Wholesale Rate Setting

Presentation to the
Operating Board
March 6, 2014

Overview

- Rate setting basics
- Retail rate setting vs. Wholesale rate setting
  - O&M costs
  - Asset costs
- Demand
- True up
- Effect of Rate Structure
- Block Contracts

Rate Setting, for any type of utility

Determine “revenue requirement” for each year

- O&M expenses
- Capital spending
- Build up balance in reserve fund/capital fund
- Debt payments (bonds or loans)
- Depreciation
- Positive net income
- Debt service coverage test/bond covenant requirements
- Other

Divide by units of demand

- Commodity (ccf, kW, BTU, etc.)

= Rate per unit

Retail Water Rate Setting

1. Determine revenue requirement for each year
   - O&M expenses
   - Capital spending
   - Build up reserve fund/capital fund
   - Debt payments (bonds or loans)
   - Depreciation
   - Positive net income
   - Debt service coverage test/bond covenant requirements

2. Allocate revenue requirement between customer classes via a cost or service study
   - Residential
   - Commercial
   - Industrial
   - Irrigation
   - Private fire
   - Public fire (hydrants)

Retail Water Rate Setting

3. Decide on rate structure for each customer class
   - Tiers
   - ccf included with base service charge
   - Meter progression for base service charge
   - Low income rates
   - Seasonal rates

4. Divide by units of demand
   - Commodity
   - Meter Count
   - Other?

5. Equals rate per unit
   - Commodity rate
   - Base service charge

Rate Setting for Seattle Regional Wholesale Contracts

Regional revenue requirement is determined by three things:

- O&M expenses (Supply and Transmission)
- Asset costs (Supply and Transmission)
- True Up balance

Allocate revenue requirement between Block and F&P customers

- Block customers are Cascade, Northshore, and Renton Conservation block
- Seattle's distribution system is an F&P customer for rate setting purposes

Divide by Full & Partial Contract demand

- F&P demand is defined in contracts as 98% of water produced minus block usage

= Rate per unit

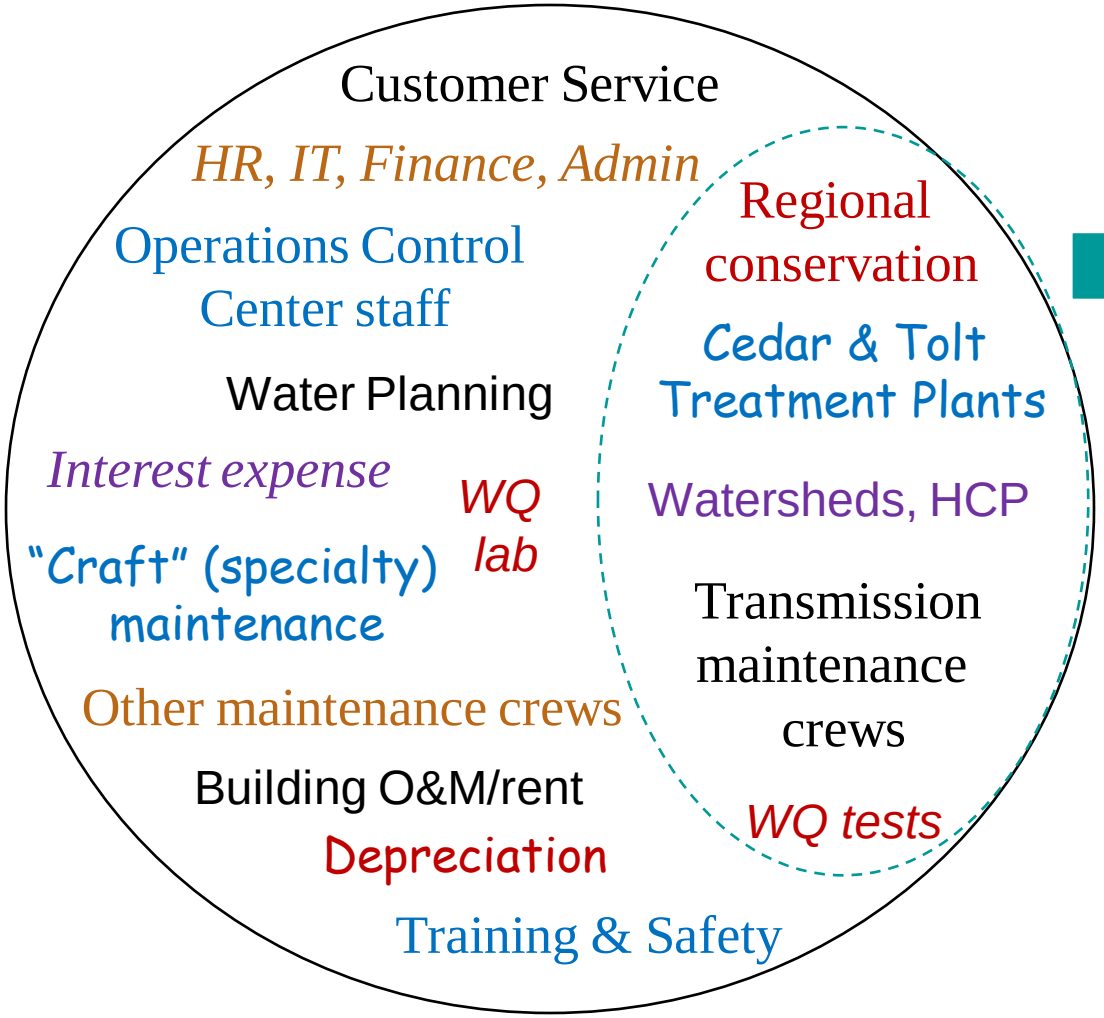
Regional O&M

Regional O&M

Regional O&M is determined using an index system

- The initial amount for each category of cost (supply and transmission) was specified in the contracts. This is the "base cost" for each category.
- Each of these amounts are then increased or decreased each year based on the total costs in "index activities" which were also set in the contracts (Exhibit IX).

Regional O&M – What is in the index?



Only these costs go into the index

Regional O&M – Example

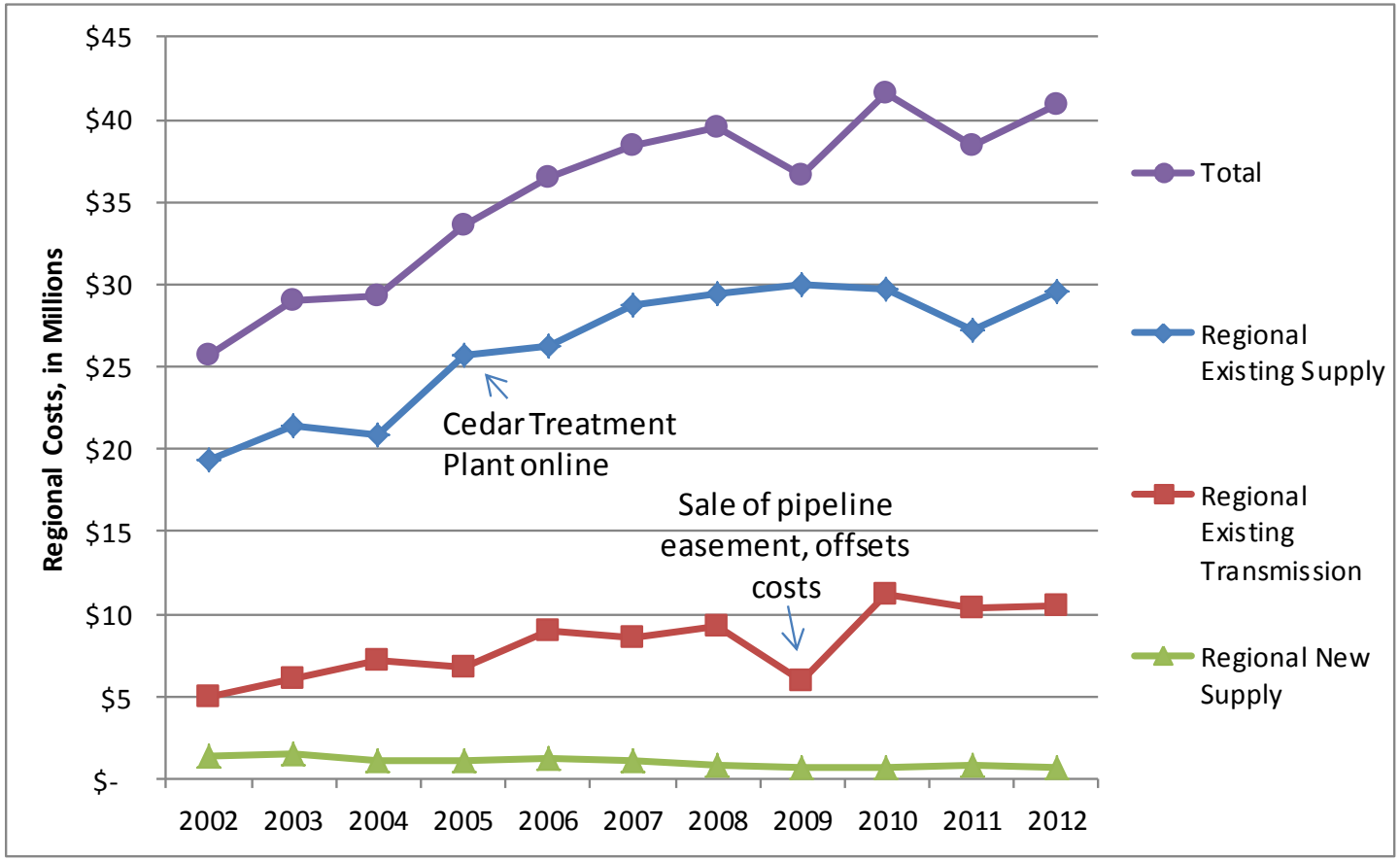
Example of Existing Supply O&M Calculation

Determine change in index:	
2011 Costs in index activities	18,804,705
2012 Costs in index activities	20,551,740
Ratio of 2012/2011	1.0929
Apply change in index to base cost:	
2011 Operations Base Cost	27,045,325
	x 1.0929
2012 Operations Base Cost	29,557,836

Regional O&M – Why this structure?

- Rather than determine the portion of each and every cost that supports the regional system, the index activities represent “direct work” done to support the regional supply and transmission systems. These activities are listed in Exhibit IX of the contracts.
- Difference between index activities and base cost provides an allowance to cover “mixed use” activities that support both regional and distribution systems. Examples are HR, finance, safety, Director’s Office, security, even Water System Planning.

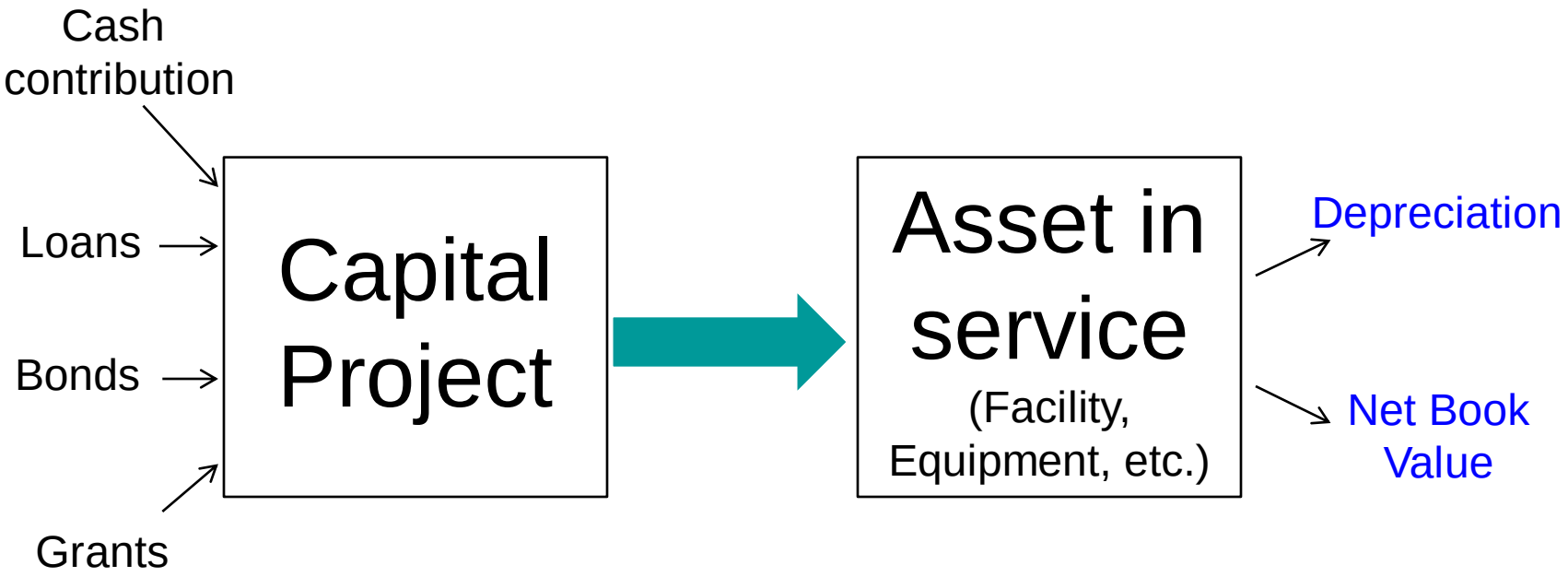
Regional O&M – History



Regional Assets

Regional Assets

The cost of a newly constructed asset is included in wholesale rates after the asset is placed in service, not while it is a capital project



Utility Basis Cost – What is it?

- Annual Cost for an asset is the sum of:
  - That year's depreciation
  - A "return on assets " that is based on the assets' Net Nook Value and Seattle's Average Cost of Debt

Utility Basis Cost =

Depreciation + (Net Book Value * Rate of Return)

Utility Basis Cost – Why use it?

Utility Basis Cost is standard practice in setting wholesale utility rates

- Spreads the cost of an asset over the *life of the asset*, which is often *different than the length of a loan or bond*
- Matches the cost of asset to the customers' use of asset
- Produces rates that are more stable than cash basis

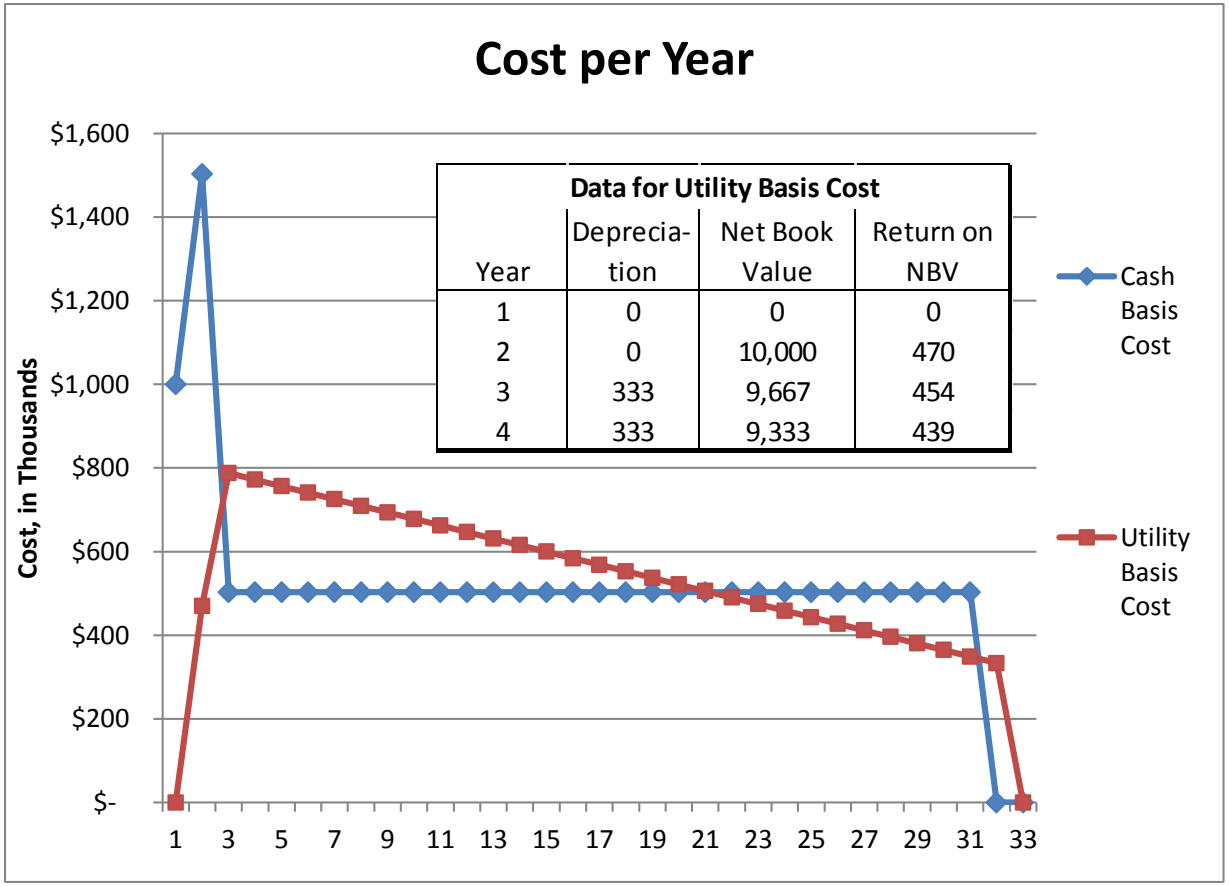
Conceptually, if every asset were 100% debt financed (as in: no cash contribution during construction), then

- Depreciation approximates principal payments
- Return on Net Book Value approximates interest

Utility Basis Cost vs. Cash Basis

Example:

- $10M project
- 2 years construction
- 20% cash financed/80% bond financed
- 30 year accounting life
- Cost of debt & Rate of Return = 4.7%



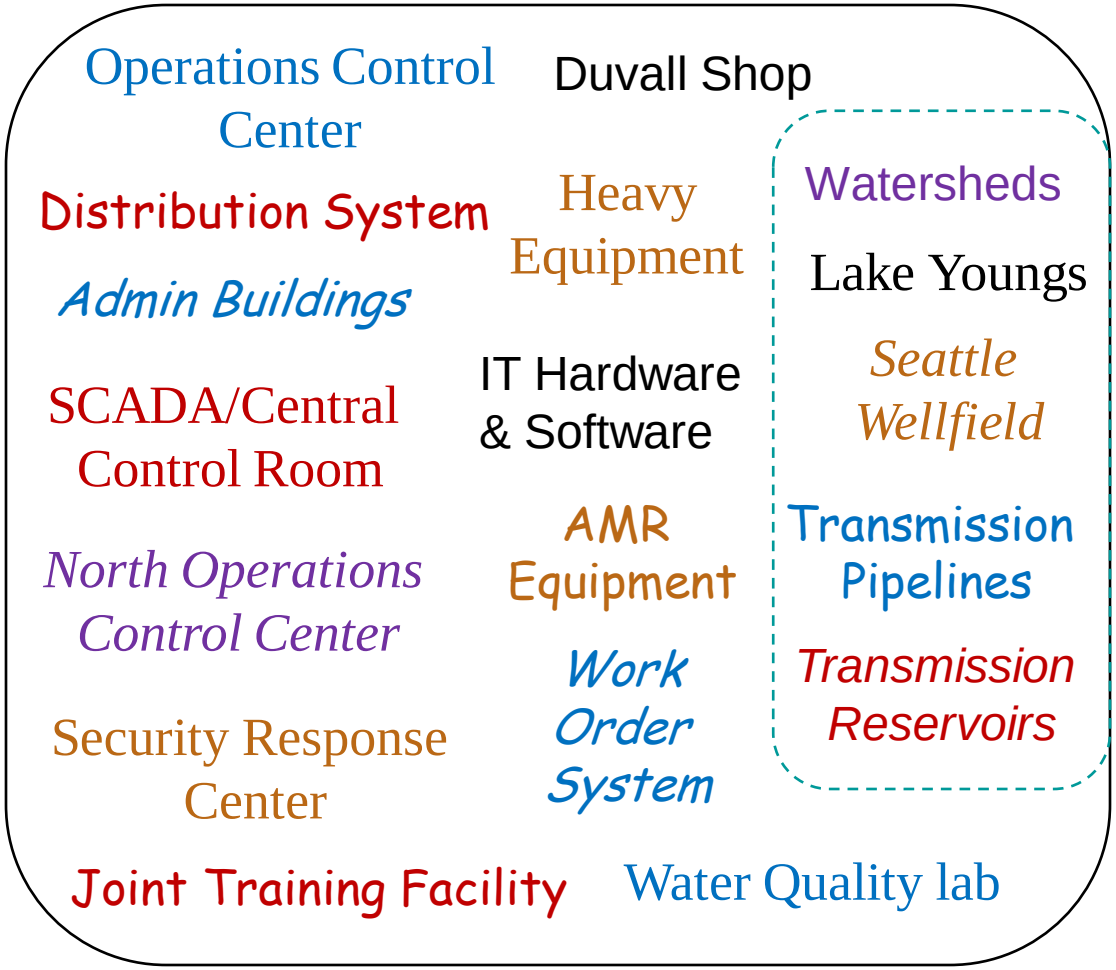
Data for Utility Basis Cost

Year	Depreciation	Net Book Value	Return on NBV
1	0	0	0
2	0	10,000	470
3	333	9,667	454
4	333	9,333	439

Utility Basis Cost for Seattle Regional Wholesale Contracts

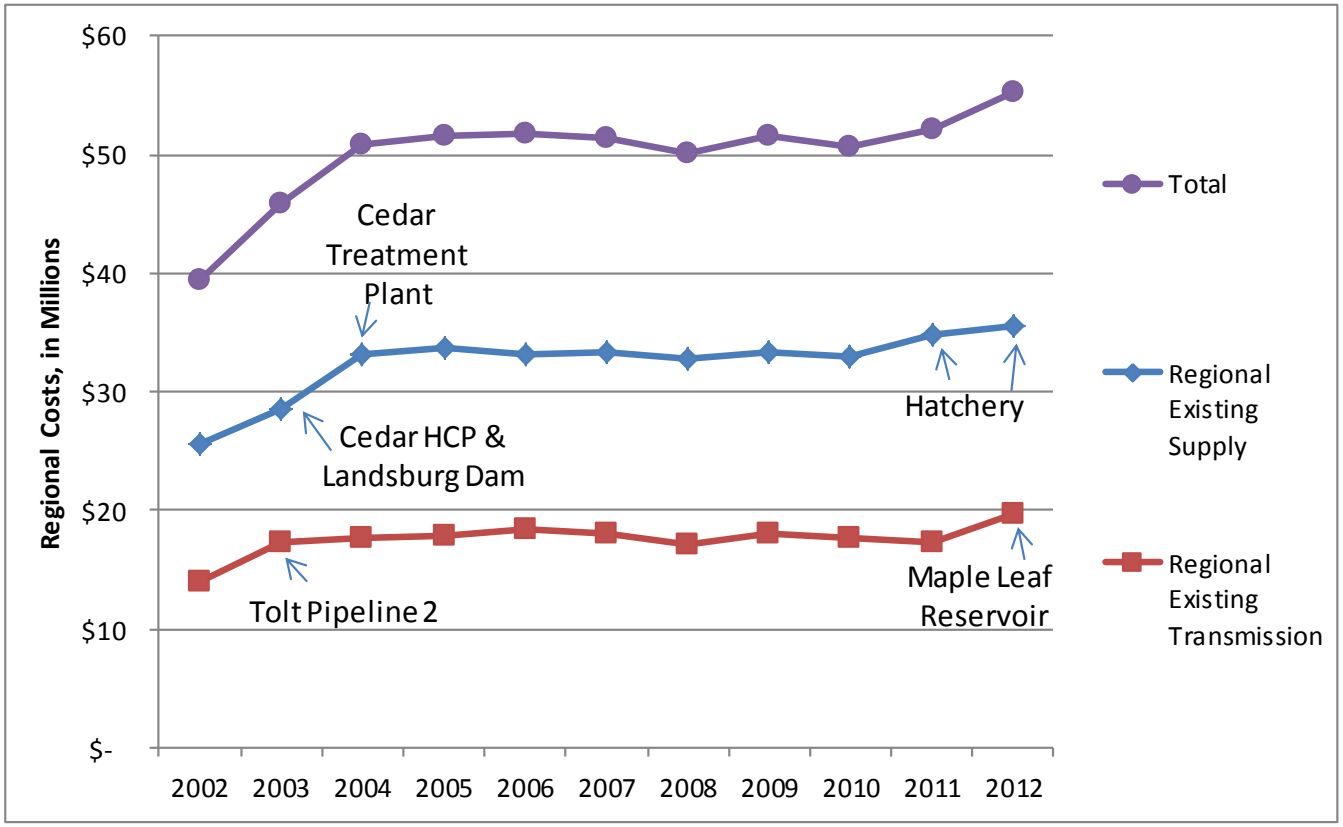
- Similar to O&M where the goal was not to allocate each and every line item every year; *regional asset costs are based only on the lists of assets in Exhibits VII and VIII*
- These lists represent the *direct* assets needed to supply, treat, and transmit water to wholesale customers
- The contracts add an allowance to cover "mixed use" assets such as the WQ lab, Operations Control Center, IT investments, etc. (See following slide)
- The contracts implement this allowance by increasing the Utility Basis Cost rate of return 1.5% above Seattle's Average Cost of Debt

Regional Assets



Basis for Regional Asset costs

Regional Asset Cost – History



Demand

Regional Demand – Why is it important?

- Because a rate = cost divided by demand, each 10% decline in demand causes a 11% increase in rates

Example	Year 1	Year 2
Cost	$ 200	$ 200
Demand	100	90
Rate	$ 2.00	$ 2.22

- Demand has been a major driver of rates since 2007
- The true up compounds the rate effect of demand (more on this later)

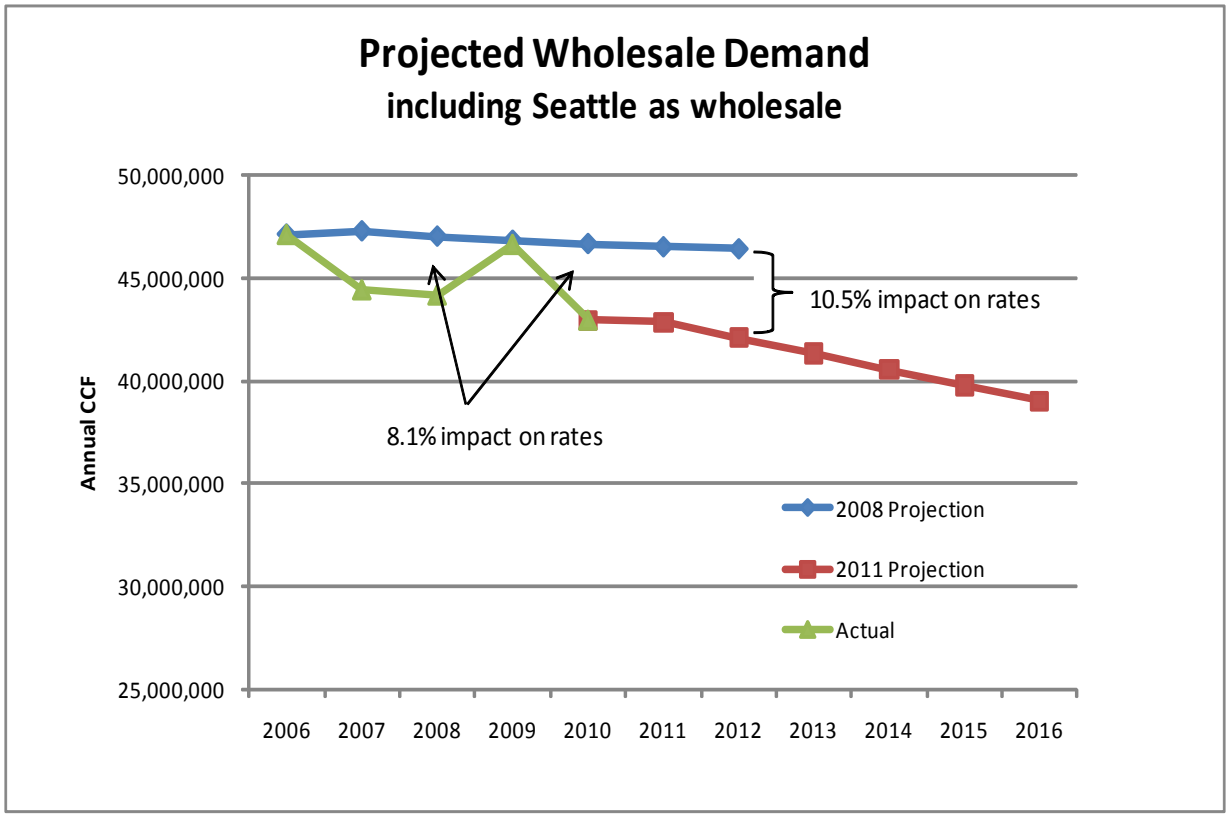
Regional Demand – What is it?

- Per the Seattle Regional Wholesale Contracts:
  - Regional demand = 98% of water produced
  - Wholesale customer demand = based on meters
  - Seattle-as-wholesale demand = remainder
- The 98% factor is to account for the assumed 2% transmission losses that all customers share
- The calculation assigns all other loses as belonging to Seattle's distribution system

Regional Demand – Compounding Effect of the True Up

In 2012, the average wholesale rate increase was driven entirely by demand:

- a 10.5% increase was needed to "catch up" to the new demand
- a 8.1% increase was needed to "make up the deficit" created over 2007-2011



Regional Demand – Current Situation

- So far, demand has been higher than projected during this rate study period. This will work to offset any rate increase in 2015.

Full & Partial Revenues		
	Rate Study Projection	Preliminary Actutals
2012	$ 73.7	$ 76.2
2013	$ 72.7	$ 78.2
2014	$ 71.5	?

- Note: a conservative demand forecast is one way to achieve the same goal as a “rainy day fund”

Other Rate Setting Factors

- True Up
- Effect of Rate Structure
- Block Contracts

True Up

- Rates are set every 2-3 years, using the best estimates of cost and demand
- Actual revenues and costs will always be different, so looking back, rates will always have been too high or too low
- To correct for this and ensure there is no over or under payment in the long run, each year is “trued up” after the audited financial statements are available
- There are separate true ups for Full & Partial contracts, CWA, Northshore, the block portion of the Renton contract, and each subregion

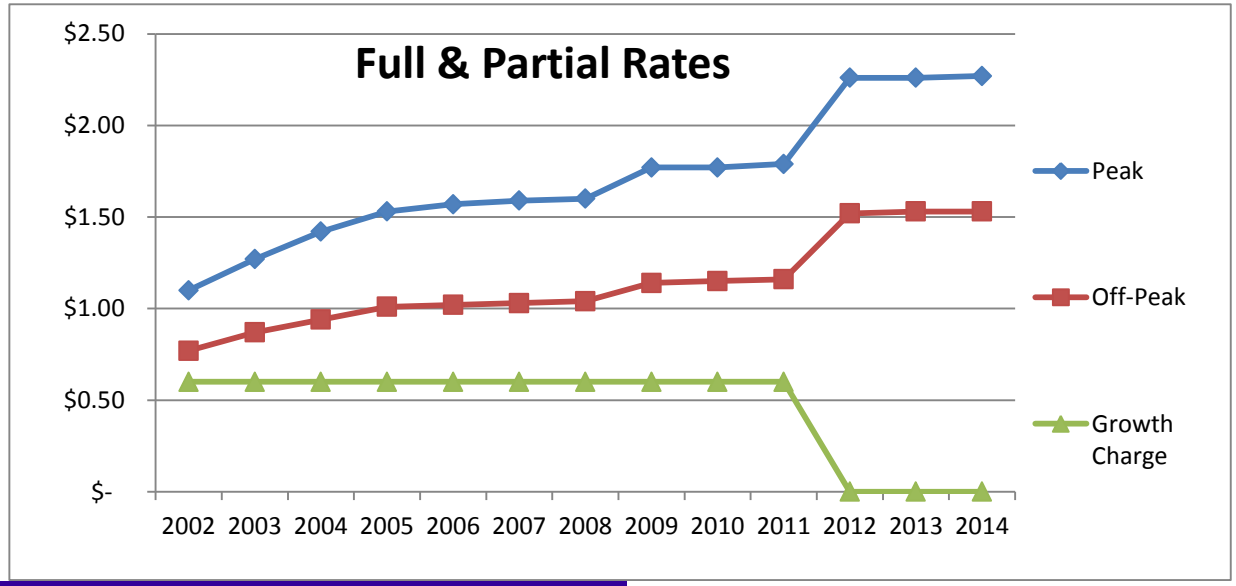
True Up, continued

- The true up compares actual revenues to actual expenses – not to rate study projections
- A running balance is kept for each cost pool
- As per section IV.I.3 of the contracts, “each wholesale rate study shall adjust rates to eliminate the cost pool balances”

	Year 1	Year 2	Year 3	Year 4	Year 5
True Up					
Actual Revenues	100	105	110		
Actual Costs	100	100	100		
True Up Balance	0	5	15		
Rate Study					
Projected Costs				100	100
Minus True Up Balance				-7.5	-7.5
Rates set to target collection of this much revenue:				92.5	92.5

Effect of Rate Structure

- Whenever there is more than one single rate, a change in the rate structure also affects the rates themselves
- For example, in 2012 demand was the driver for the increase in the average rate, but expiration of the growth charge caused a jump in the peak and off peak rates



Block Contracts

Once regional costs are developed, block customers are allocated costs based on their contracts

- Allocations are based on the amount of demand listed in each of block contract (in other words, their block amount)
- There are penalties for exceeding these amounts

The remainder of costs remain with Full and Partial customers, including Seattle