

# THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

## Demand Management Cost Recovery Alternatives Report

December 2019



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November 25, 2019

Arnout Van den Berg  
Rates, Charges, and Financial Planning Manager  
The Metropolitan Water District of Southern California  
700 N. Alameda Street  
Los Angeles, CA 90012-2944

**Subject: Demand Management Cost Recovery Alternatives Report**

Dear Mr. Van den Berg:

On behalf of Raftelis, I am pleased to provide our report detailing the Demand Management Cost Recovery Alternatives for consideration by the Board of the Metropolitan Water District of Southern California. This report documents our development of alternative rate and charge approaches for the recovery of Demand Management costs. These alternatives are in some respects consistent with the current Metropolitan cost of service methodology but also offer alternatives that are different from the current cost of service methodology while still being consistent with industry guidelines.

It has been a pleasure to work with you and others at Metropolitan on this project and we look forward to future opportunities. Please direct any questions regarding this report to me at: 303.305.1136 or by email: [rgiardina@raftelis.com](mailto:rgiardina@raftelis.com).

Sincerely,



**Richard D. Giardina, CPA**  
*Executive Vice President*

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## 1. The Purpose of this Report

In April of 2018 the Board of the Metropolitan Water District of Southern California (Metropolitan or MWD) directed staff to determine the most appropriate method for the allocation and recovery of demand management costs. This analysis is being completed in two phases. The first phase is designed to determine the most appropriate method for assigning demand management costs to Metropolitan's system functions. The second phase is designed to incorporate the phase one recommendations into the cost-of-service process and develop demand management cost recovery mechanisms, whether through Metropolitan's existing rate and charge structure or alternative cost recovery mechanisms.

The first phase of the analysis associated with the functionalization of demand management costs was completed by the consulting firm of Water Demand Management (WaterDM)<sup>1</sup>. Raftelis was retained to complete the second phase of the analysis which focuses on demand management cost recovery mechanisms. This Demand Management Cost Recovery Alternatives Report (Report) summarizes our thoughts on the proposed functionalization approach developed in phase one and our phase two alternative cost recovery mechanisms.

## 2. The Water Stewardship Rate and Demand Management Cost Recovery

Metropolitan's demand management activities include the Conservation program, Local Resources Program, and the Future Supply Actions program. Historically the cost of these programs, which are referred to as Demand Management (DM), have been recovered via the Water Stewardship Rate (WSR).<sup>2</sup> The WSR is a volumetric rate collected on each acre-foot (AF) of water transported on Metropolitan's regional conveyance and distribution system. The only exception is for San Diego County Water Authority (SDCWA) exchange deliveries for the years 2018 to 2020; during this period the WSR billing and collection was suspended by the Board.

Metropolitan's support for Demand Management was documented in its 1996 Integrated Water Resources Plan (IRP) when water conservation and local resources programs were recognized as an "essential element" in the water resource portfolios considered at the time. The 25-year capital planning horizon used in the 1996 IRP concludes at the end of 2020. This provides an opportunity and a need to review the continued appropriateness of the WSR as the demand management cost recovery mechanism.

## 3. The Systemwide Benefits of Demand Management Programs

From the perspective of Metropolitan, Demand Management has provided a broad systemwide benefit that accrues to all member agencies in the form of reduced demands for imported water supplies and resulting

<sup>1</sup> *Functional Assignment of Metropolitan's Demand Management Costs*, July 26, 2019, WaterDM.

<sup>2</sup> Examples of Demand Management costs recovered via the WSR include conservation incentives for high efficiency fixtures and turf removal and Local Resources Programs related to recycled water, groundwater recharge and recovery, and desalination.

avoided and deferred costs for the regional conveyance and distribution system and an increase in available capacity on that system. For this reason, Metropolitan structured the WSR as a volumetric rate on transported water. The following excerpt, taken directly from Metropolitan's most recent cost of service study, summarizes Metropolitan's underlying rationale for this cost recovery approach.<sup>3</sup>

*"Investments in conservation, recycling, and groundwater recovery reduce and defer system capacity expansion and maintenance costs; create available space in Metropolitan's networked conveyance system to be used to complete water transfers; decrease the region's overall dependence on imported water supplies from environmentally sensitive areas like the Bay-Delta; and increase the overall level of water supply reliability in Southern California. Because conservation measures and local resource investments reduce the overall level of dependence on the imported water system, more capacity is available in existing facilities for a longer period of time. The space in the system made available by conservation and recycling is open to all system users. The deferral and reduction of facility expansion costs made possible by investments in conservation, recycling and groundwater recovery benefit all users of conveyance and distribution capacity in the same proportion through a lower uniform System Access Rate. Similar to the public benefit charges implemented in the electric and natural gas industries in California after "open access" (customer choice of supplier) was implemented, the regional and statewide benefits of demand management are assessed to all users of the Metropolitan system, regardless of the source of the imported water supply."*

The above excerpt highlights an important point that underlies the Raftelis cost recovery alternatives as discussed in this Report: Demand Management offers broad benefits which accrue to all member agencies. As a key example, in the most recent cost of service study, Demand Management was found to decrease demand and was:

*"...estimated to defer the need for projects between four and twenty-five years at a savings of approximately \$2.9 billion in 2017 dollars. The programs also free up capacity in Metropolitan's system to convey both Metropolitan water, and water from other non-MWD sources."<sup>4</sup>*

When considering the WaterDM findings regarding the impacted functional categories and the conclusion of the IRP 25-year capital planning horizon at the end of 2020, it is appropriate, if not necessary, to now consider other cost recovery alternatives that are, on a going-forward basis, better aligned with the impacted functional categories and the systemwide benefits resulting from Demand Management investments. For these reasons, the current Water Stewardship Rate is assumed to be eliminated under all four of the alternatives discussed in this Report.

## 4. Cost Recovery Alternatives to the WSR

In this Report, Demand Management cost recovery alternatives are identified and discussed. In crafting these alternatives care was taken to create options that conform to general industry guidelines and standards. The primary and authoritative reference source for such guidelines is the seventh edition of the American Water Works Association publication, *Manual of Water Supply Practices M1, Principles of Water Rates, Fees, and Charges*

<sup>3</sup> Page 76 of the February 2018 Metropolitan document entitled "Fiscal Years 2018/19 and 2019/20 Cost of Service Report for Proposed Water Rates and Charges."

<sup>4</sup> Page 46 of the February 2018 Metropolitan document entitled "Fiscal Years 2018/19 and 2019/20 Cost of Service Report for Proposed Water Rates and Charges."



(MI). The MI and the cost of service (COS) approaches, principles, etc. it espouses, has a focus on utilities providing retail service and many of those principles have applicability to wholesale utilities like Metropolitan. At the same time within the MI it is understood, if not encouraged, that each utility should use these concepts to inform and develop rates and charges reflective of the unique circumstances in which the utility operates and Metropolitan's COS approach reflects this point of view. The alternatives presented in this Report conform to the guidelines and principles articulated in the MI.

In general, a starting point in the development of cost of service based rates and charges is the assignment of costs to the functional categories they are incurred to serve. For example, the costs incurred to purchase new water supplies are generally assigned to the Source of Supply function. To appropriately assign the costs to the functions they are incurred to serve, Metropolitan's cost of service process assigns operational and capital costs to the functional categories and subcategories shown in Table 1. The Demand Management revenue requirement could be recovered using all or a portion of Metropolitan's existing rate and charge elements (except the Water Stewardship Rate) as shown in Table 1 or through a new rate or charge element as discussed in section 6 of this Report.

**Table 1: Functional Allocation of Metropolitan System Costs and Rate and Charge Elements**

System Function	System Sub-Functions	Rate and Charge Elements Used for Functional Cost Recovery
<b>Supply</b>	<ul style="list-style-type: none"> <li>• State Water Project, Colorado River Aqueduct, Other Supply</li> </ul>	<ul style="list-style-type: none"> <li>• Tier 1 Supply Rate</li> </ul>
<b>Conveyance and Aqueduct</b>	<ul style="list-style-type: none"> <li>• State Water Project, Colorado River Aqueduct, State Water Project Power, Colorado River Aqueduct Power, Other Conveyance</li> </ul>	<ul style="list-style-type: none"> <li>• System Access Rate</li> <li>• System Power Rate</li> <li>• Readiness-to-Serve Charge</li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>• Emergency, Drought, Regulatory</li> </ul>	<ul style="list-style-type: none"> <li>• Tier 1 Supply Rate</li> <li>• System Access Rate</li> <li>• Capacity Charge</li> <li>• Readiness-to-Serve Charge</li> </ul>
<b>Treatment</b>	<ul style="list-style-type: none"> <li>• Jensen, Weymouth, Mills, Diemer, Skinner</li> </ul>	<ul style="list-style-type: none"> <li>• Treatment Surcharge</li> </ul>
<b>Distribution</b>	----	<ul style="list-style-type: none"> <li>• System Access Rate</li> <li>• Capacity Charge</li> <li>• Readiness-to-Serve Charge</li> </ul>
<b>Demand Management</b>	----	<ul style="list-style-type: none"> <li>• Water Stewardship Rate</li> </ul>
<b>Hydroelectric</b>	----	<ul style="list-style-type: none"> <li>• Hydroelectric revenue is netted against distribution costs</li> </ul>
<b>Administrative and General</b>	----	<ul style="list-style-type: none"> <li>• Allocated to all other functions</li> </ul>

Related to the topic of functionalization is a finding of the WaterDM report that, going forward, the systemwide benefits of importing less water are applicable across many of Metropolitan's primary system functions<sup>5</sup>. WaterDM concludes that Demand Management investments produce systemwide benefits and multi-functional cost reductions. Reductions in imported water supplies result in the beneficial deferral or avoidance of capital expenditures and/or operations and maintenance expenses (O&M) related to the following system/cost of service functions: Source of Supply, Conveyance and Aqueduct, Storage and Distribution.

<sup>5</sup> Pages 25 and 26, *Functional Assignment of Metropolitan's Demand Management Costs*, July 26, 2019, WaterDM.

WaterDM also concluded that there are currently two system functions that do not benefit from Demand Management expenditures<sup>6</sup>. The first is the Treatment function. Metropolitan is in the unique situation of having an excess of unused water treatment capacity. Reductions in treated water purchases on the part of member agencies compounds this issue. As a result, the Treatment function does not currently receive a benefit from Demand Management. Per WaterDM, water conservation and producing new local supplies could potentially reduce hydroelectric generation which is not considered a positive impact. Consequently, the Hydroelectric function was excluded from the functional assignment of Demand Management revenue requirements.

In the Metropolitan COS process, Administrative and General is effectively a system function. However, Administrative and General supports all functions and it is spread across all functions, including the impacted functions identified by WaterDM, through the Metropolitan COS process. For this reason, it is not a separately impacted function for purposes of functionalizing Demand Management revenue requirements.

Related to the WaterDM functionalization findings, Metropolitan is encouraged to, in the future, periodically review and re-evaluate the impacted functions resulting from Demand Management investments; such a future review may yield different results.

Raftelis agrees with the conceptual and technical approach used by WaterDM to arrive at the conclusions regarding the impacted Metropolitan COS functions. We support this approach and conclusions due to the systemwide benefits resulting from Demand Management expenditures and investments.

Raftelis has developed four alternatives to the existing WSR (see section 6 of this Report). Three of these alternatives involve allocating the annual Demand Management revenue requirement to the impacted functions as previously discussed in this Report and in the WaterDM report. The fourth option does not require functionalization of the Demand Management revenue requirements and is designed to recover some portion of these revenue requirements from all Metropolitan member agencies.

The recovery of Demand Management revenue requirements from all member agencies is the goal or driving force behind the fourth option (referred to in this Report as Alternative #3B). This alternative is reflective of the fact that all member agencies benefit from Demand Management investments. However, under the first three alternatives it is possible that a member agency could avoid or not share in the costs related to these investments from which they benefit.

Under the fourth alternative it is not necessary to functionalize the Demand Management revenue requirement; it is only necessary to "spread" the revenue requirement in a reasonable and rational manner to reflect the benefit derived by all member agencies and this is the approach used for Alternative #3B and discussed in section 6 of this Report.

There are distinct differences in the four alternatives in terms of the recovery of costs from the member agencies. As previously noted, the fundamental differences in the alternatives relates to whether a member agency can avoid sharing in the Demand Management costs incurred to produce the systemwide benefits accruing to all member agencies. Under the first three alternatives this is possible (in varying degrees) but under the fourth it is not. The fourth alternative most effectively achieves this important cost-benefit nexus.

<sup>6</sup> Pages 25 and 26, *Functional Assignment of Metropolitan's Demand Management Costs*, July 26, 2019, WaterDM.

## 5. Functional Assignment of Demand Management Costs

In advance of our work on the development of a conceptually sound cost recovery alternative to the WSR, WaterDM investigated methods of functionalizing Demand Management costs. In its report WaterDM explained why the capital planning forecast in the 1996 IRP study will no longer be applicable beginning in 2021 given the end of the forecast period and changed circumstances. The WaterDM report laid the groundwork for a new approach to the recovery of Demand Management costs. Below is an excerpt from the WaterDM report discussing the need to move beyond the 1996 IRP<sup>7</sup>.

*“Much has changed over the years since the 1996 IRP was completed. Metropolitan’s 2015 IRP Update presents an evolving utility focused on adaptive management and with a different perspective on the future than it had 1996. The 2015 IRP Update makes it clear that “climate change may prove to be the most significant challenge to water supply in Southern California” along with other challenges such as supply uncertainty. In 1996, Metropolitan was just starting down the road of implementing demand management and identified specific infrastructure projects that could be avoided over the next 25 years. By 2015, Metropolitan has document approximately 5.4 million AF of water savings and local production from its demand management programs and billions in avoided transportation infrastructure. Going forward Metropolitan’s additional future demands are expected to be met in part by additional demand management investment as a result.*

*As the 1996 IRP forecast window ends in 2020, it is an appropriate time to update the functional assignment of demand management. WaterDM’s project to update the functional assignment approach was initiated in 2018.”*

WaterDM went on to identify the impacted functional categories and outlined a process to determine the avoided cost benefits by using the annual revenue requirement for each major system function as presented in Metropolitan’s cost of service study (see section 4 of this Report). This approach recognizes that an appropriate proxy for these avoided cost benefits are the actual expenditures that Metropolitan must make today in order to fund its required capital infrastructure investments and operations and maintenance expenses.

This approach to quantifying and functionalizing avoided cost benefits can be consistently repeated using a standardized process during each biennial cost of service study process. The first step in this process is to calculate Metropolitan’s projected revenue requirement for each system function. The second step in the process is to allocate the Demand Management revenue requirement to those functions that receive avoided cost benefits from water conservation and local resource projects. Table 2 is a hypothetical illustration of this approach based on a Demand Management revenue requirement of approximately \$100 million (M).

<sup>7</sup> Page 17, *Functional Assignment of Metropolitan’s Demand Management Costs*, July 26, 2019, WaterDM.

**Table 2: Hypothetical Functionalized Cost Allocation and Cost Recovery of Demand Management Costs (\$000's)**

Function Receiving Benefit from Demand Management	Revenue Requirement <i>Before</i> Allocation of Demand Management Costs	% of Revenue Requirement <i>Before</i> Allocation of Demand Management Costs	Allocated Demand Management Revenue Requirement	Revenue Requirement <i>After</i> Allocation of Demand Management Costs	% of Revenue Requirement <i>After</i> Allocation of Demand Management Costs	Alternative #1, Alternative #2 and Alternative #3A Cost Recovery Mechanisms (1)
<b>Supply</b>	\$240,000	20%	\$20,000	\$260,000	20%	Existing Rate and Charge Elements Used for Each Function
<b>Conveyance and Aqueduct</b>	600,000	51%	51,000	651,000	51%	
<b>Storage</b>	140,000	12%	12,000	152,000	12%	
<b>Distribution</b>	<u>200,000</u>	<u>17%</u>	<u>17,000</u>	<u>217,000</u>	<u>17%</u>	
<b>Subtotal</b>	1,180,000	100%	100,000	1,280,000	100%	
<b>Demand Management</b>	<u>100,000</u>		<u>(100,000)</u>	<u>0</u>		
<b>Total</b>	\$1,280,000		\$0	\$1,280,000		

(1) Functionalization would not be necessary under Alternative #3B.

Raftelis finds that the cost functionalization approach, or methodology, shown in Table 2 is consistent with industry standard cost of service practices as discussed in the *MI*. We hold this position because the avoided cost benefits provided by Demand Management expenditures are used to directly assign the annual Demand Management revenue requirement to the specific system functions that receive the benefits. We find this recommended cost functionalization approach to be reasonable, rational and fully transparent.

It should be noted that historically Metropolitan recovers its revenue requirements through a cost of service process that allocates functional costs into the following categories: Fixed Demand, Fixed Commodity, Fixed Standby, and Variable Commodity. Under the above discussed methodology, Demand Management costs are functionalized and effectively “move through” this very same process in ultimately arriving at the various rates and charges used by Metropolitan to recover the functionalized revenue requirement. As previously noted, and discussed again in section 6 of this Report, functionalization would not be necessary under Alternative #3B.

## 6. Cost Recovery Alternatives

The four alternatives recommended for consideration are titled below and described in the balance of this Report:

Alternative #1 – Existing COS Methodology

Alternative #2 – Modified COS Methodology

Alternative #3 – Demand Management Fixed Charge which includes two fixed charge options:

#3A – Functionalized Fixed Charge

#3B – Non-Functionalized Fixed Charge

Alternatives #1, #2, and #3A are all based on annual Demand Management revenue requirements being functionalized in a manner consistent with the findings of WaterDM. For Alternative #3B functionalization was not needed as this alternative makes use of broader metrics for recovering Demand Management costs reflective of the benefit provided to all member agencies. Alternative #3B is designed to reflect the regional or system-wide benefits resulting from Demand Management expenditures and the service commitment and reliance (and potential reliance) by member agencies on Metropolitan.

## ALTERNATIVE #1 – EXISTING COST OF SERVICE METHODOLOGY

### Description:

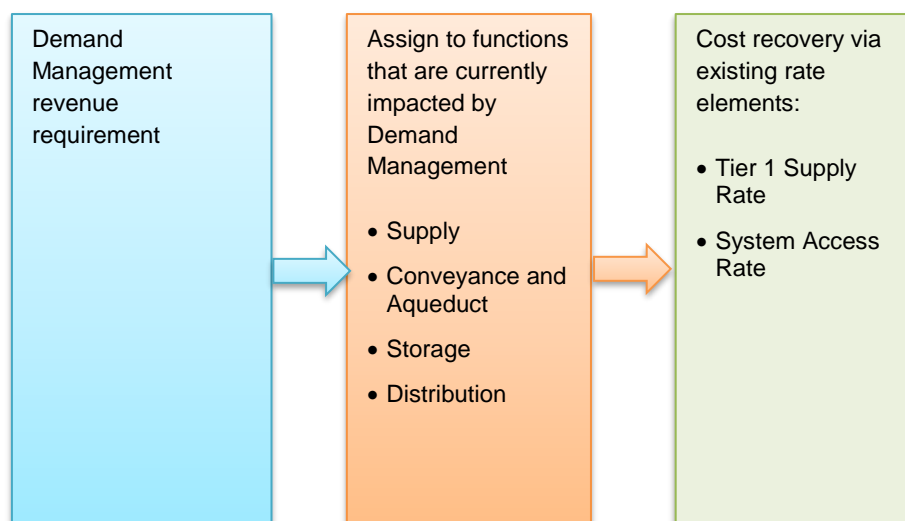
Under this alternative the Demand Management revenue requirement would be functionalized and recovered under two existing volumetric rates: the Tier 1 Supply (T1 Supply) and System Access Rates.

Figure 1 provides a graphical representation of Alternative #1. Table 3 is an example of how, under Alternative #1, Demand Management costs would be allocated for recovery via the Tier 1 Supply Rate and the System Access Rate using a hypothetical revenue requirement.

The intent of Alternative #1 is to not make any changes to the current COS methodology. Consistent with the current Metropolitan COS methodology, Demand Management costs would be allocated to Fixed Commodity (average system demands) and as such would only be recovered via these two volumetric rates: Tier Supply and System Access Rates. Therefore, Demand Management costs would not be recovered through Metropolitan's fixed charges or the System Power Rate.

Recovery of Demand Management costs through the Tier 1 Supply Rate and the System Access Rate is consistent with the current cost of service methodology in that Demand Management costs would be allocated and recouped like other fixed O&M costs. Given the alignment with the current COS methodology, this is an alternative that can be repeated consistently via Metropolitan's biennial COS process with minimal administrative burden.

**Figure 1: Alternative #1 Existing COS Methodology**



**Table 3: Alternative #1 Existing COS Allocation of Demand Management Costs**

	Cost Recovery Component	Approx. % of DM Costs (1)	Charge / Rate
Alt #1	T1 Supply	25%	\$/AF
	System Access Rate	75%	\$/AF

(1) Using hypothetical revenue requirement share; the actual relative shares will be calculated as a part of each cost of service analysis and will be different.

Another observation regarding this alternative is the fact that Demand Management costs/investments provide benefit to average, peak and standby demands, but by using only the Tier 1 Supply Rate and the System Access Rate, these costs are only recouped based on average system demands. The next alternative addresses this issue.

## ALTERNATIVE #2 – MODIFIED COST OF SERVICE METHODOLOGY

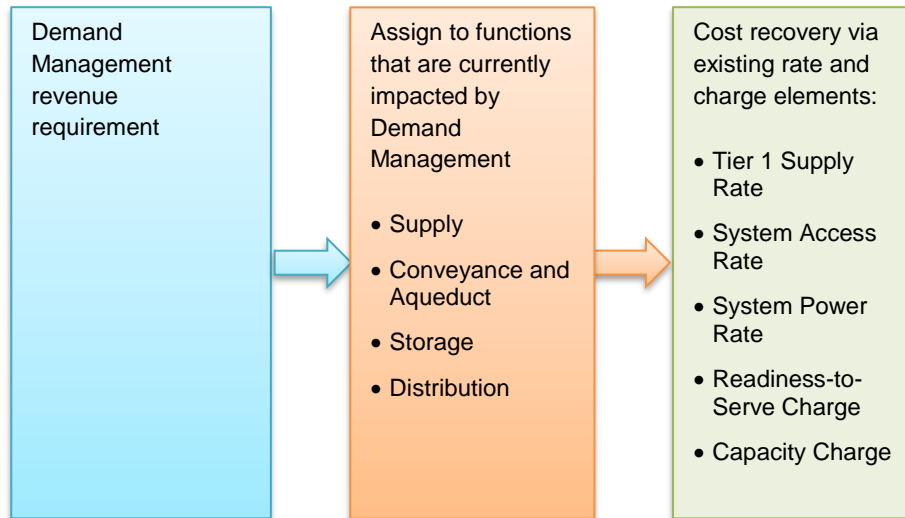
### Description:

Under this alternative, the Demand Management revenue requirement would be functionalized and recovered under the following, existing volumetric rates and charges: the Tier 1 Supply Rate, System Access Rate, System Power Rate, Readiness-to-Serve Charge and the Capacity Charge. As explained above, Alternative #1 limited the recovery of Demand Management costs to only rates associated with Fixed Commodity (average demands). However, the benefits of Demand Management investments cut across the entirety of the demands placed on the system: average, peak, emergency and standby. Alternative #2 would modify the existing COS in this respect by recovering Demand Management costs from all rates and charges associated with the impacted functions.

Figure 2 provides a graphical representation of Alternative #2 and Table 4 is an example of how Demand Management costs would be allocated for recovery via the existing rates and charges associated with the impacted functions and listed in Figure 2 using a hypothetical revenue requirement.

Recouping Demand Management costs via all the existing rates and charges associated with the impacted functions listed in Figure 2, results in better alignment of the recovery of these costs with the benefits derived via the expenditure of these costs, namely, savings related to average, peak and standby demands; not just average demands.

**Figure 2: Alternative #2 Modified COS Methodology**



**Table 4: Alternative #2 Modified COS Allocation of Demand Management Costs**

	Cost Recovery Component	Approx. % of DM Costs (1)	Charge / Rate
Alt #2	T1 Supply	25%	\$/AF
	System Access Rate	50%	\$/AF
	System Power Rate	13%	\$/AF
	Readiness-to-Serve Charge	10%	\$/M
	Capacity Charge	2%	\$/cfs

(1) Using hypothetical revenue requirement share; the actual relative shares will be calculated as a part of each cost of service analysis and will be different.

## ALTERNATIVE #3: DEMAND MANAGEMENT FIXED CHARGE

### Description:

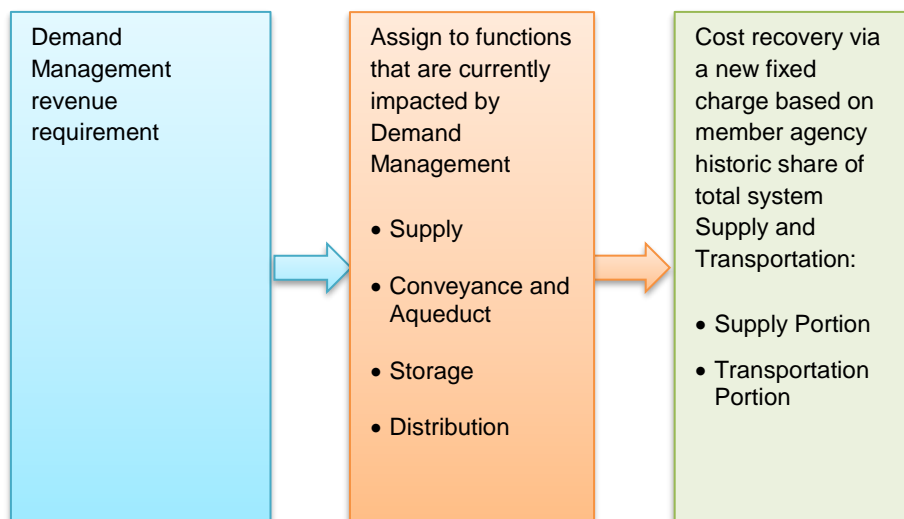
Two fixed charge alternatives have been developed for consideration. Under either alternative, the benefit a member agency derives from Metropolitan's Demand Management investments would be recovered through a fixed charge based on each member agency's share of the selected metric. Considerations related to a fixed charge methodology include:

- Provides member agencies with an explicitly identified annual lump sum cost for their share of Demand Management costs.
- Demand Management costs are largely fixed in nature and this approach generates an assured revenue stream.

### Alternative #3A Functionalized Fixed Charge

Under Alternative #3A Demand Management costs would again be functionalized in the manner previously described and illustrated for Alternatives #1 and #2. However, the next step would follow a different approach in order to create a fixed charge. Instead of recovering the allocated Demand Management costs via Metropolitan's existing rate and, in the case of Alternative #2, charge elements, Demand Management costs would be assigned to each impacted function and then allocated between Supply and Transportation. These costs would then form the basis of the fixed charge as illustrated in Figure 3, Table 5, and the example following Table 5.

**Figure 3: Alternative #3A Functionalized Fixed Charge**





**Table 5: Alternative #3A Functionalized Fixed Charge Allocation of Demand Management Costs**

Function	% Rev Req	Supply Portion \$M	Transportation Portion \$M	Total \$M
Supply	20%	\$20		\$20
Conveyance and Aqueduct	51%		\$51	51
Storage - Emergency	4%		4	4
Storage - Drought	7%	7		7
Storage - Regulatory	1%		1	1
Distribution	17%		17	17
Total	100%	\$27	\$73	\$100

(1) Using hypothetical revenue requirement share; the actual relative shares will be calculated as a part of each cost of service analysis and will be different.

The Supply and Transportation Portions of Demand Management costs would be allocated to member agencies based on a measure of sales and of all transactions. For example: historic water deliveries – over a pre-determined historic period: a long-term, multi-year, rolling average of sales and of all transactions. What follows is an example of how functionalized Demand Management costs would be allocated to a member agency under Alternative #3A based on the hypothetical example shown in Table 5.

Member Agency A: for the historic period, had 5% of total Supply Portion and 4% of total Transportation Portion

Supply Portion of Demand Management Costs:  
5% of \$27M = \$1.35M

Transportation Portion of Demand Management Costs:  
4% of \$73M = \$2.92M

Member Agency A:  
Total Demand Management  
Annual Fixed Charge \$4.27M

Based on the selected metric/allocation approach, the potential exists for member agencies to not be allocated any Demand Management costs even though they may demand services at any time and have received benefit from Metropolitan's Demand Management investments. Alternative #3B is an option to address this issue.

#### **Alternative #3B Non-Functionalized Fixed Charge**

Under Alternative #3B it would not be necessary to functionalize Demand Management costs – see Figure 4 for a graphic illustration of this alternative. All Demand Management costs would be recouped based on the selected metric. This metric would be reflective of the fact that Metropolitan's annual expenditures for Demand Management are a necessary and legislated expense for the provision of water service across the

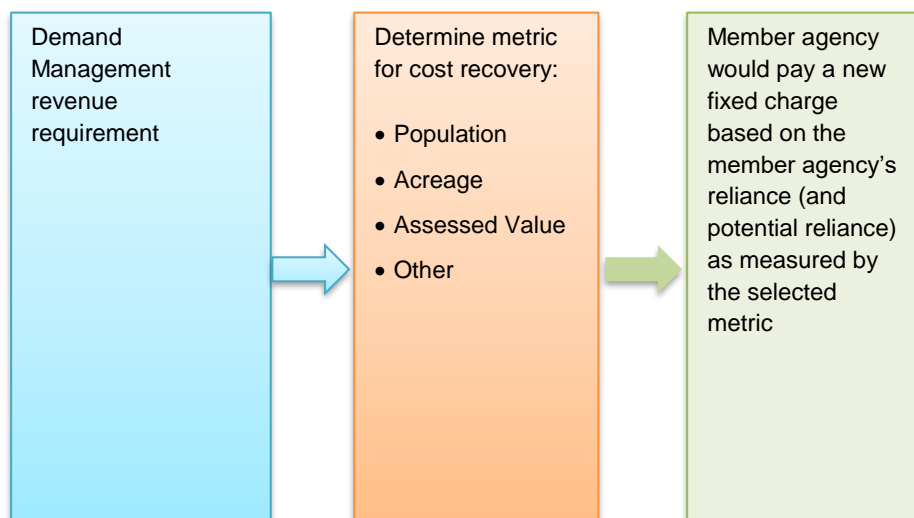
region and a member agency's reliance (and potential reliance) on Metropolitan. Demand Management investments benefit all member agencies as noted below:

- reduce and avoid future capital and other costs
- increase reliability
- reduce the region's reliance on imported water supplies
- decrease burden on infrastructure
- free up conveyance capacity

Coupled with the reality that the preponderance of Demand Management costs are fixed, it makes sense to consider an approach where all member agencies would be subject to, contribute to, the recovery of these costs. For this alternative the selected metric would be one that is indicative of the regional benefits provided by Demand Management and the member agency's reliance (and potential reliance) versus historic demands on the system. Under this alternative use of a member agency's population, acreage or assessed value in place of a historic measure such as water sales would eliminate the potential for member agencies to not be allocated any Demand Management costs even though they may request services at any time and have received benefit from Metropolitan's Demand Management investments.

Use of a broad-based metric such as a member agency's population, acreage or assessed value, precludes the need to functionalize the Demand Management revenue requirement. Under this alternative it is only necessary to allocate the revenue requirement to each member agency based on the indicated metric (see example at the end of this section). The fundamental or underlying tenant of this alternative is that, as previously noted, all member agencies benefit from the Demand Management investments made by Metropolitan regardless of whether a member agency and those in the service area participates in the Demand Management programs, by the development or conservation of local supplies anywhere in the service area. Inherent in this benefit is Metropolitan's ongoing service commitment to each member agency so regardless of how costs may be functionalized, each and every member agency derives benefit. With or without functionalization, the fundamental COS cost-benefit nexus is achieved and therefore this alternative conforms to and meets industry guidelines and practices.

**Figure 4: Alternative #3B Non-Functionalized Fixed Charge**



The following example illustrates how Demand Management costs would be allocated to a member agency under Alternative #3B based on the hypothetical example shown in Table 5; based on the “Total \$M” \$100 million of Demand Management costs (again, the functionalization of Demand Management costs shown in Table 5 for Alternative #3A, would not be necessary under Alternative #3B).

Member Agency A: has 5% of the selected metric, e.g., population, acreage, assessed valuation, etc.

Member Agency A:  
Total Demand Management  
Annual Fixed Charge: 5% of \$100M = \$5.0M

This fixed amount (\$/year) would be paid by member agencies based on the member agency’s share of population, acreage, assessed valuation, etc., or a combination thereof.

## 7. Conclusion

The four alternatives discussed in this Report are all reasonable. These alternatives for recouping Demand Management costs can be consistently repeated using a standardized process during each biennial cost of service study process.

Some are consistent with the current Metropolitan cost of service methodology but some also offer alternatives that are different from the current cost of service methodology. Alternative #1 is a variable approach while Alternative #2 incorporates both variable and fixed elements of the current Metropolitan rate and charge structure. Alternatives #3A and #3B are fixed charge options. The first three alternatives incorporate the functionalization as recommended in the WaterDM report. For Alternative #3B functionalization was not needed as this alternative makes use of broader metrics for recovering Demand Management costs reflective of the benefit provided to all member agencies.

All alternatives are consistent with industry guidelines and standards. It would be a policy decision of the Metropolitan Board to determine which alternative is most appropriate for Metropolitan.