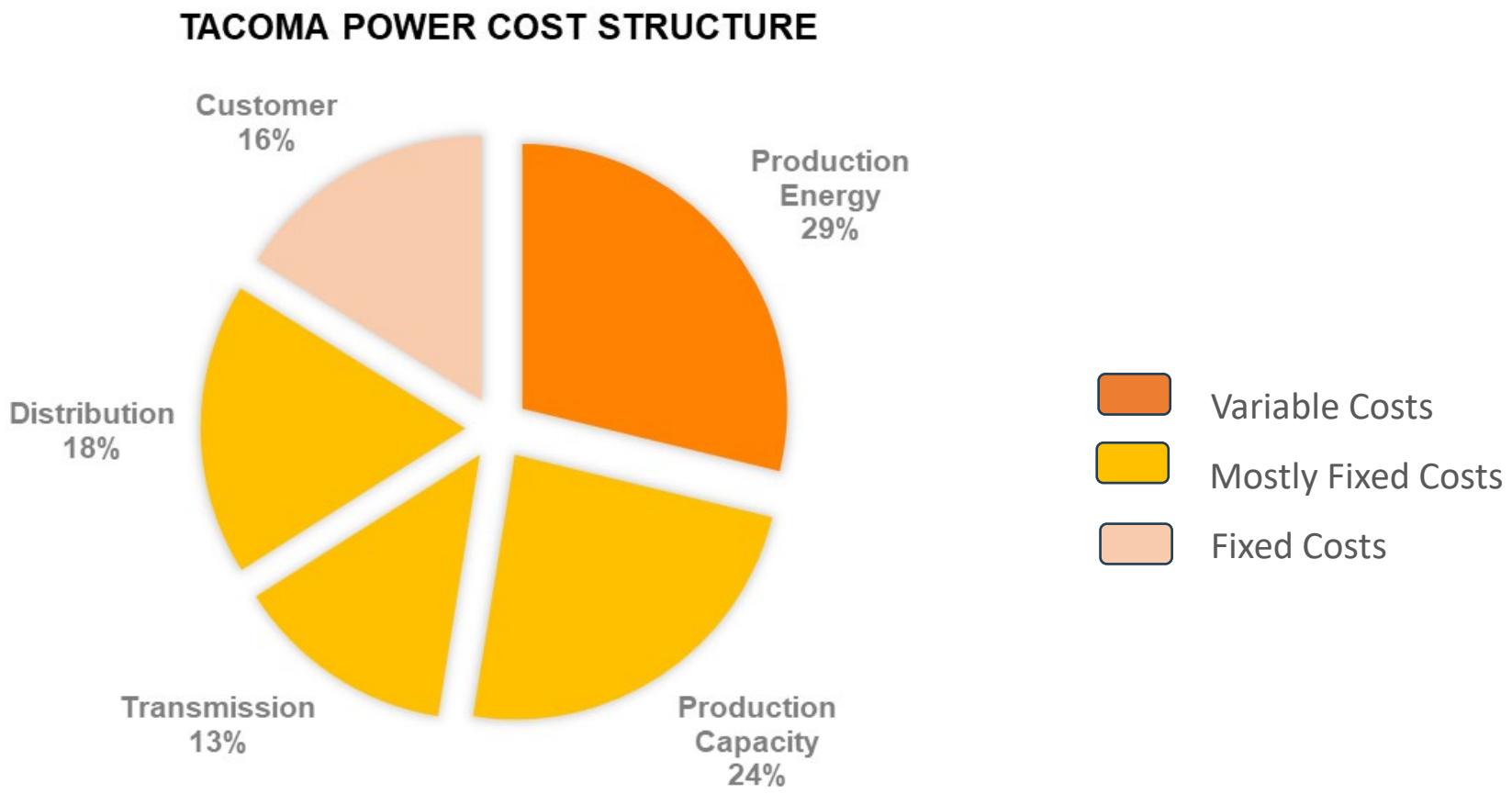
100 kWh

ENERGY

"How much went through the pipe?"

Different peak demands can result in the same total energy, but have different costs for the utility to serve.

Tacoma Power Cost Structure



Over 70% of Tacoma Power's costs are either fixed or mostly fixed. Less than 30% is energy cost that varies by customer consumption.

Tacoma Power Rate Structure

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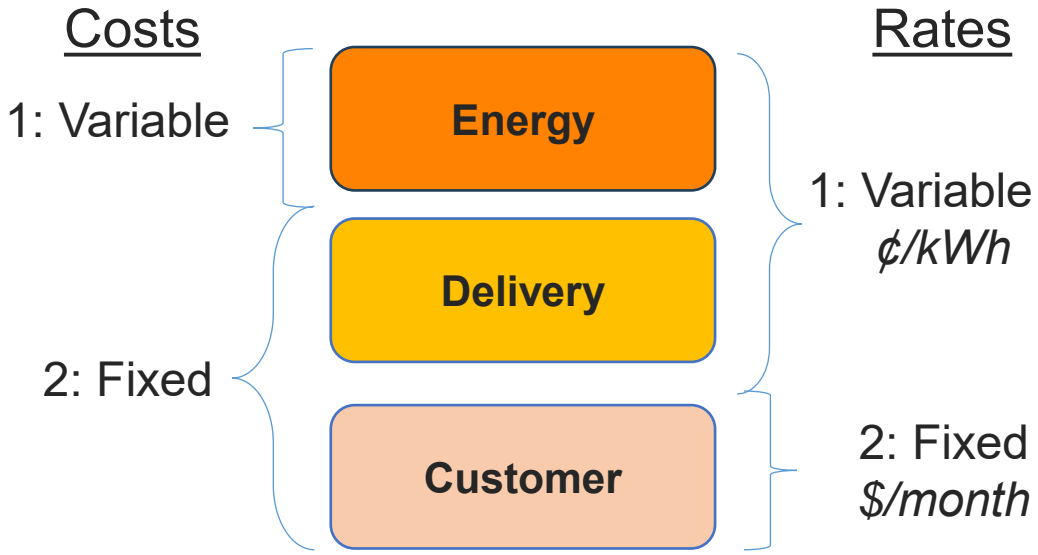
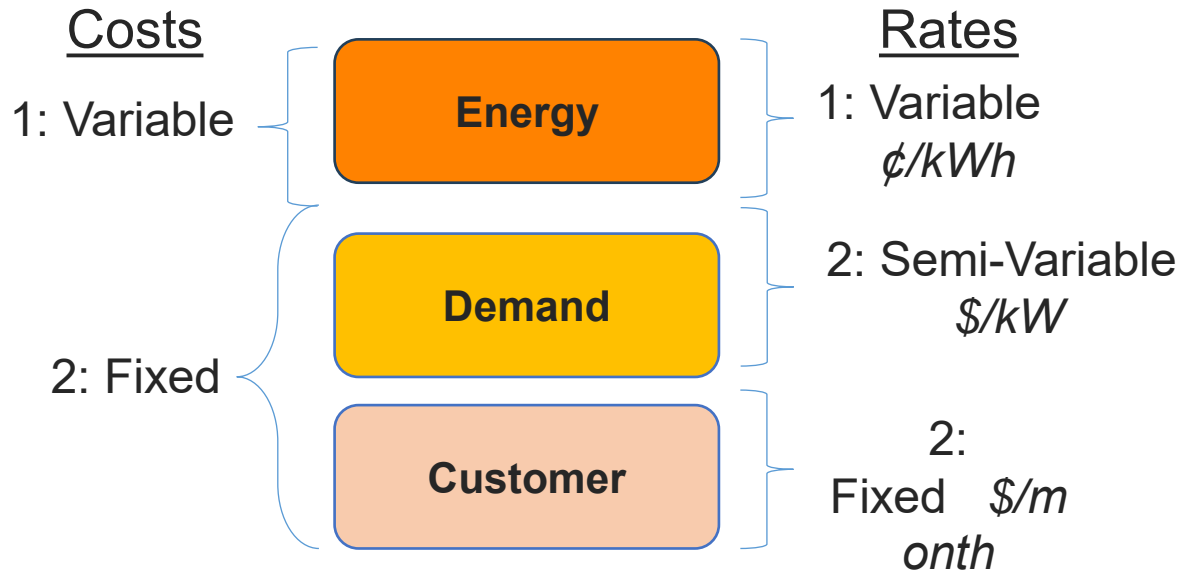
Two-Part Rate



Three-Part Rate



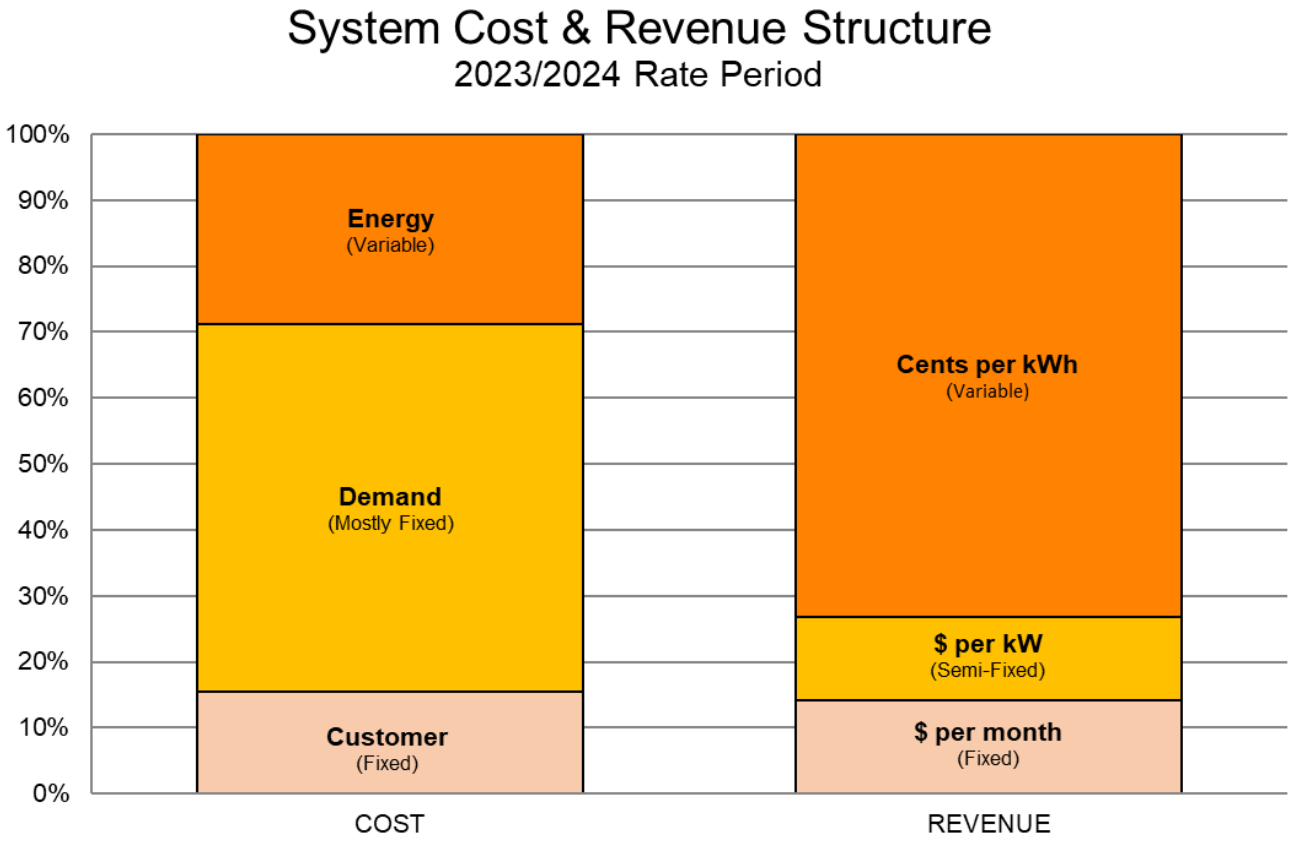
Two-Part Rate Schedules:

- Residential
- Small General Service
- Street Lighting & Traffic Service (some fixtures only)

Three-Part Rate Schedules:

- General Service
- High-Voltage General
- Contract Industrial, New Large Load and the upcoming Very Large Load

Costs Structure versus Revenues Structure



Most of Tacoma Power's **costs are fixed**. At the same time, most of Tacoma Power's **revenues** are **variable**.

Declining consumption

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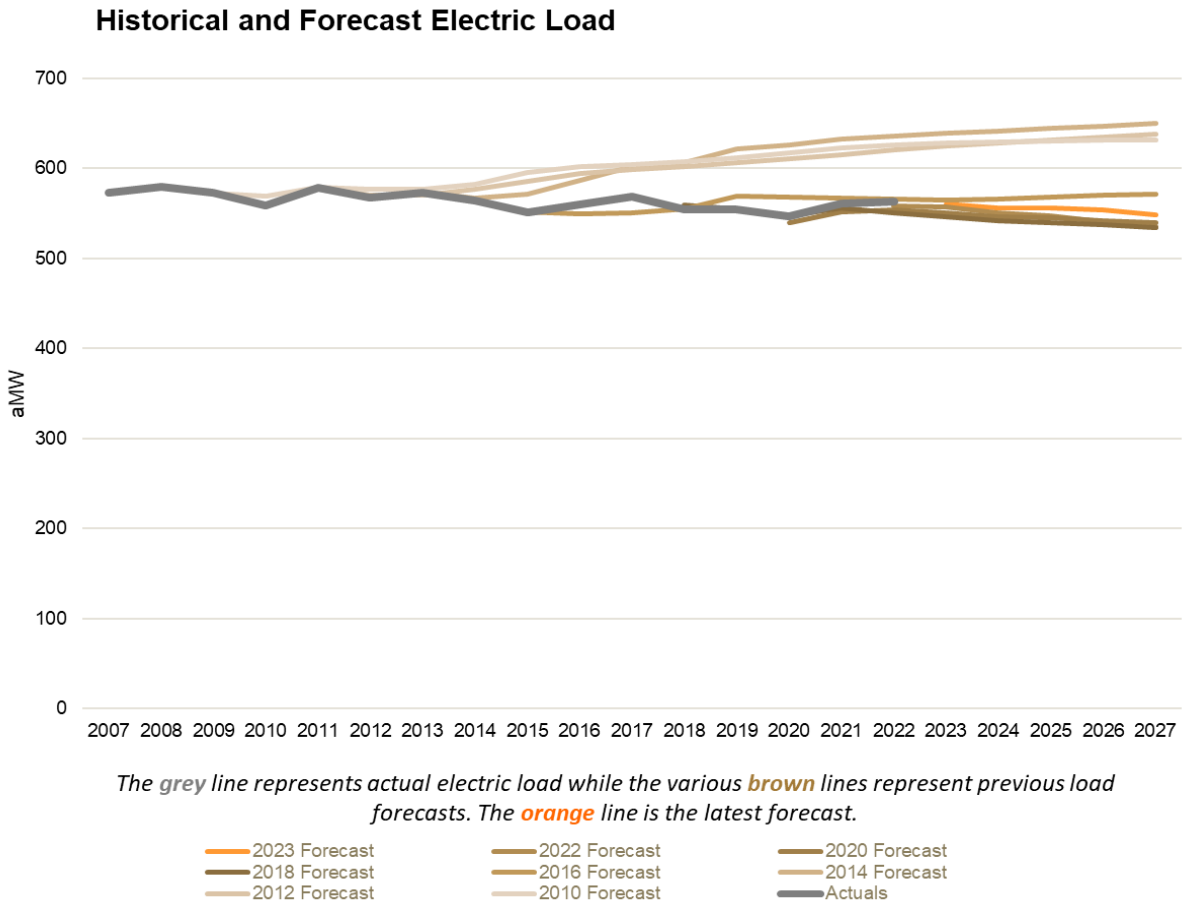
Over the last decade, **conservation**, **improved codes & standards** have led to **flat or declining** electric load.

However, clean energy transformation including **Electric Vehicle adoption** and **gas-to-electric fuel switching** will increase electric demand.

Changes in usage patterns make it very **difficult** to predict load and recover costs under existing variable rate structures.



Current vs. Future Rate Design

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Current:

Reliance on Simple Variable Rates

- Simplicity: easy to understand and easy to bill
- Large users pay for more
- Conservation signals

Future:

Higher Fixed Rates

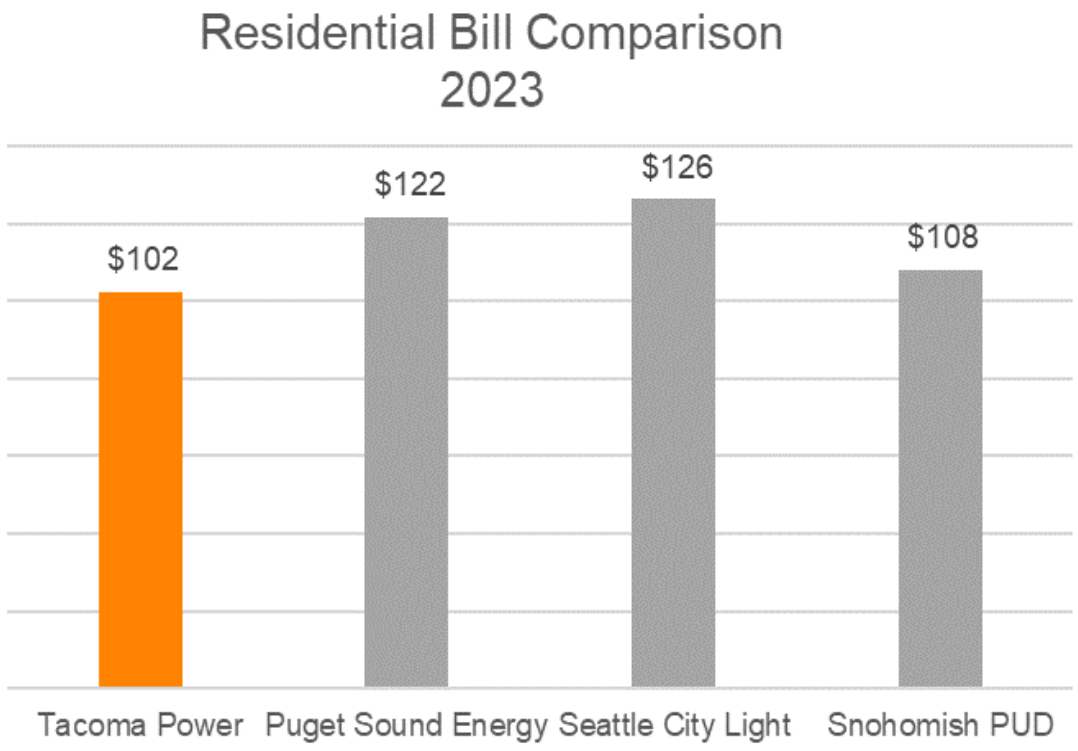
- More in line with Cost-of-Service Analysis
- Potential demand charges on smaller customers
- Cost recovery via fixed rates will provide more financial stability
- For solar net-metering customers, the utility will recover more fixed costs
- Keep volumetric rates low to promote electrification

Alternative Rate Options

Utilize rate design to manage load and mitigate capacity constraint

- Interruptible rate schedule
- Incentive to curtail consumption at peak hours
- Time-varying rates

Compare to Regional Peer Utilities



Based on average residential consumption of 965 kWh per month.

Tacoma Power has **competitive rates** compared to our regional peer utilities.

Customer Assistance Programs

Our budget and rates are developed with special consideration for income-constrained customers

	Bill Credit Assistance Plan (BCAP)	Discount Rate Program
Program Design	Budgeted	Rate-Design
Program Type	Bill credits	Discount
Income Eligibility Requirements	60% area median	45% area median
Other Eligibility Requirements	n/a	62+ years old or disabled
Annual Assistance ($)	up to $619.20	35% discount
Total Assistance in 2022 ($)	$220,581	$2,596,164
Total Assistance in 2023 YTD ($)	$830,310	$2,039,780

Emerging Issues

TACOMA WATER
TACOMA PUBLIC UTILITIES

Tacoma Water Emerging Issues

Summary of Water Emerging Issues

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- WestRock closure
- Employee Expectations Changing (work hours, overtime, tools/technology availability, policies/procedures)
- Employee safety in the community
- Regulatory Issues – PFAS and Lead and Copper, Spoils disposal
- Enterprise-wide technology projects
- Seismic risk/resiliency
- Climate Change Impacts to Supply Availability and Forest Health
- HHD Funding from Federal Sources
- Supply Chain Disruptions linger
- Wholesale Rate Structure Considerations

Wholesale Overview

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- Wholesale Customers: Community water system with its own distribution system. Tacoma Water provides water to service area boundary.
- Different than Regional Water Supply System (RWSS) Partners.
  - RWSS Partners contribute funds based on fixed and variable costs of shared assets.
- 2.4% of water sales or $2.8 million in 2022.
- 4.3% volume or 2.15 MGD in 2022.
- Wholesale customers have paid over $10 million in SDCs since 2012.
- Tacoma has acquired two wholesale customers since 2015.
- Pricing Structure Not Related to Meter Size.
  - Customers pay ready-to-serve charge based on Peak-Day Allocation.
- Tacoma Water wholesale agreements are perpetual.

Wholesale Allocation Over Time

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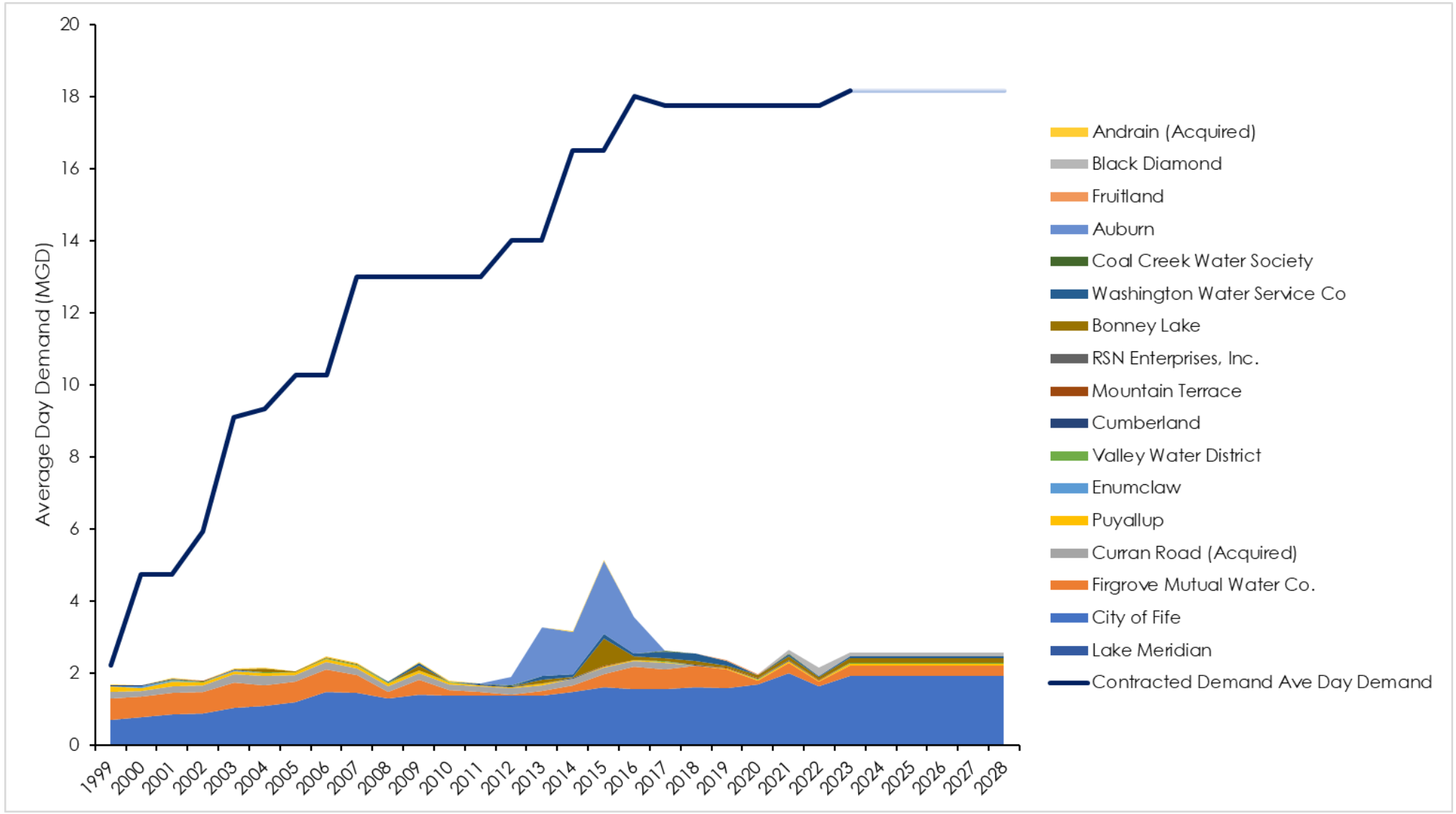

Overview of Customers

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	Contracted		Actual		
Wholesale Customer	**Average-Day Allotment**	**Peak-Day Allotment**	**2022 Utility Consumption (MGD)**	**2022 Purchased from TW (MGD)**	**2022 % Purchased from TW (MGD)**
CITY OF AUBURN	3.50 MGD	5.12 MGD	6.64 MGD	0.00 MGD	0%
CITY OF BLACK DIAMOND	2.21 MGD	4.98 MGD	0.46 MGD	0.22 MGD	23%
CITY OF BONNEY LAKE	2.44 MGD	4.00 MGD	3.53 MGD	0.10 MGD	3%
CITY OF PUYALLUP	2.00 MGD	2.00 MGD	3.84 MGD	0.02 MGD	0%
LAKE MERIDIAN WATER DISTRICT	1.20 MGD	1.48 MGD	1.39 MGD	0.00 MGD	0%
FRUITLAND MUTUAL WATER COMPANY	0.75 MGD	1.47 MGD	1.56 MGD	0.00 MGD	0%
CITY OF ENUMCLAW	0.21 MGD	0.61 MGD	1.85 MGD	0.00 MGD	0%
VALLEY WATER DISTRICT	0.07 MGD	0.16 MGD		0.01 MGD	
FIRGROVE MUTUAL WATER CO.	2.52 MGD	4.30 MGD	3.34 MGD	0.13 MGD	4%
WASHINGTON WATER SERVICE CO	1.47 MGD	3.09 MGD		0.02 MGD	
CITY OF FIFE	1.88 MGD	3.49 MGD	1.63 MGD	1.63 MGD	100%
COAL CREEK WATER SOCIETY	0.00 MGD	0.12 MGD	0.00 MGD	0.00 MGD	100%
CUMBERLAND COOP WTR	0.00 MGD	0.04 MGD	0.01 MGD	0.01 MGD	100%
MOUNTAIN TERRACE HOMEOWNERS ASSN	0.00 MGD	0.25 MGD	0.00 MGD	0.00 MGD	100%
RSN ENTERPRISES, INC	0.00 MGD	0.01 MGD	0.00 MGD	0.00 MGD	100%
Total	**18.24 MGD**	**31.10 MGD**			

Opportunities

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Survey Results

- 6 out of 15 Responded, including Auburn, Black Diamond, Bonney Lake and Firgrove.
- Asked what is keeping them from using more water from Tacoma.
  - 5 out of 6 stated they had an abundance of low-cost water from their own sources.
  - 3 indicated the cost of Tacoma's water was too high.

Possible future actions

- Reach out to customers with abundant water and discuss market-rate water.
  - Market-Rate water is water would sell below TMC rates but would be term-limited and be a take-or-pay agreement.
  - Propose shorter terms.
  - Propose lower take-or-pay amounts.

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Tacoma Power Emerging Issues

Overview of Power Emerging Issues

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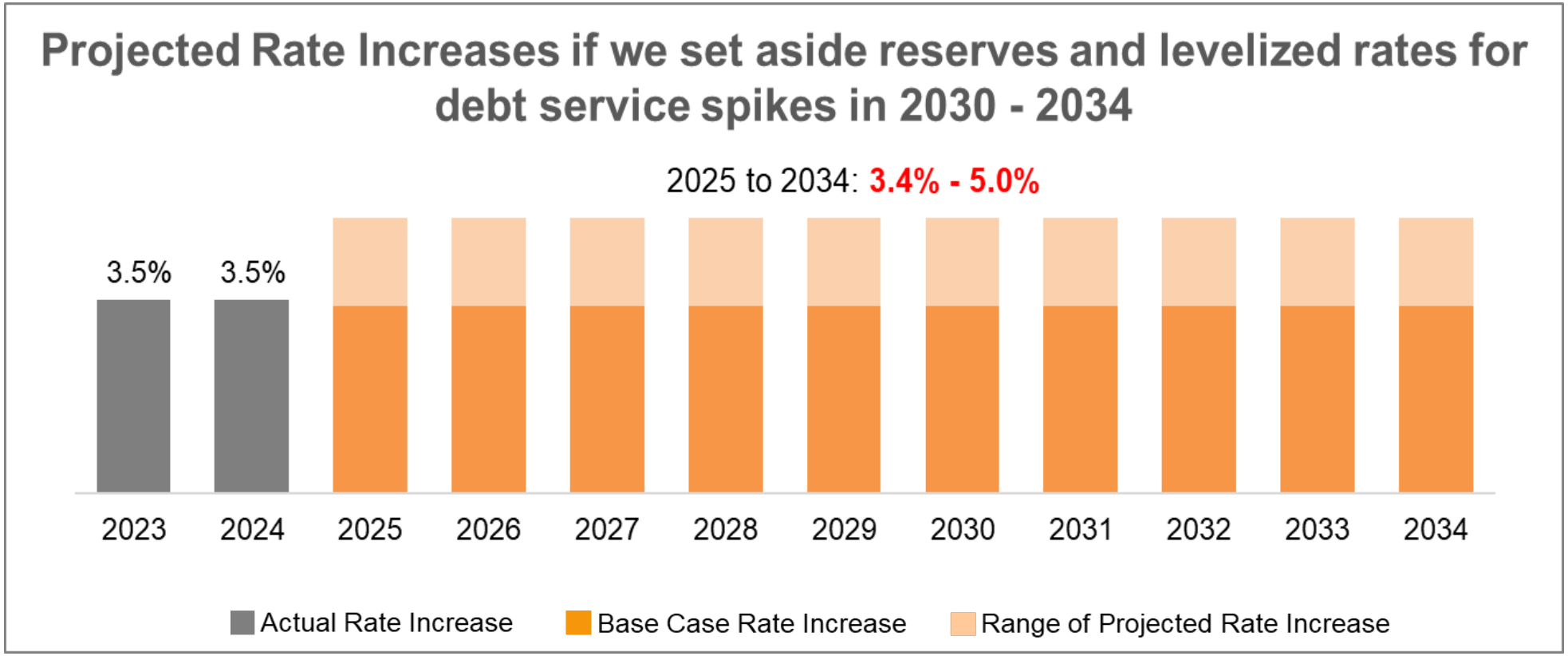
- Tacoma Power, like other utilities, is facing a number of **emerging financial risks** that will lead to **future rate pressures**.
- Some near-term risks have known costs (e.g. debt service spikes), and we have mitigation strategies in place.
- There are some significant future risks with uncertain costs and impacts (e.g. wildfire, hydro relicensing, dam safety, resource adequacy).
- Mitigation strategies to address future risks may be very costly.
- Tacoma Power's approach to long-term financial planning helps **maintain adequate reserves** to **mitigate rate and financial impacts**. While we have adequate reserves to pay for known expenses, we do not have additional reserves to mitigate some of the more significant future risks.

2022 Rate Trajectory



This is Tacoma Power's **previous rate trajectory** with the original WestRock load, 2022 load forecast and 2023/24 budgeted wholesale prices.

Manage Debt Profile to Minimize Long-Term Rates

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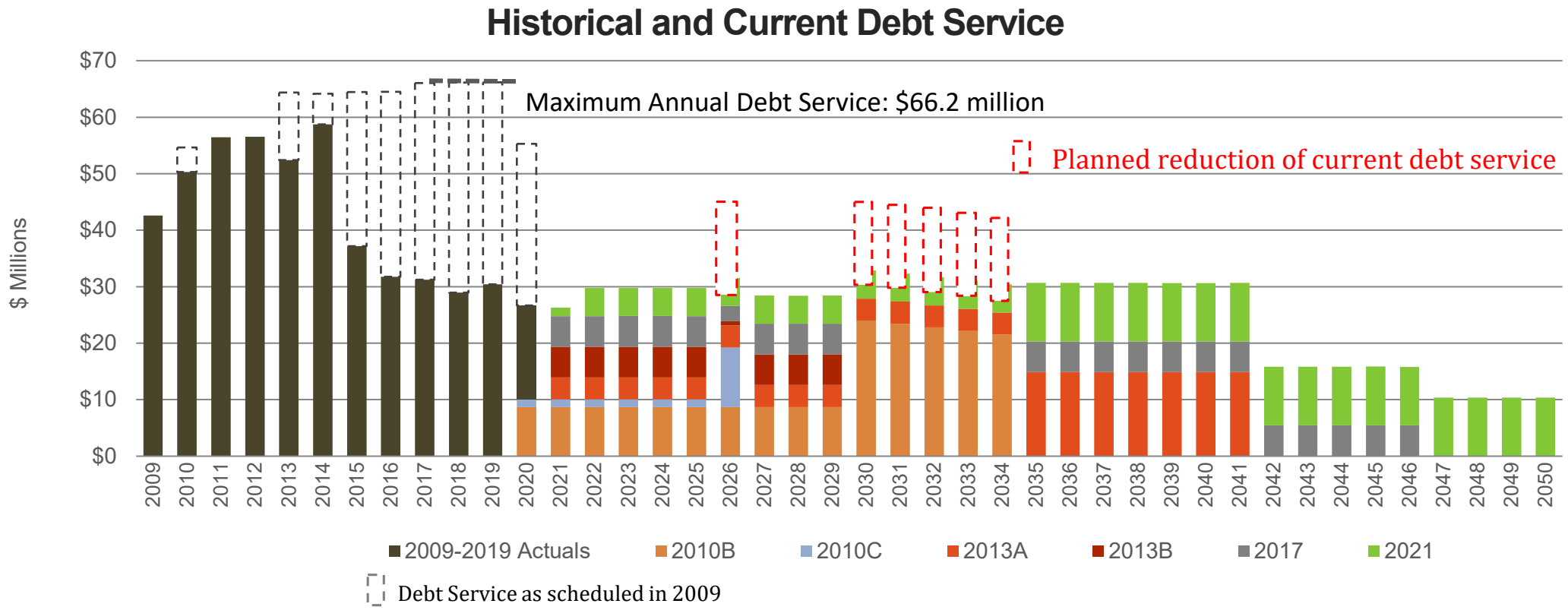

The Long View:

Managing debt service has produced significant savings to date.

A bond refunding or repayment in 2023 and defeasances in 2026 and 2030-2034 are assumed to manage debt service and keep rates low.

Projected Rates Without Addressing Future Debt Service Spikes

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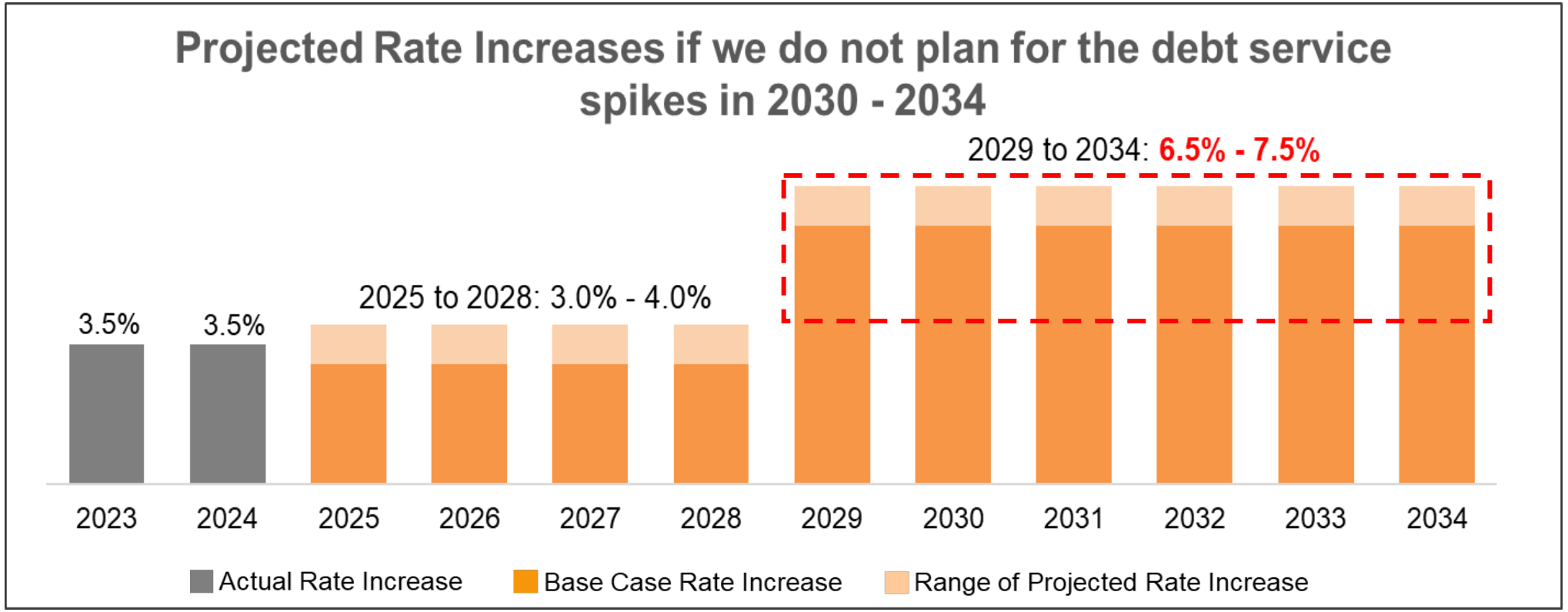

WestRock Update

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- Our previous BPA power supply for WestRock's load was 40aMWs.
- BPA has recently reduced our WestRock power supply to 10aMWs.
- WestRock's future electricity usage is still uncertain.
- While WestRock is still operating, their reduced load places them in the General Service schedule (Schedule G) which has a higher rate than their previous rate schedule, Contract Industrial Service (Schedule CP).
- The financial impact of the reduction in WestRock load from 40aMW to 10aMW is an estimated loss of **$2.5M** in annual net revenue. Once WestRock fully shuts down operations, the estimated loss is approximately **$4M** in annual net revenue.

Inflationary Impacts Persist

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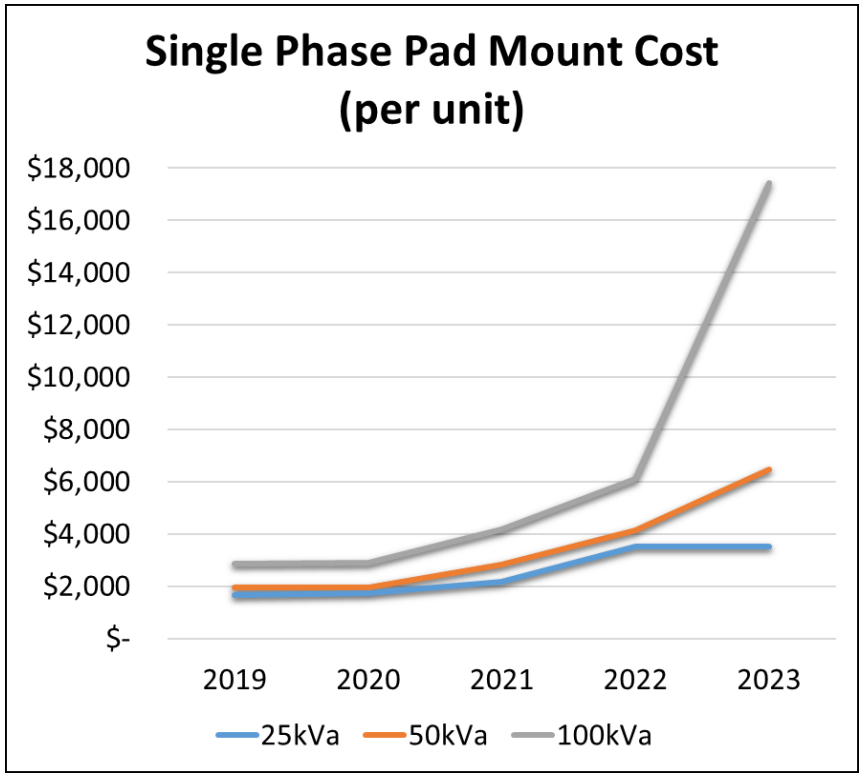
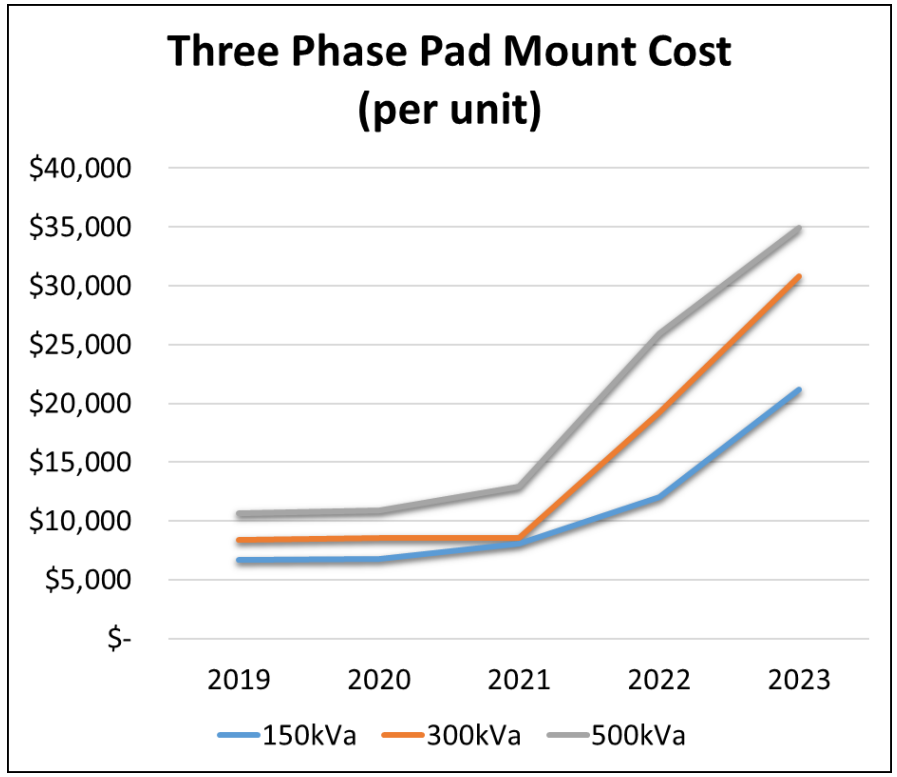
Distribution Transformer Cost Increases



282% Average Price Increase
Pre- to Post-Pandemic



252% Average Price Increase
Pre- to Post-Pandemic

SAP Now! Program

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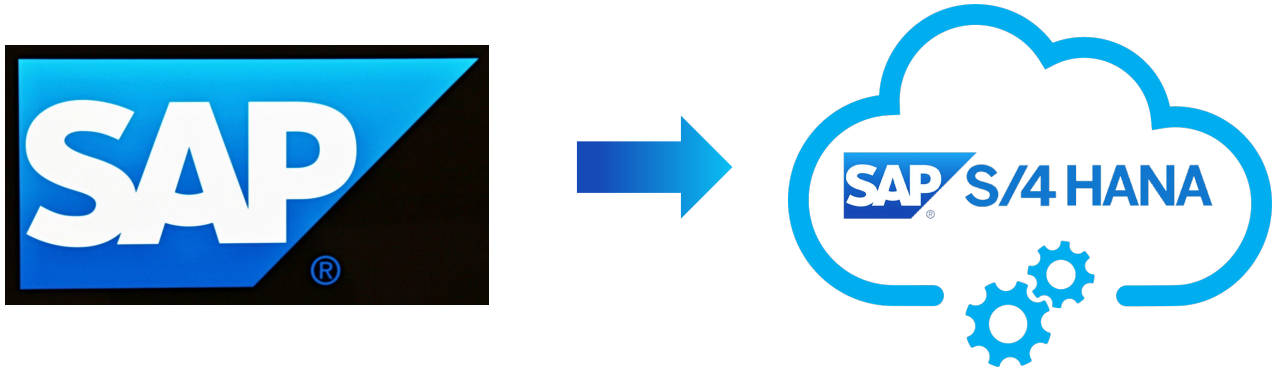
- Legacy SAP system is at end-of-life.
- The City is upgrading to S/4 HANA.
- Upgrade during 2024 – 2030.
- **Expect a total of $5M in additional Power expenses to support SAP Now! upgrade project**.
  - $3-4M Power dedicated staffing
  - $1-2M Power dedicated professional services
- **City IT Dept costs allocated to Power to increase $5M/year beginning in 2025**



Wildfire Liability Risks

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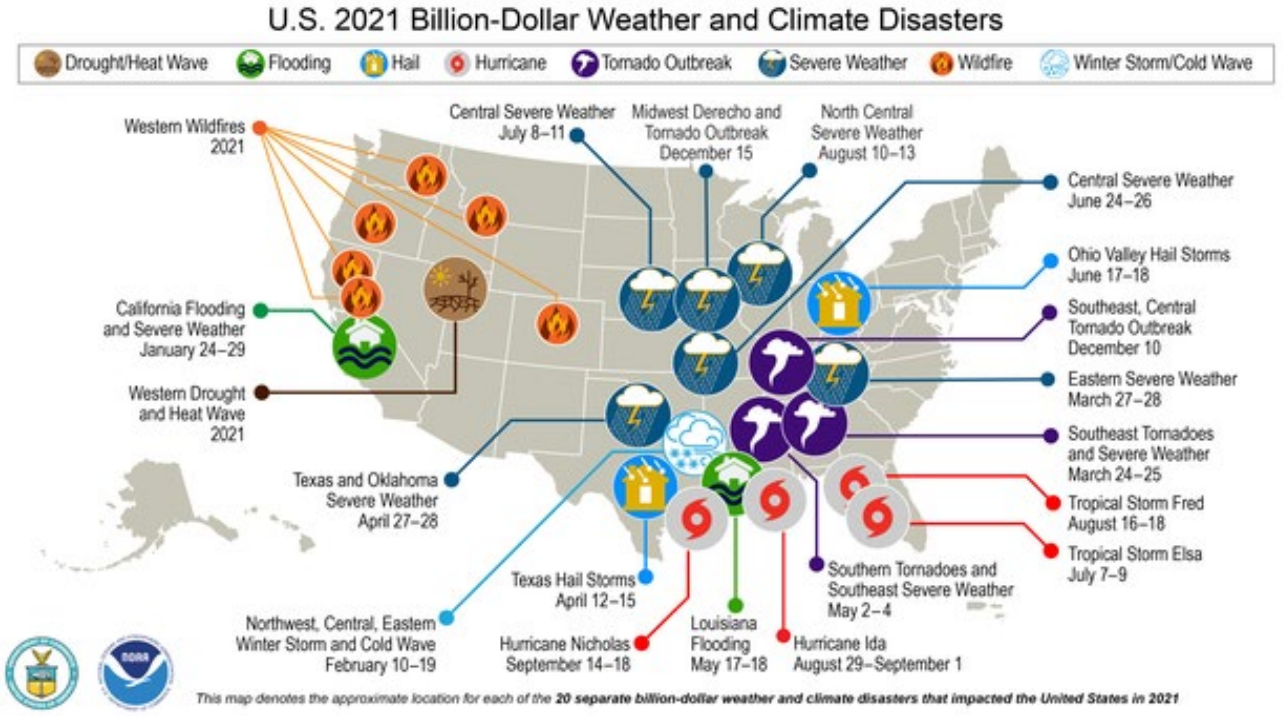
- California utilities have filed for $11B of 2021/2022 biennial investment for wildfire mitigation projects.
- The 2 largest Oregon utilities are requesting $185M investments in the coming year for wildfire projects.
- The risk of wildfire is growing in Western Washington. On 9/7/2020, a 12-year high in daily acreage burned was established.



Hydro Relicensing

- Three of four federal licenses for Tacoma Power expire in 2037
- Formal relicensing process takes five to six years
- Informal process & preparation will begin in 2025
- Other hydro owners are experiencing up to **$100M** in costs for the **relicensing process *per hydro project***

Dam Safety Program

Seismic remediation projects at Cowlitz

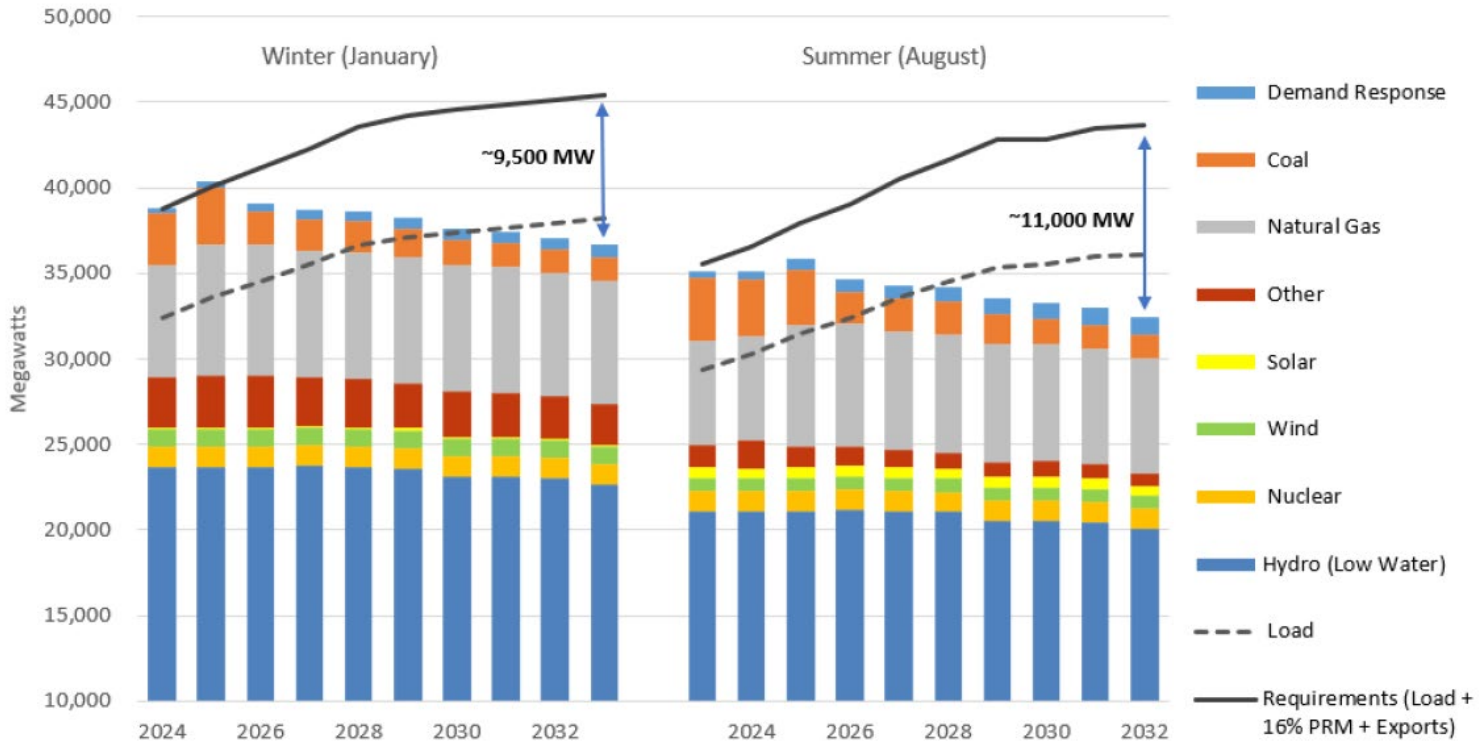
- Projects identified are currently estimated at $50M by 2030
- Potential additional projects up to $200M, further structural analysis required

Seismic remediation projects at Cushman

- Cushman structural analyses are underway and expected costs are similar to Cowlitz

Increasing programmatic costs began in 2023 due to new regulatory requirements

Regional Loads are Increasing; Resources are Decreasing



Load Growth	Resource Retirement
• New industrial load (hydrogen, data centers) • Electrification of transportation, buildings, and industry	• Driven by decarbonization policies/goals

Pacific Northwest Utility Conference Committee – 2023 Northwest Regional Forecast

Competition for Reliable, Low-Carbon Power Supply is Driving Costs Higher

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High Demand for Reliable, Low-Carbon Power

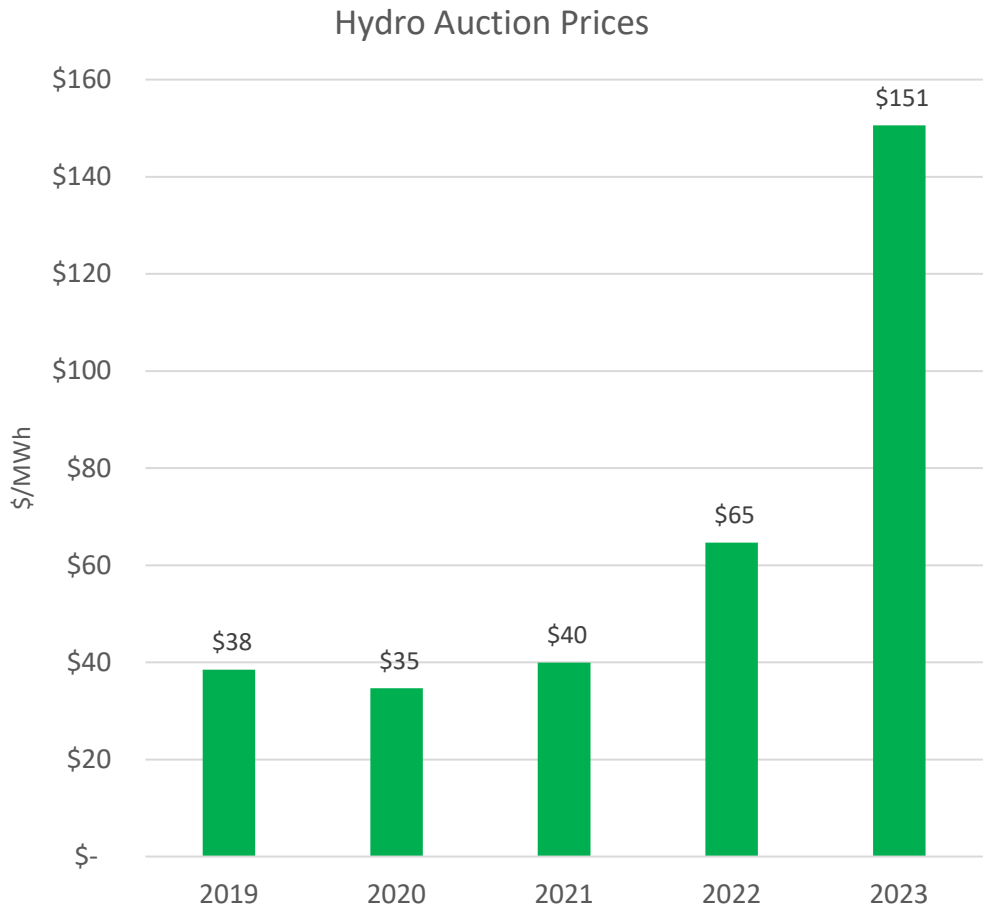
Data Centers

Utilities Retiring Thermal Plants

Green Hydrogen

Exports to California

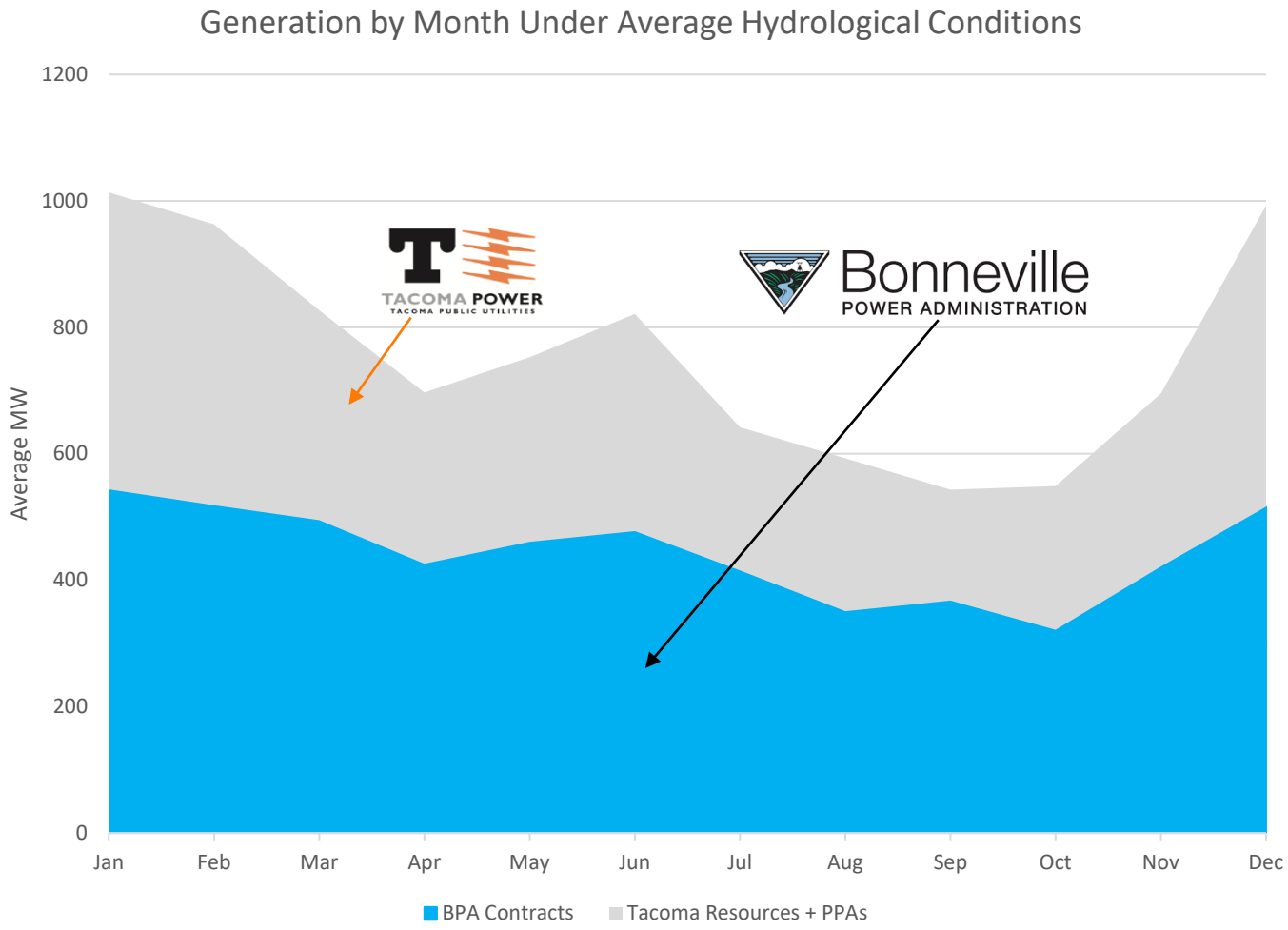
Hydro Decommissioning



Post-2028 BPA Contract

- Over half of our power supply comes from BPA
- Our current purchase contracts run through 2028

- ***We are concerned that the next BPA contract will not be as effective in meeting our resource adequacy needs***
- **We may need to procure additional power supply, which will increase rates**



Mitigation Strategies - New Resources

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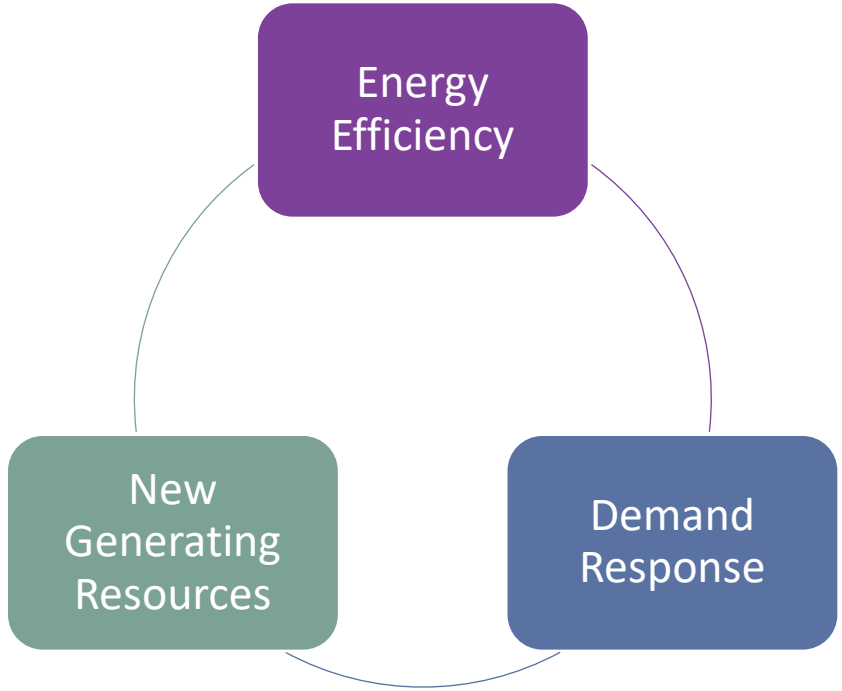
A combination of resources will likely be needed to meet our resource adequacy needs.

Complexities

- Energy efficiency and demand response are likely part of the solution but **not enough** by themselves – new supply or storage resources will be needed.
- New resources must be carbon-free by 2030/2045
- Intermittent renewables (wind & solar) need to be integrated
- Transmission availability
- Timing uncertainty (don't want to acquire too soon or too late)



Mitigation Strategies – Grid Modernization

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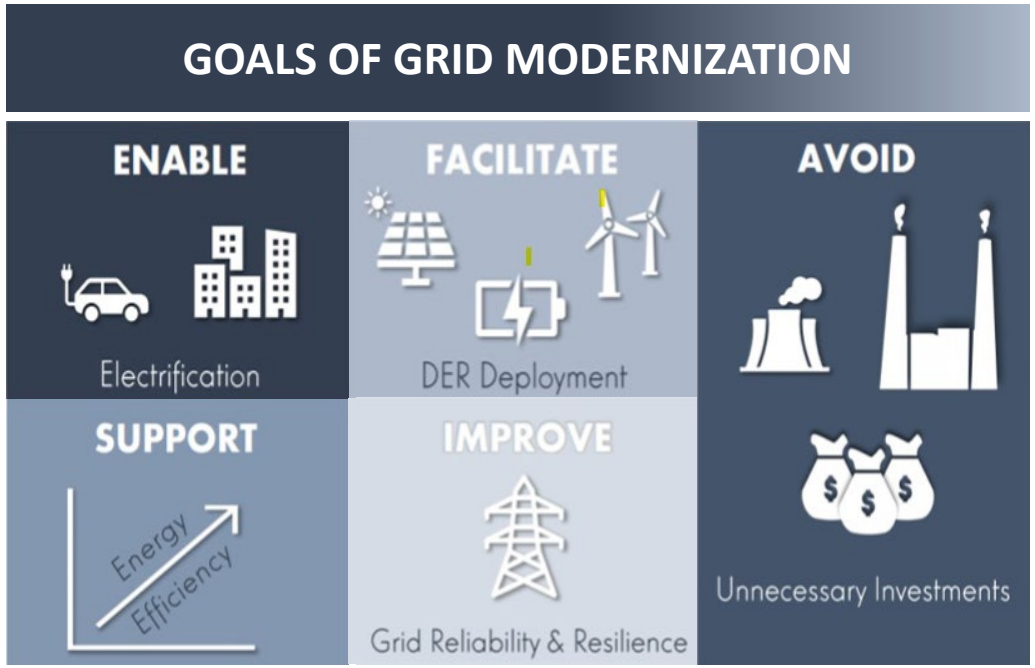
Grid Modernization is the process of **upgrading the electricity grid** to make it **more efficient** and **resilient**. It includes a variety of changes, such as accommodating new technology, new forms of electricity generation and distribution, installing smart meters, updating grid infrastructure, integrating renewable energy sources, and more.

$50-60M Identified Potential Projects



Near-term potential projects:

Advanced Distribution Management System $30M ($2M/yr for 15 years)
Cybersecurity & Physical Security $15-20M ($1.5-2M/yr for 10 years)
Distribution Automation $3-4M
Private LTE $4-6M

Long-term planning areas (thru 2035):

Demand Side Management
Distributed Energy Resource Management System
Electrification Readiness
Energy Storage & Microgrids

Mitigation Strategies – Rate Stabilization Fund

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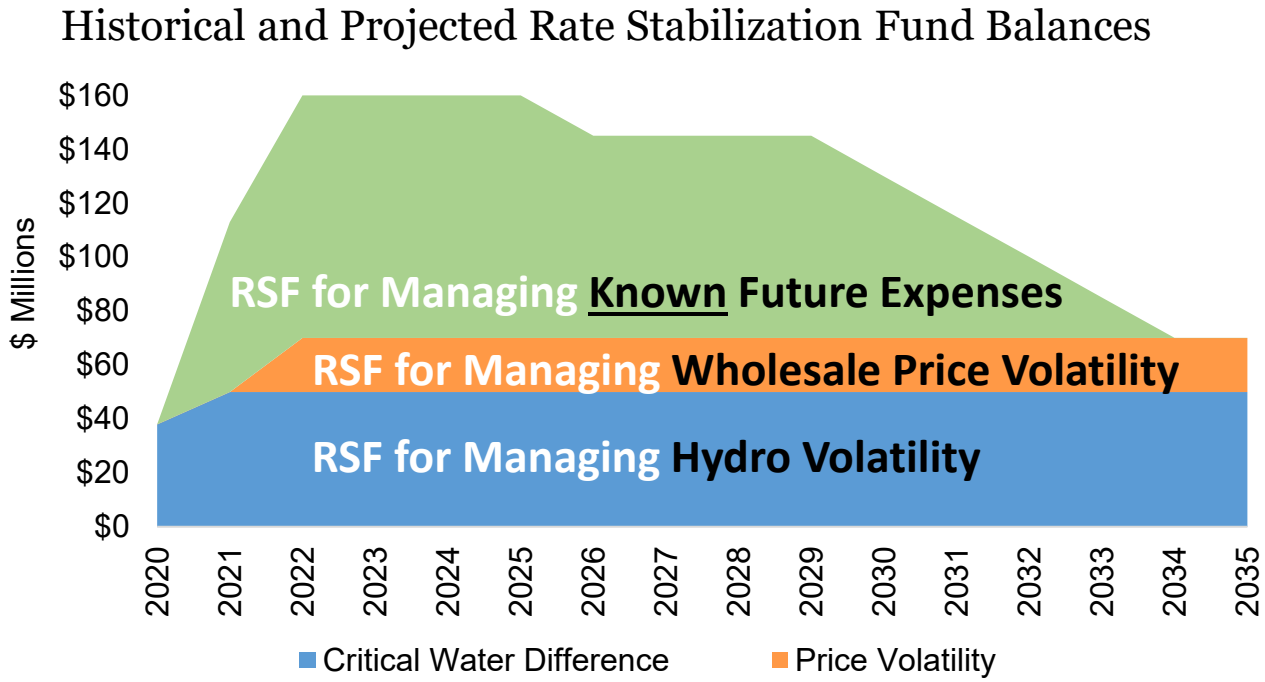
While we have adequate reserves to pay for known expenses, some of the risks in the previous slides have not been included in our Long-Range Financial Plan due to many uncertainties and the potential rate impacts of over-estimating costs.



RATE STABILIZATION FUND BALANCES (YEAR-END)

$ IN MILLIONS	2010	2011	2012	2013 - 2018	2019	2021	2022	2023 - 2034
+ADDITION / - WITHDRAWAL	+$10 M	+$26 M	+$12 M	$0	-$10 M	+$25 M	+$95 M	– $90 M (TOTAL)
BALANCE	$10 M	$36 M	$48 M	$48 M	$38 M	$63 M	$158 M	**$68 M**

Next Steps – Update Long-Range Financial Plan

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- Incorporate expectations of new electrification load into our load forecast
- Incorporate initial estimates of incremental costs of serving new loads
- Begin to incorporate other costs, as reasonable, into the base case or scenarios
- When possible, continue to build reserves into the Rate Stabilization Fund to manage financial risks and maintain slow and steady rate increases (avoid rate shocks)
- Look for opportunities to restructure or pay off debt to manage debt service coverage ratio or reduce financing costs

2001 Energy Crisis – What Could Go Wrong

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That Was Then...

- 2000/2001 energy crisis was a “perfect storm” event.
- Several factors led to the event: severe drought and cold winter, CA market deregulation, Enron market manipulation
- Multiple utilities in the Pacific Northwest were deficit energy
- Regional utilities, including Tacoma Power, purchased wholesale energy at up to $3,500/MWh due to reliability concerns
- Tacoma Power procured emergency diesel generators and implemented an **emergency temporary 50% rate surcharge**

...This Is Now

- Regional loads are increasing and resources are decreasing due to retirements, leading to regional capacity constraints
- New power supply is very expensive and difficult to build
- Transmission capacity is lacking
- Decarbonization policies and increased regulations are impacting wholesale market and power supply prices
- Utilities are experiencing increased capital and maintenance costs, leading to **future rate pressures**

Will WA's Retail Rates Look Like CA's in the Future?

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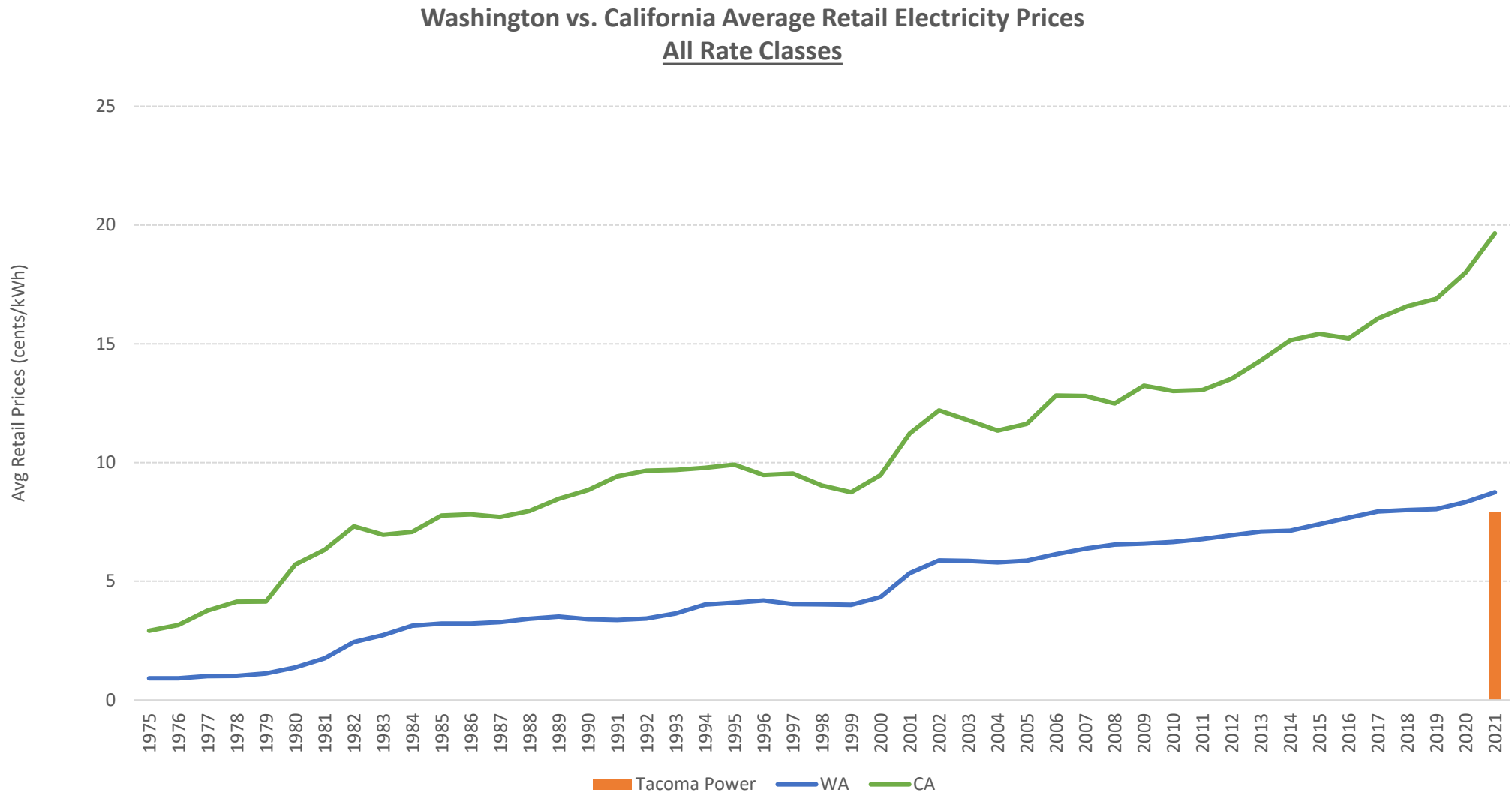

Source: Energy Information Administration, Annual Electric Power Industry Report

Will WA's Retail Rates Look Like CA's in the Future?

TACOMA POWER
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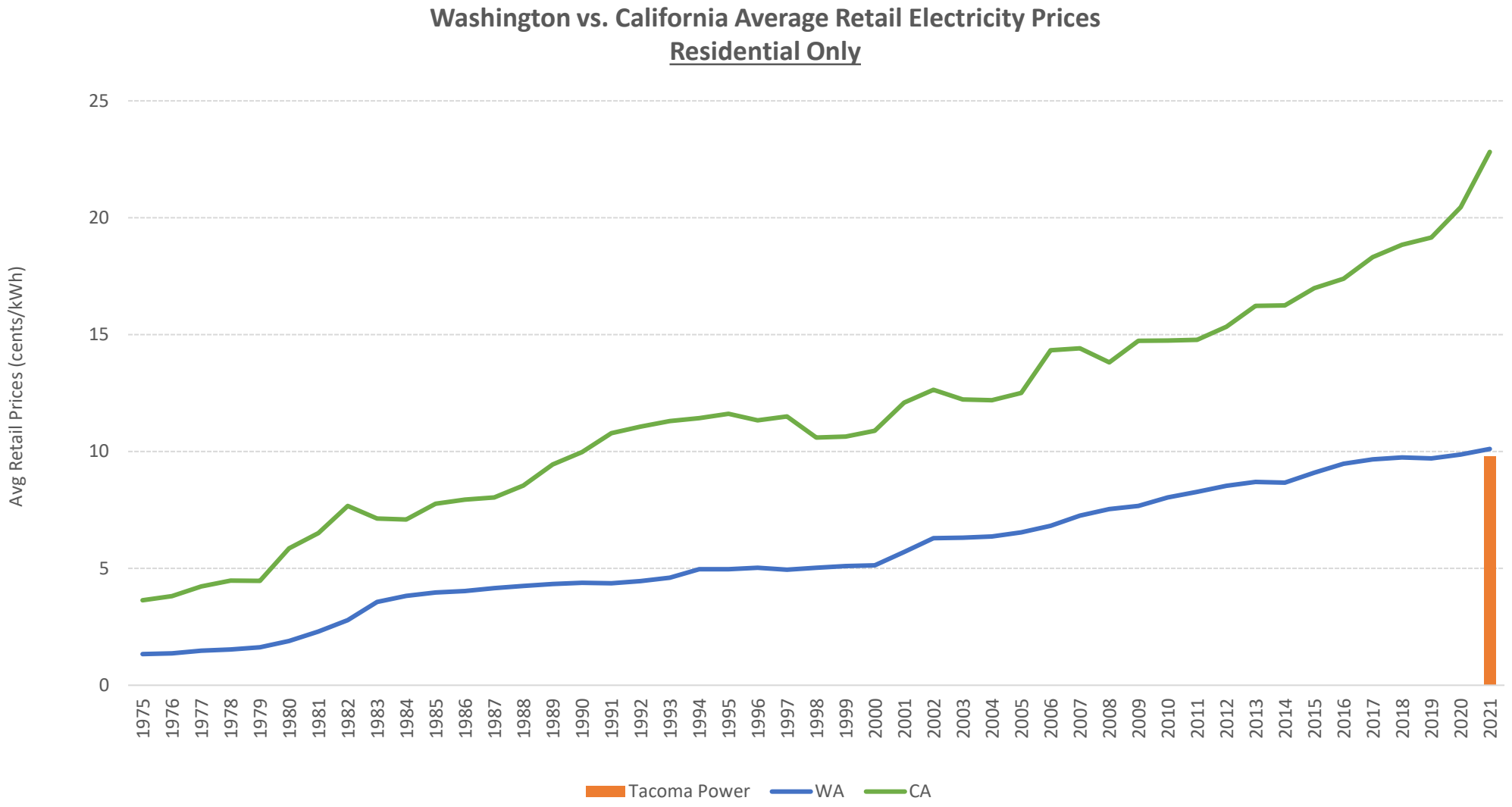

Source: Energy Information Administration, Annual Electric Power Industry Report

Summary of Power Emerging Issues

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- Electric Utilities, including Tacoma Power, face numerous internal and external **emerging financial risks** that will very likely lead to **dramatic future rate pressures**.

- Within the next 20 years, Tacoma Power will have significant challenges that need to be addressed.

- While we do our best to mitigate the impacts of future risks through **long-term planning**, there is a **strong likelihood of higher rate increases in the future**.

TACOMA RAIL
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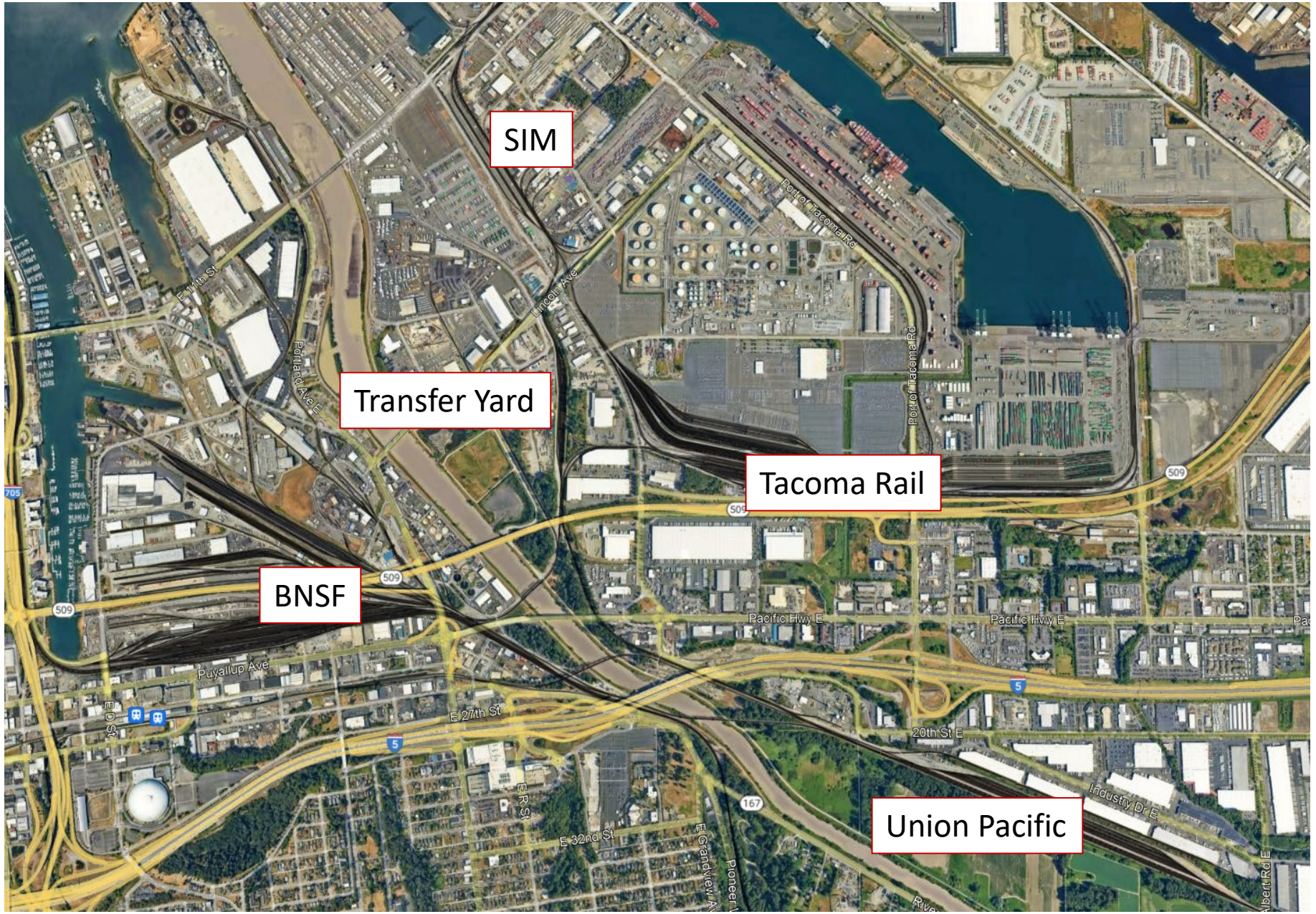
Tacoma Rail Emerging Challenge & Opportunity

South Intermodal Yard

Geography

TACOMA RAIL
TACOMA PUBLIC UTILITIES



Brief History

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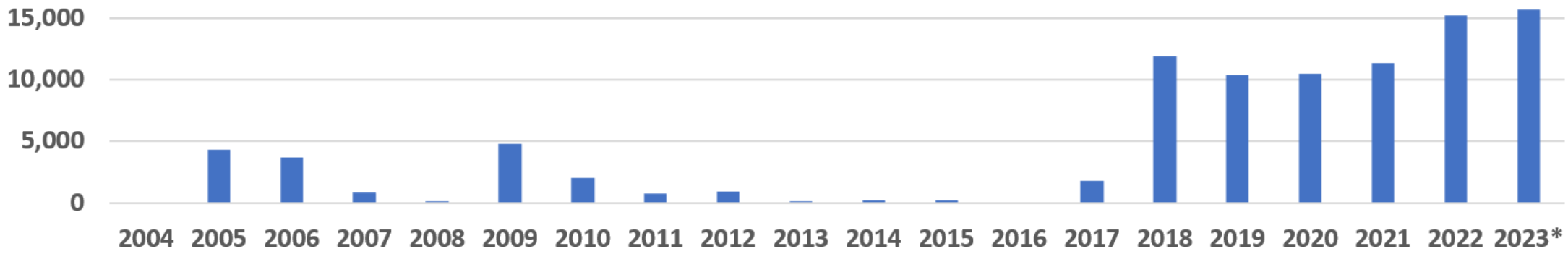
- 1984 - Original lease agreement
  - 31 years with 2 five-year extensions
  - Rental adjustment every 5 years based on appraised value
- 2017 - UP outbound trains
- 2020 Amendment - Rental options
  - Normal rate based on appraised value
  - Lower rate for savings to be used to incentivize cargo & extend operating agreement
- 2022 - BNSF traffic
- Railcar volumes through Tacoma Rail



Flow of Charges & Fees

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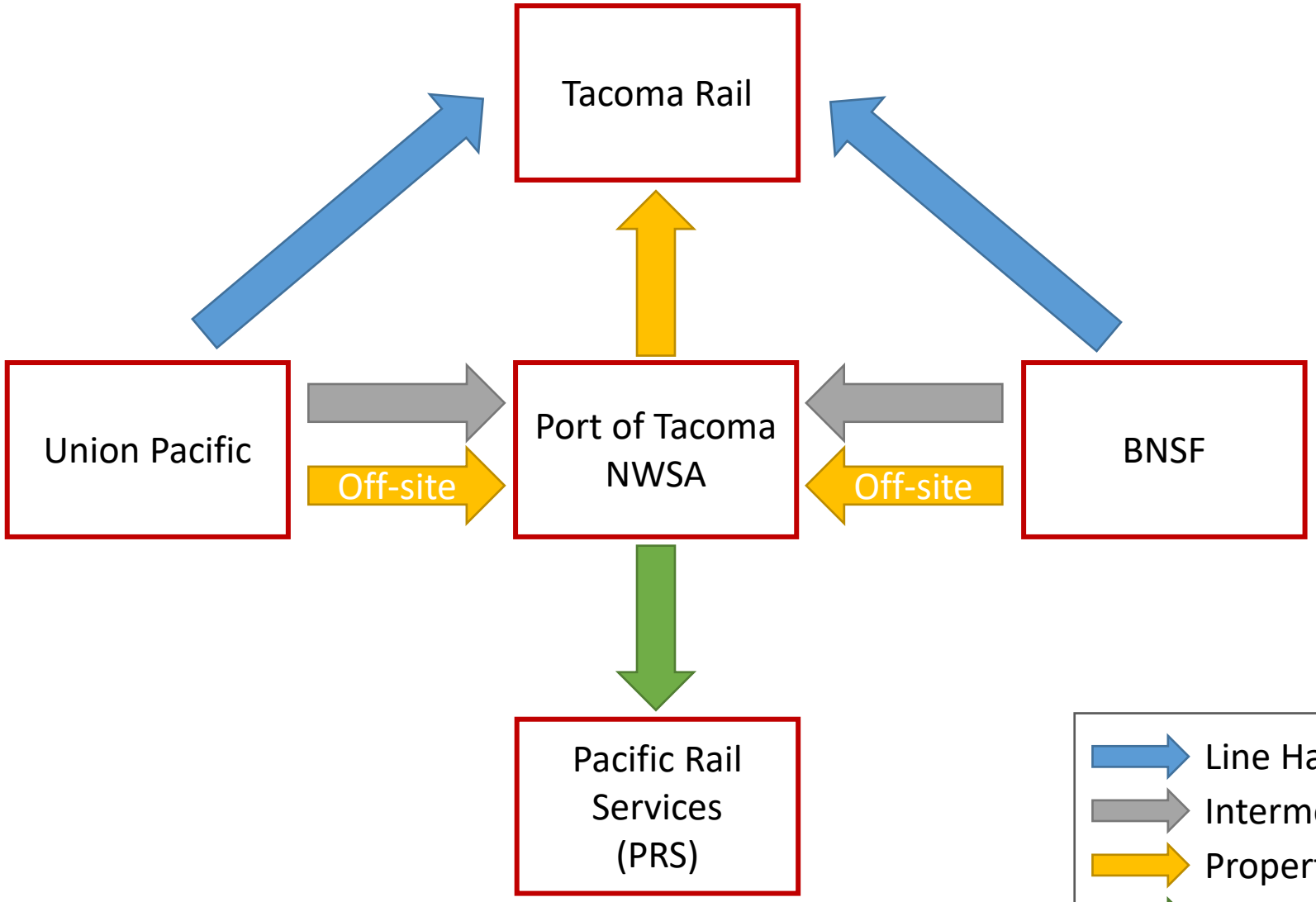
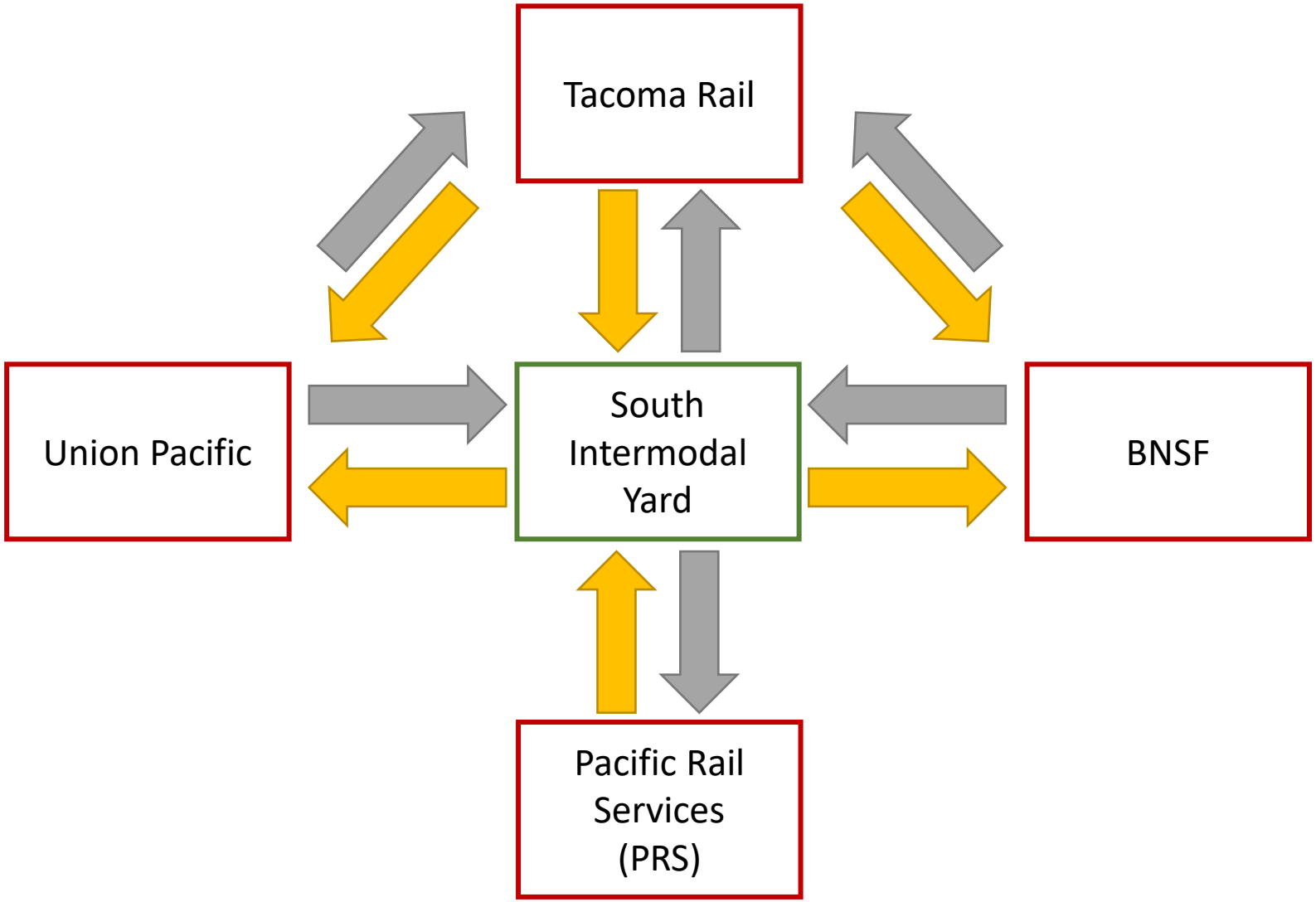


Rail Switching Access

TACOMA RAIL
TACOMA PUBLIC UTILITIES



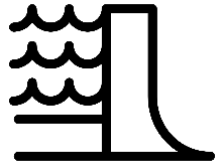
Appendix

Legislative Policy : Environment

Protection of the Natural Environment

Including:

- **Stream** protection
- **Fishery** resources
- **Wildlife** habitat



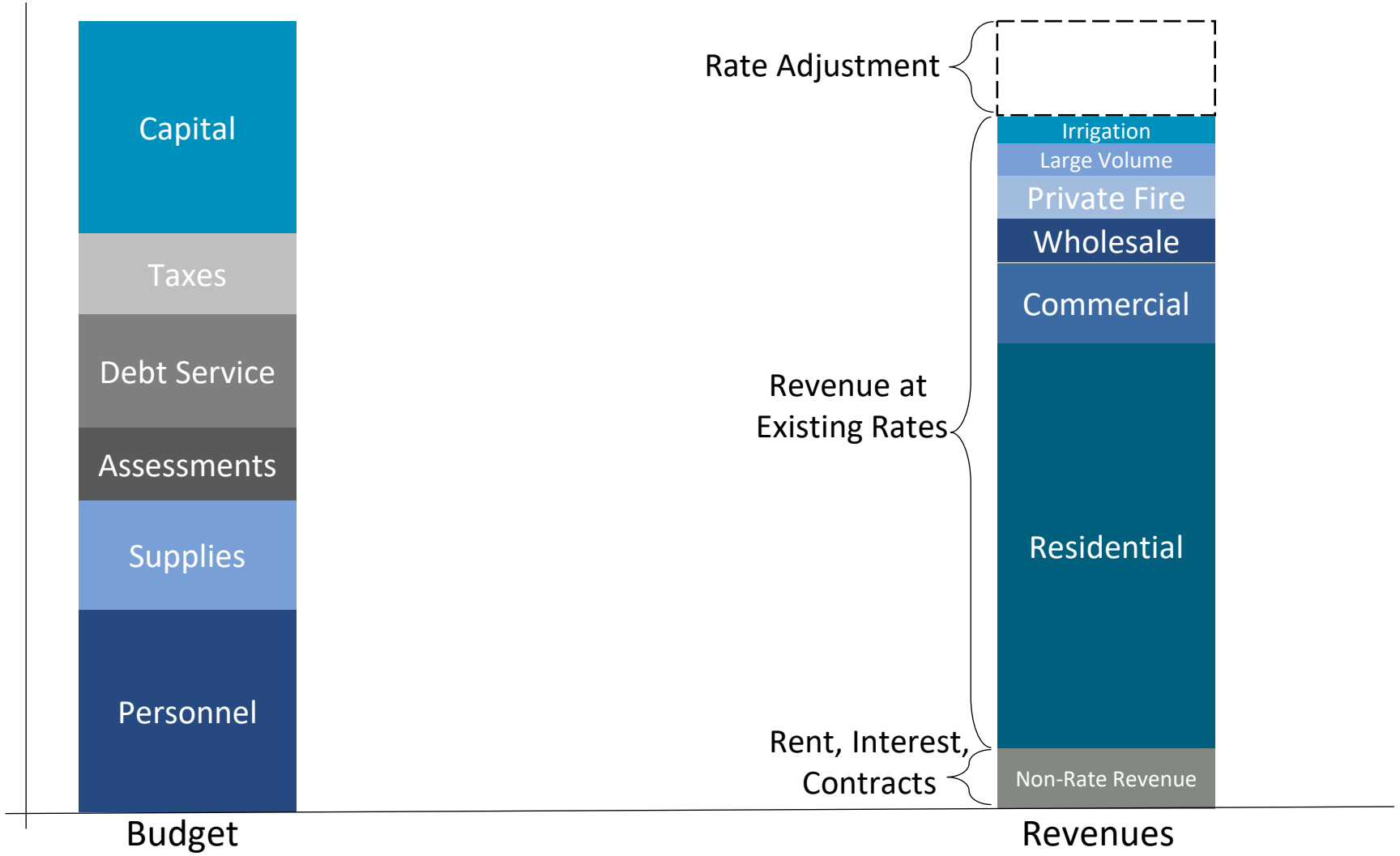
Clean Hydropower

Statutory recognition of **hydropower** as a renewable, emissions-free resource.

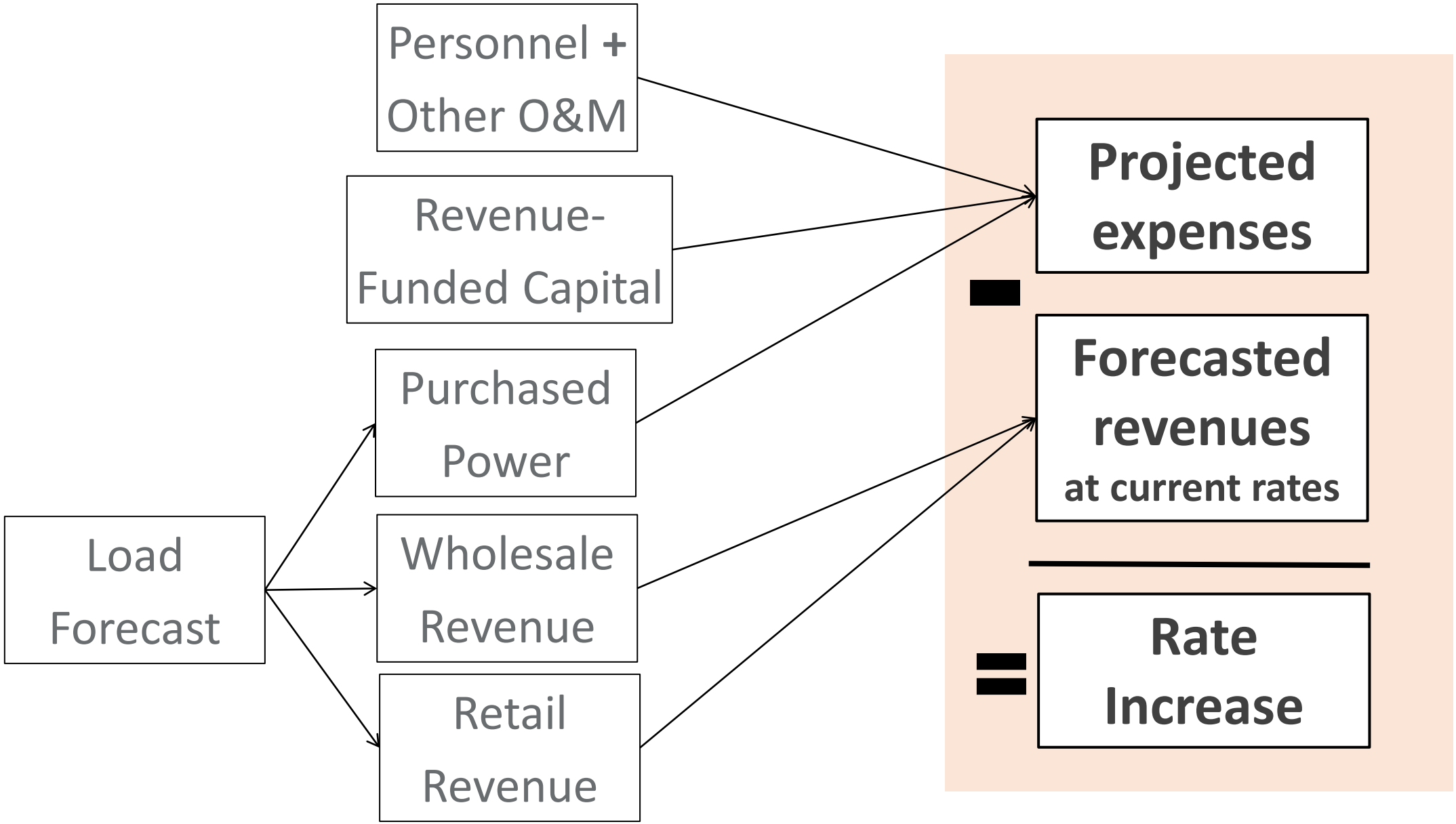
Carbon Reduction

- Resolution U-11258: Board direction to **reduce carbon footprint of facilities and vehicles**
- Emissions reductions to be the most **efficient** for the **least cost**
- Sensitive to **rate pressures**, especially on **lower-income customers**

Revenue Requirement Example



Revenue Requirement Example

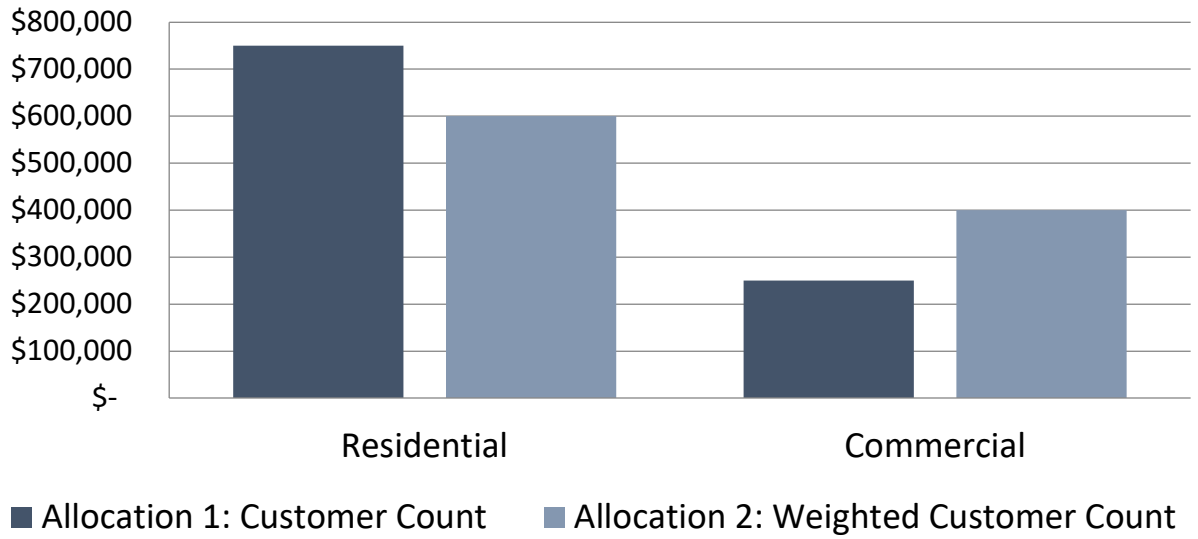


Example of COSA Decisions

Some costs can reasonably be allocated with different allocators.

Industry-standard allocators have been developed for many cost types. However, **judgement is always required** when choosing the most appropriate allocator. Reasonable people may disagree on the exact details of selected allocators.

	Customers	Allocation 1: Customer Count	Meter Cost	Allocation 2: Weighted Customer Count
Residential	150,000	75%	$50.00	60%
Commercial	50,000	25%	$100.00	40%
TOTAL	200,000	100%		100%



Illustrative Example:

Utility XZY is allocating $1,000,000 of customer meter cost to two classes. Each customer has one meter, but commercial meters are twice as expensive.

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Tacoma Water Rate Design

Ready to Serve Charge

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Rate Design Philosophy

The Ready to Serve Charge is intended to recover fixed expenses incurred by the utility in order to maintain minimum amount of distribution system investment and O&M expenses to enable the system to be ready to serve each customer. It must, at a minimum, cover the costs that have no connection to demand (postage, billing, meter reading, administrative and general costs).

TMC 12.10.035 Ability to supply water within City limits.

"All persons wishing to construct any residential premises within the City limits shall be supplied with residential service by the Division subject to the provisions of this chapter and pursuant to RCW 19.27.097"

TMC 12.10.301 Fire hydrant services fee.

"[…] The customer portion of the fire hydrant service fee shall be calculated on a monthly basis, included in the Ready to Serve charge, invoice and collected pursuant to the applicable customer service policies"

Tacoma Water Rate Schedule

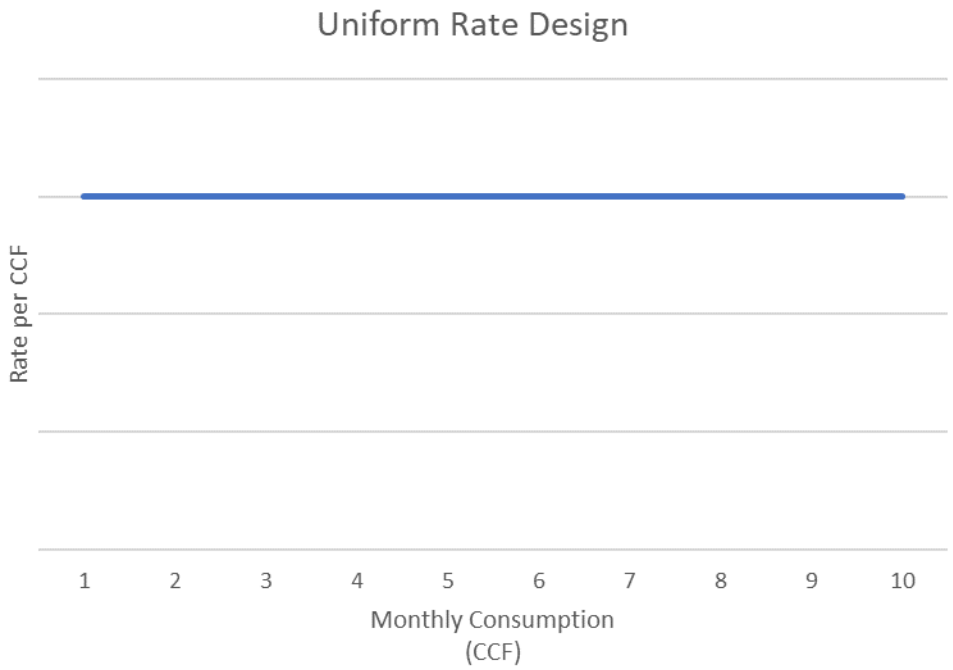
Tacoma Water assesses a monthly fixed charge that is based on the customer's meter size. This is due to the increased infrastructure required to be able to serve customers at the required flow rates and pressures.

Uniform Rate Design

TACOMA WATER
TACOMA PUBLIC UTILITIES

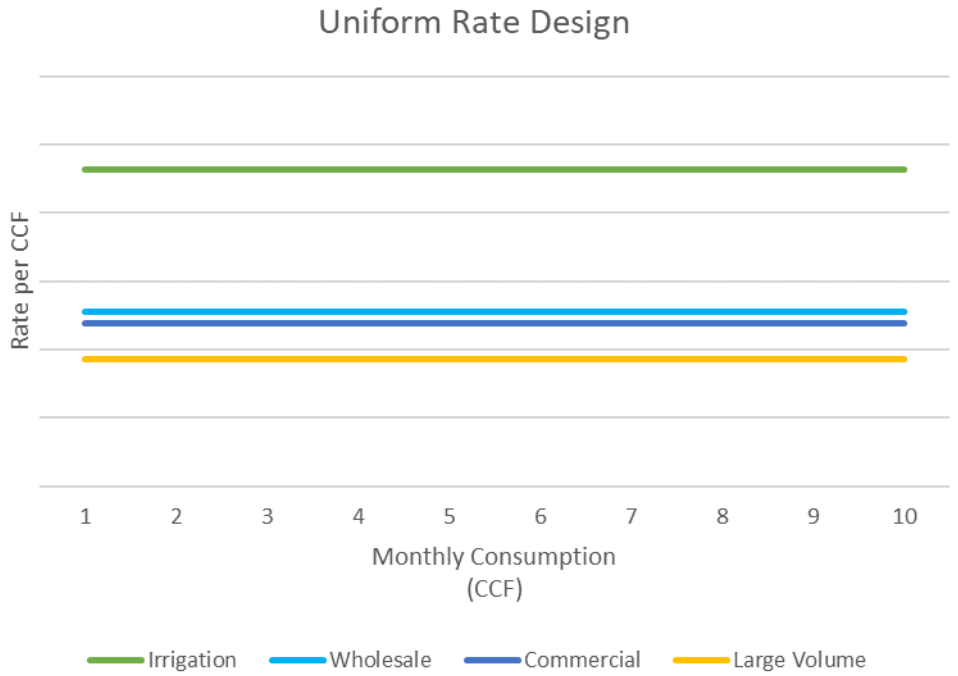
Rate Design Philosophy

A uniform rate design may best apply to customer classes whose consumption patterns remain relatively consistent throughout the year or during specific seasons.



Tacoma Water Rate Schedule

Tacoma Water applies a uniform rate design to its irrigation, large volume, peak-use wholesale, and commercial classes. These customers will pay the same amount per CCF, regardless of amount consumed.



Seasonal Rate Design

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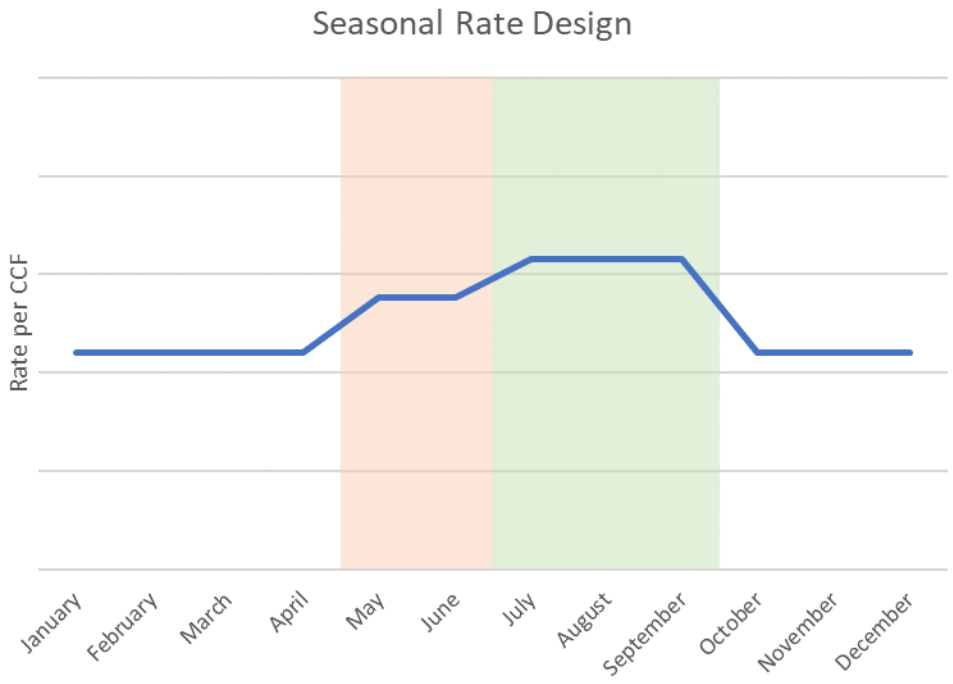
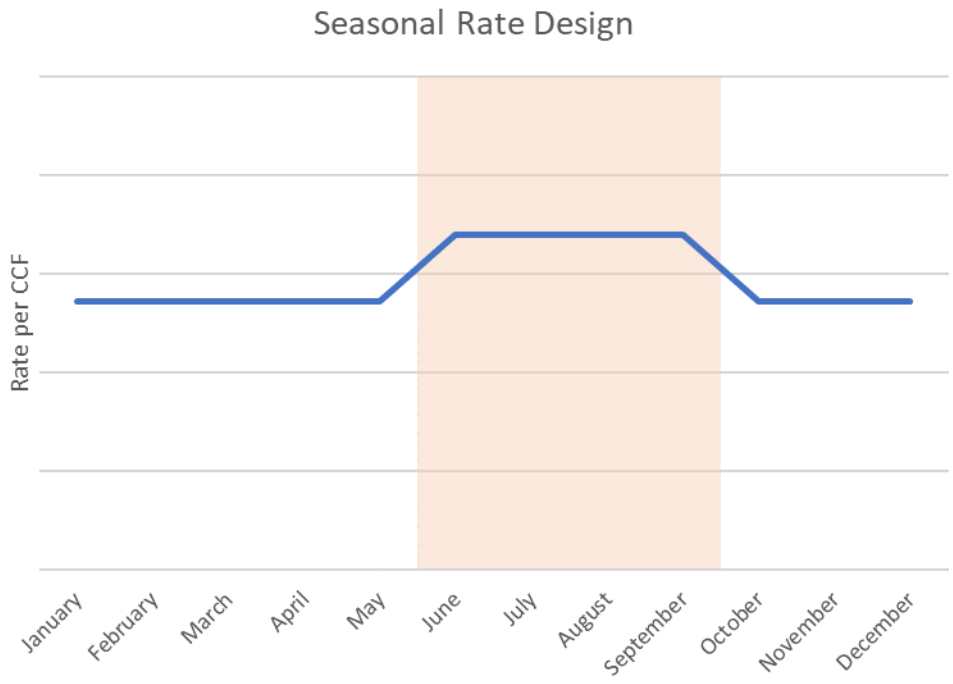
Rate Design Philosophy

A seasonal rate design might best apply to a customer class whose consumption characteristics vary based on weather or seasonality.



Tacoma Water Rate Schedule

Tacoma Water applies a seasonal rate design to its constant-use wholesale class. In the winter season, these customers pay a uniform rate per CCF consumed. In the summer season, these customers pay an increased uniform rate per CCF consumed.



Inclining Block Rate Design

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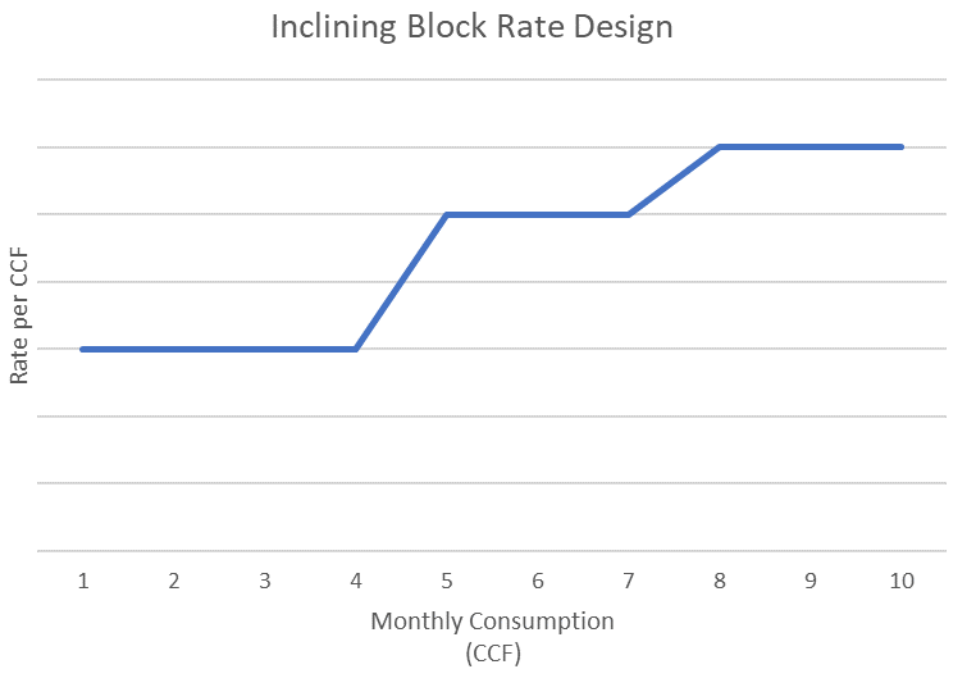
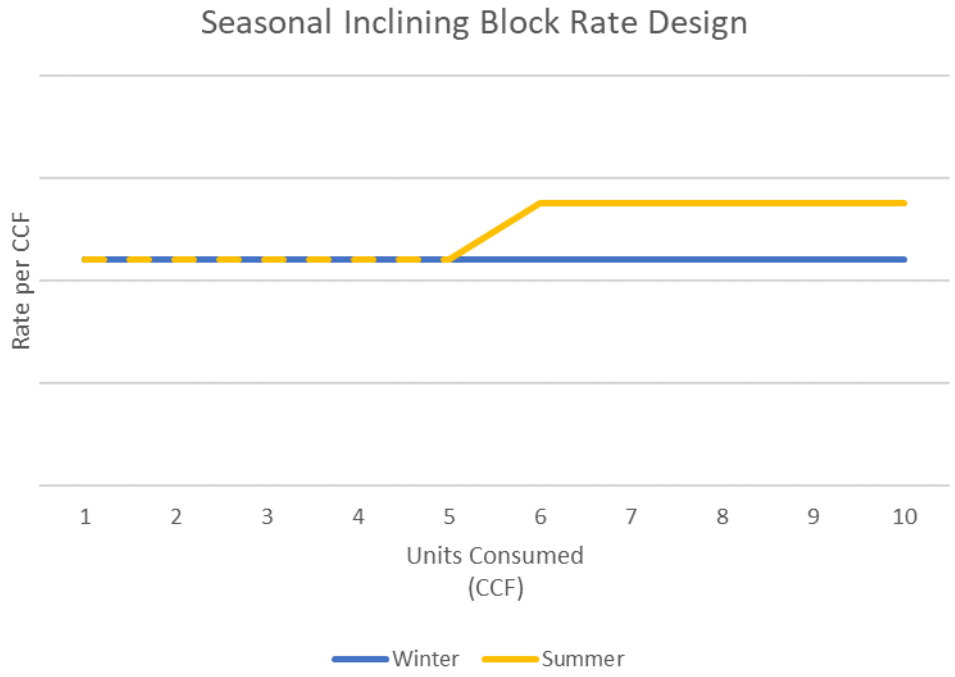
Rate Design Philosophy

An inclining block rate design may be best applied when the cost to produce water increases as more water is consumed. It can also be used to send a conservation message to high-water users.



Tacoma Water Rate Schedule

Tacoma Water applies a seasonal, block rate design to its residential class. In the winter season, residential customers pay a base rate per CCF consumed. In the summer season, residential customers pay the same base rate per CCF for the first five CCF consumed, and an increased rate for any monthly consumption beyond five CCF.



Outside Customer Rate Design

TACOMA WATER
TACOMA PUBLIC UTILITIES

Rate Design Philosophy

If a public water utility elects or is compelled to provide service to outside customers, it may assume some of the behavior of an investor-owned utility

Tacoma Water Rate Schedule

Tacoma Water applies a 20% differential to all rates before the addition of any jurisdiction-specific taxes. This is meant to compensate the utility for the risk it bears to serve these customers.