Technical Memorandum

To:	Brad Taylor, Medford Water
From:	Shawn Koorn, HDR Kevin Lorentzen, HDR
Date:	November 6, 2026
Subject:	Partner City Cost of Service Comparative Analysis FY 26/27

1.0 Purpose

As part of the annual water rate study update, Medford Water provides the Partner Cities with a comparison of the Partner City cost of service results from the 2025/26 study and the current study test period for 2026/27. The comparison covers several exhibits from the cost of service analysis, including the exhibits for the Base and Extra Capacity distribution factors which are the primary components in determining the rate levels for the Partner Cities. Also included are cost of service summaries and a summary of rate base changes that are not directly available from the exhibits in the cost of service analysis. As a result of Medford Water's transition to a biennial budgeting cycle, two separate cost of service analyses were conducted: one for test year 2026/27 and another for test year 2027/28. This report focuses on the Year 1 (2026/27) cost of service analysis, while the results of the Year 2 (2027/28) analysis are presented in a separate technical memorandum.

2.0 Distribution Factors

Distribution factors are a means to proportionally distribute the costs of the utility consistent with the way customers impact the system. How customers are distributed costs are impacted both directly by each customer class’s consumption characteristics and indirectly by other customer classes consumption characteristics. The primary distribution factors that impact the Partner City cost of service are the Base and Extra-Capacity. There are several other distribution factors, but generally they do not change materially from year to year (e.g., customer/meters). The extra capacity hour factor is not included in this review as Partner Cities are not distributed extra capacity hour costs and therefore are not included as a component of that distribution factor.

The Base-All distribution factor is the proportion of customer's consumption compared to total system consumption. As shown below in Table 1, the system total consumption increased 1.16% and among the different customer classes most increased at varying degrees compared to the 2025/26 rate study. Partner Cities consumption decreased 2.16%, higher than the system average. As a result, the base distribution factor for Partner Cities decreased from 24.91% to 24.09%. Table 1 below shows the Base-All distribution factor comparison for the 2025/26 and 2026/27 cost of service study.

Table 1
Comparison of the Base Distribution

Customer Class	2025/26 Base Consumption (MGD)	2025/26 % of Total - ALL	2026/27 Base Consumption (MGD)	2026/27 % of Total - ALL
Inside City				
Single-Family Residential (Inside-City) - Schedule 2R	9.67	32.39%	9.90	32.78%
Nonresidential & Multifamily (Inside-City) - Schedule 2C	6.22	20.82%	6.40	21.19%
Irrigation (Inside-City)	1.60	5.35%	1.63	5.39%
Fire Standby Service (Inside-City) - Schedule 1	0.00	0.00%	0.00	0.00%
Outside City				
Single-Family Residential (Outside-City) - Schedule 4R	1.10	3.70%	1.13	3.74%
Nonresidential & Multifamily (Outside-City) - Schedule 4C	3.53	11.82%	3.56	11.79%
Irrigation (Outside City)	0.06	0.20%	0.07	0.24%
Fire Standby Service (Outside-City) - Schedule 3	0.00	0.00%	0.00	0.00%
Wholesale				
District Customers - Schedule 5	0.24	0.82%	0.24	0.78%
Partner Cities - Schedule 6	7.44	24.91%	7.28	24.09%
Pumping	0		0	
Total Consumption	29.85	100.00%	30.20	100.00%

The extra capacity distribution factor is a measure of each customer class's peak demand on the water system. The factor compares each customer class's demand, calculated as peak use less base use, to total demand. While the Partner Cities peak demand decreased from last year, the overall peak demand decreased at a greater level across all customer classes, resulting in a larger proportional share being distributed to the Partner Cities despite lower actual peak demands. This reflects the indirect impact as even though the Partner Cities overall demand was less than last year, it did not decrease as much as the other customer classes of service. As a result, the proportion distributed to Partner Cities increased. Table 2 below shows the comparison of the extra capacity distribution factor from the 2025/26 study and the 2026/27 study.

Table 2
Comparison of the Extra-Capacity Distribution

	2025/26		2026/27	
Customer Class	Extra Capacity (MGD)	% of Total - ALL	Extra Capacity (MGD)	% of Total - ALL
Inside City				
Single-Family Residential (Inside-City) - Schedule 2R	11.45	37.43%	9.09	35.91%
Nonresidential & Multifamily (Inside-City) - Schedule 2C	3.89	12.72%	2.76	10.89%
Irrigation (Inside-City)	2.82	9.21%	2.32	9.17%
Fire Standby Service (Inside-City) - Schedule 1	0.48	1.57%	0.48	1.90%
Outside City				
Single-Family Residential (Outside-City) - Schedule 4R	1.32	4.30%	1.04	4.10%
Nonresidential & Multifamily (Outside-City) - Schedule 4C	2.41	7.89%	1.71	6.76%
Irrigation (Outside City)	0.09	0.29%	0.09	0.34%
Fire Standby Service (Outside-City) - Schedule 3	0.18	0.59%	0.18	0.71%
Wholesale				
District Customers - Schedule 5	0.22	0.73%	0.16	0.64%
Partner Cities - Schedule 6	7.74	25.28%	7.49	29.58%
Pumping	0.00	0.00%	0.00	0.00%
Total Consumption	30.61	100.00%	25.32	100.00%

3.0 Rate Base

Rate base is the amount of asset value for which the return on investment is determined. Return on rate base is one of several components that when added together equal each customer's total distributed costs. Rate base is determined through an allocation process where system plant components are determined to serve base, extra capacity and customer related components. A detailed review of the assets that provide service to Partner Cities is undertaken each year as infrastructure is capitalized and added to the rate base. Similar to last year, several large projects have been completed and are included in the calculation of rate base this year. In addition, Medford Water has expended funds related to treatment that will be in service

at the time the proposed rates will be implemented. Therefore, approximately $5 million in work in progress was included in the 2025/26 rate base and allocated as treatment related (Base-All and Extra Capacity-All). Contributions are then deducted from the rate base calculation, including a full SDC credit for those projects identified as being SDC funded. Table 3 provides a comparison of the 2025/26 rate base compared to the 2026/27 rate base.

Table 3
Comparison of Rate Base

Calculation of Rate Base

	FY 25/26	FY 26/27	% Change
Rate Base			
Source of Supply	$7,785,655	$8,433,656	8.32%
Pumping	7,267,196	15,670,634	115.64%
Treatment Facilities	88,247,383	97,017,338	9.94%
Transmission Distribution	123,854,577	127,674,746	3.08%
Reservoirs	8,347,637	23,200,556	177.93%
General Plant	9,665,489	10,047,754	3.95%
Plant Before General	$245,167,937	$282,044,685	15.04%
Less Developer and SDC Funded	($116,259,014)	($131,529,209)	
Plus Inventory, Work in Progress and 45 Days O&M	$4,772,104	$9,691,098	
Net Plant in Service	**$133,681,027**	**$160,206,574**	19.84%
Allocated Rate Base			
Base All	$56,107,458	$76,279,047	35.95%
Extra Capacity - All	45,203,009	47,836,550	5.83%
Direct Assignment	(2,362,290)	(2,298,444)	-2.70%
Total Allocated Rate Base	$98,948,177	$121,817,153	23.11%
Distribution to Partner Cities			
Base All	24.91%	24.09%	
Extra Capacity - All	25.28%	29.58%	
Direct Assignment	97.02%	97.02%	
Partner City Distributed Rate Base			
Base All	$13,975,478	$18,376,247	31.49%
Extra Capacity - All	11,428,063	14,148,322	23.80%
Direct Assignment [1]	(2,291,783)	(2,229,843)	-2.70%
Distributed Rate Base	$23,111,759	$30,294,726	31.08%

1- The direct assignment represents the Partner Cities contributions to the future treatment plant fund

As the table shows, the net plant in service, which is the value of the plant before being distributed to customer classes, increased by 19.84% while the amount of rate base distributed to the Partner Cities increased 31.08%. The increase in rate base is primarily the result of the distribution of rate base related to Base – All and Extra Capacity – All, which reflects the recent assets added to the system as "used and useful" since the prior study. It is also important to note that contributions increased as well reflecting the portion of assets added to the system being in part growth related and funded through SDCs. In addition, the impact to rate base, and resulting return component, may continue to increase given the significant level of improvements being developed that provide a benefit to Partner Cities, and thus they are allocated a proportional share of those costs.

4.0 Cost of Service Analysis

Another component included in each customer's distributed revenue requirement is O&M expenses. Table 4 provides a breakdown of the Partner Cities' distributed O&M expenses by Base-All, Extra Capacity Day, Actual Customer, and Direct Assignment. In total, the amount of expenses distributed to Partner Cities increased, which is a result of several factors. First, the overall O&M expenditures increased system wide since the prior study. This increase in O&M expenditures increases funds allocated to Base – All and Peak Day – All, which results in an increase in the funds distributed to each customer class, including Partner Cities. As noted in the rate study last year, Partner Cities are not allocated the transfers to the Water Supply and Treatment Fund. As can be seen on the direct assignment line, where the transfer of funds was once shown, no costs were allocated to the Partner Cities for either 2025/26 or 2026/27.

Table 4
Allocation of O&M Expenses

	Partner Cities		
	FY 25/26	**FY 26/27**	% Change
Allocation of O&M			
Base - All	$1,493,255	$1,508,980	1.05%
Extra-Capacity - Peak-Day ALL	507,373	557,175	9.82%
Actual Customer - All	1,939	1,899	-2.07%
Direct Assignment	0	0	0.00%
Total Allocated O&M Expenses	$2,002,567	$2,068,053	3.27%

5.0 Summary

Table 5 below provides the side-by-side comparison of the cost of service summary. Much of what was shown in the previous tables is summarized on this table, including O&M expenses and distributed rate base. Of note, is that the distribution of rate base has increased for the Partner Cities, and the rate of return increased from 5.65% to 5.90% based on the 20-year Treasury rate and 2.5% risk premium, which is the maximum increase of 0.25% per year. The return on rate base is a direct result of the increase in percent return on rate base and more significantly the infrastructure that has been under construction over the past few years being

put into service. Last year's memo noted that the new infrastructure would have an impact on the Partner Cities rates in subsequent years. This again will likely be a factor in Partner Cities rates in the next couple of years as more system improvement projects are completed.

Based on the agreed upon approach of using the Utility Basis for the Partner Cities rate calculation, Partner Cities are not distributed infrastructure costs (e.g., rate base) until they are placed into service. Since a significant amount of infrastructure that has been under construction is now in service and thus added to the existing rate base, the Partner City's return on rate base has increased, which is reflected in the Partner Cities increase in rates for this study.

As the previous tables showed, the Base – All, Peak Day – All, and Actual Customer – All distributed costs increased for the Partner Cities. Additionally, because of increased plant in service, the distributed rate base increased from the prior year. This results in an overall increase to Partner Cities cost of service of 23.4% as provided below in Table 5 below. Note that this impact is for the Partner Cities class of service and not necessarily the specific impact to the individual members of the Partner Cities class of service.

Table 5
Comparison of Cost of Service Results

	Partner Cities		
	FY 25/26	**FY 26/27**	% Change
Revenues at Present Rates	$3,042,212	$3,747,342	23.18%
Less: Allocated O&M Expenses	$2,002,567	$2,068,053	3.27%
Less: Allocated Ann. Depr. Expense [1]	549,353	767,213	39.66%
Total Allocated O&M & Ann. Depr. Exp.	$2,551,920	$2,835,267	11.10%
Net Income/(Loss)	$490,292	$912,076	86.03%
Distributed Rate Base	$23,111,759	$30,294,726	31.08%
Present Return on Rate Base	2.12%	3.01%	
Proposed Return Component	$1,305,814	$1,787,389	36.88%
Proposed Rate of Return	5.65%	5.90%	
Proposed Revenue	$3,857,734	$4,622,655	19.83%
Required $ Change in Rates	$815,522	$875,313	
Required % Change in Rates	26.8%	23.4%	

[1] Annual Depreciation is Allocated and Distributed in the same manner as Rate Base

Another impact of building new infrastructure along with the increased rate base, is an increase of annual depreciation expense. As shown in table 5, allocation of annual depreciation expense for the Partner Cities increased by 39.66% or $217,860 from 2025/26.

There are three revenue requirement components that impact the Partner City rates, O&M expenses, annual depreciation expense, and return on rate base. As Table 5 shows each of those components have increased over the previous year. The impact of each of the revenue requirement components has their own impact on the overall rate adjustment. Table 6 provides the relative impact of the three revenue requirement components.

Table 6 compares the FY 25/26 and FY 26/27 distributed costs to the Partner Cities as developed in the prior tables along with the change. To provide a relative change in the rates for each component, the far right column shows the proportion of the total increase by cost component. These percentages are then used to determine the proportion of the overall increase by each component. A key component of this comparison is also the change in revenue for Partner Cities from the prior study to account for changes in overall revenue levels.

Table 6
Comparison of Distributed Costs

Partner Cities				
	FY 25/26	**FY 26/27**	**$ Change**	**Proportion of Total Allocated costs**
Rate Components				
Allocated O&M Expenses	$2,002,567	$2,068,053	$65,486	8.6%
Allocated Ann. Depr. Expense [1]	549,353	767,213	217,860	28.5%
Proposed Return Component	1,305,814	1,787,389	481,574	62.9%
Total Allocated Costs	$3,857,734	$4,622,655	$764,921	
Adjustments to Account for Changes from last Year's Study				
Less Change in Revenues at Present Rates	$3,042,212	$3,747,342	($705,130)	
Plus 2025/26 Req. Change in Rates			$815,522	
Net Changes from 2025/26			$110,392	
Required $ Change in Rates (Alloc. Costs Less Net Change from 2025/26)			$875,312	

	Rate Component $ Change	**Proportion of Rate Component**	**Prorated Change per Rate Component**	**Rate Adjustment % Change Distribution**
Allocated O&M Expenses	$65,486	8.56%	$74,937	2.0%
Allocated Ann. Depr. Expense [1]	217,860	28.48%	249,301	6.7%
Proposed Return Component	481,574	62.96%	551,074	14.7%
Total	$764,921	100.0%	$875,312	23.4%

As table 6 shows of the overall 23.4% rate adjustment for Partner Cities 2.0% is due to the increase in O&M expense, 6.7% is related to the increase in annual depreciation expense and

14.7% is related to return on rate base. The increase in the return component is driven by the capitalization of significant projects completed since the 2025/26 rate study. As noted, this level of project capitalization, and subsequent rate adjustment, was noted in the 2025/26 memo. It is also important to note that additional projects are likely to be completed prior to the next rate study which may also have similar impacts to the Partner City rates.

Provided below in Table 7 is a projection of the distribution of costs for the Partner Cities. Note these are projections and future results will likely vary given actual costs, completed CIP, and rate of return.

Table 7

	FY 26/27	FY 27/28 [3]	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36
Allocated O&M Expenses	$2,068,053	$2,165,146	$2,240,926	$2,319,359	$2,400,536	$2,484,555	$2,571,514	$2,661,517	$2,754,671	$2,851,084
Allocated Ann. Depr. Expense	767,213	832,493	953,714	1,016,574	1,063,535	1,101,463	1,158,647	1,222,274	1,273,105	1,308,708
Annual Capital (Prior Year Plan) [1]			27,783,000	14,407,000	10,763,000	8,693,000	13,106,000	14,583,000	11,650,000	8,160,000
Capitalization of Work in Progress										
Percent Allocable Partner Cities			20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Distributed Rate Base [2]	$30,294,726	$38,160,334	$43,716,934	$46,598,334	$48,750,934	$50,489,534	$53,110,734	$56,027,334	$58,357,334	$59,989,334
Rate of return	5.90%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%
Return on Rate Base	$1,787,389	$2,346,861	$2,688,591	$2,865,798	$2,998,182	$3,105,106	$3,266,310	$3,445,681	$3,588,976	$3,689,344
Proposed Revenue	$4,622,655	$5,344,500	$5,883,232	$6,201,730	$6,462,253	$6,691,125	$6,996,471	$7,329,473	$7,616,751	$7,849,136
Annual Rate Change [4]	N/A	N/A	10.1%	5.4%	4.2%	3.5%	4.6%	4.8%	3.9%	3.1%
% Cumulative Rate Change [4]	N/A	N/A	10.1%	16.0%	20.9%	25.2%	30.9%	37.1%	42.5%	46.9%

Notes:

[1] Assumes all capital projects are used and useful after FY 27/28

[2] No SDC or grant contributions assumed

[3] FY 27/28 will be discussed in detail in a second technical memorandum

[4] FY 26/27 and FY 27/28 are not included as the calculation is provided in the Cost of Service Analysis

In discussions with Partner Cities they requested further information on their projected annual and cumulative rate changes over the Study time period. Table 7 shows the overall cumulative 46.9% rate adjustment in FY 35/36 for Partner Cities is due to an increase in capital placed in service, the rate of return, annual depreciation, and O&M expenses. The increase in significant capital projects related to Partner Cities increases the distributed rate base. These preliminary results are subject to changes in assumptions relating to operating and maintenance expenses, depreciation, capital improvement plans, and rate of return. The following graph provides a visual comparison of cumulative rate change between Partner Cities and retail customers historically and over the study time period.

