

To: Shelley DeWys
Office of Performance, Strategy and Budget
King County

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From: Gordon Wilson, Project Manager 

RE: Metro Transit Reserve Policy Review – Draft

A. INTRODUCTION

A1. PURPOSE AND SCOPE

In June 2015, King County contracted with FCS GROUP to review the policy governing the accumulation and use of financial reserves for the Public Transportation Fund (“Transit Fund”), which is used by Metro Transit. The Transit Fund has four subfunds: Transit Operating Fund, Transit Capital Fund, Revenue Fleet Replacement Fund (RFRF), and Transit Bond Service Fund. When discussing the Transit Fund as a whole, including all of its subfunds, we will use the term “Transit Enterprise Fund.”

The primary focus of this review is on target reserve balances for the Operating Fund, Capital Fund, and RFRF. Debt service reserves are defined in bond covenants and so are not reviewed in this study. For the Operating Fund, our review addresses both the operating reserve and revenue stabilization reserve. In addition to the target balance, we consider the purpose of each reserve, the conditions under which it should be available for use, and the expectation for replenishment after it is used.

A2. POLICY CHOICE

For each type of reserve, our goal was to provide a thoughtful and reasonable answer to the question, “How much is enough?” However, the target balance for a reserve is a *policy choice*—there can be more than one reasonable answer to the question. As a result, we will make soft recommendations or suggestions rather than offering a single right answer. As with other kinds of budget policies, the most important thing is for County policymakers to *agree upon the expectation*, so the decision can be made once instead of being reconsidered each biennium, and so the staff knows what to plan for as they prepare the budget. The policy will be useful to the degree it actually guides the County’s budget decisions.

A3. GENERAL PRINCIPLES

The main goal of a financial management strategy is to provide resources for a stable level of ongoing services and timely capital expenditures. Within that goal, reserves serve two main purposes:

1. Mitigate risk – Risk reserves provide a financial cushion to absorb some of the effects of unexpected revenue losses or spending requirements.
2. Capital funding – Capital funding needs usually have irregular timing, with peaks and valleys. Reserves are one of two tools that smooth the annual financial impact of capital requirements. The other is debt. Saving in advance through reserves helps the organization minimize its use of debt.

The reserve policy guides the annual budget process by serving as a constraint on budget commitments. A target reserve is the amount of fund balance is *not intended to be spent* during a fiscal year. It can be accounted for in a separate subfund or as part of the operating fund balance, but either way, it is budgeted to remain as fund balance at the end of the year.

Like any fund balance, a reserve balance is a one-time resource, not a recurring revenue. If it is drawn down, then it subsequently needs to be replenished in order to retain its value. Having a reserve does not mean that ongoing revenues are adequate, but a reserve does *buy time* in response to bad news.

For risk reserves, target balances are often characterized as a percentage of annual operating revenues (or, similarly, percentage of operating budget, or a certain number of days of operating expenses).

Reserves should each have a defined purpose. In addition, for the revenue stabilization reserve, the reserve policy should articulate the economic and financial triggers that should be met in order for the reserve to be drawn down. The policy should also describe how the stabilization reserve should be replenished after being used. While a stabilization reserve should not be drawn down without an explicit determination that the policy triggers have been met, at the same time, the money should not be too far out of reach. Fluctuations in reserves simply mean that they are being used. If a reserve can *never* be drawn on, then it is not very useful. It is always possible to imagine another emergency just around the corner, but as long as the policy criteria are followed, then the County should be willing to use its stabilization reserve.

B. OPERATING AND REVENUE STABILIZATION RESERVES

B1. PURPOSE OF OPERATING AND REVENUE STABILIZATION RESERVES

a) Operating Reserve

An *operating reserve* is also referred to as a “minimum operating fund balance” or “minimum working capital.” It is defined by its short-term time frame, within a given fiscal year. It provides a buffer against fund balance fluctuations created by revenue shortfalls, unanticipated expenditures, and the timing gap between when conditions change and when we know about it.

The best time to make decisions about budget priorities is during the regular budget process—including the mid-biennium update as well as the biennial budget process. The purpose of the operating reserve is to ensure that the fund balance stays above zero *within* a fiscal year, without requiring the County to re-balance the budget in the middle of the year. The budget is a complex and demanding decision-making process, requiring a lot of time from staff and policymakers. For the sake of efficiency, the County does not want to go through that process too frequently. It is useful, therefore, to have a minimum operating fund balance that can absorb the impact of bad news long enough for the County to reach the next regular budget process. Then, the revenue stabilization reserve can serve as one type of resource to be used in re-balancing the budget for a longer time period.

The short-term nature of the operating reserve is such that there are no defined conditions of use, because drawing on the operating reserve is not a conscious decision; it is simply part of the fund balance fluctuations during the sixteen-month period between when a budget is readied for adoption and the end of the fiscal year. The operating reserve should be self-correcting each year—that is, if the actual Operating Fund balance is projected to drop below the target by year-end, then the following year’s budget should automatically aim to restore the minimum operating fund balance.

b) Revenue Stabilization Reserve

For Metro Transit, both operating and capital budgets are heavily dependent on the sales tax, which is highly sensitive to fluctuations in the local economy. As a result, the main type of risk to be addressed through the revenue stabilization reserve has to do with the timing and severity of a revenue shortfall due to an economic recession. For this reserve, our goal is a target balance that will allow gradual reductions in the operating budget—a “soft landing”—in the event of an economic downturn.

By “revenue shortfall,” we mean a period during which discretionary revenue (that is, total revenue excluding grants and interagency contracts) either drops or is inadequate to fund normal inflation-based increases in expenditures. In this analysis, we assume 3% as the typical level of inflation, so year-to-year revenue growth of less than 3% would not allow current service levels to be maintained.

With sales tax representing about 70% of transit discretionary revenue, there is no uncertainty about *whether* there will be a revenue shortfall in the coming years. The only questions are about when it will begin, how deep it will be, and how long it will last. Will the next recession be five years after the last one? Seven years? Ten years? Will the next one be deep and long-lasting or relatively mild and brief? Those are all points of uncertainty. What is *not* uncertain is that there will be another recession. The County can choose whether and how it prepares for the next recession, but there is no mystery about why a revenue stabilization reserve would be useful.

There are other sources of risk, of course, besides a recession. There could be unfavorable financial consequences from a legal judgment, a change in state law, or the failure of some key piece of infrastructure or type of equipment. But because the risk of a revenue shortfall from a recession is so clear and measurable, and because the financial resources needed to prepare for it are so large, we suggest that the County’s priority be to create a financial cushion for that particular contingency. Even if the policy governing the revenue stabilization reserve does not explicitly address other types of risks, a fully funded stabilization reserve will give the County flexibility in dealing with the most serious emergencies arising from other sources as well. A policy, after all, can be adapted if necessary. If a true emergency arises from some cause other than a recession and it makes sense to draw on the stabilization reserve, the County will be able to do that, but only if the stabilization reserve exists and has been funded.

For this type of reserve, the financial or economic *triggers* that constitute an economic downturn should be defined so the County knows when the reserve should be used. We suggest a trigger that refers to both revenue and economic conditions: if both the sales tax base and the transit discretionary revenue are projected to grow by less than 3%, then use of the revenue stabilization reserve would be called for. Because economic downturns can reveal themselves over a multi-year period instead of all at once, we suggest that the size of the stabilization reserve be set so as to allow a *stepwise drawdown pattern*, in which up to half the reserve balance is available for use in the first year, up to half of what is remaining is available for use in the second year if revenues are still below the “current service level” (CSL) trend, up to half of what is remaining is available for use in the third year if revenues are still below the CSL trend, and so forth. The actual draw in any given year would be the CSL gap or half the reserve balance, whichever is less. This drawdown pattern would apply until revenues catch up to the CSL trend from the beginning of the recession. Within two years of that point, *replenishment* of the revenue stabilization reserve should become part of the funding requirement. Given the timing of economic cycles, we suggest that the planned replenishment period should not exceed five years. During the replenishment period, if the beginning fund balance for a given fiscal year turns out to be higher than budgeted, reserve replenishment should have first call on the unexpected resources.

B2. SOURCES OF PERSPECTIVE

We reviewed three sources of perspective for guidance about target balances for operating and revenue stabilization reserves.

1. Other transit agencies;
2. “Best Practices” statements of professional associations, the Federal Transit Administration (FTA), or bond ratings agencies; and
3. The County’s own financial history, which turned out to be the most specific and useful.

a) Other Transit Agencies

Exhibit 1 summarizes the results of a survey of reserve policies of other transit agencies. **Appendix A** at the end of this memo gives more detail about the practices of these agencies.

Exhibit 1: Summary of Survey Results

Survey Results	Reserve Targets, if Applicable		
	Short-Term Operating Reserve (e.g. Working Capital)	Long-Term Operating (e.g. Sales Tax Stabilization)	Capital Reserve
TriMet (Portland)	3% of total operating requirements	2.5 times average monthly O&M (~21%)	Policy does not address
Metro Transit System (San Diego)	12.5% of operating budget	Policy does not address	Policy does not address
Charlotte Area Transit System	\$100 million (roughly 45% of total expenses)	\$30 million (roughly 23% of FY13 Operating Income)	20% of budgeted sales tax each year allocated to debt service and capital
Regional Transportation District (Denver)	Three-fund combined target of 3-months cash operating expenses for base system (25%).		
Utah Transit Authority (Salt Lake City)	9.33% (one month expense plus 1%) of annual budgeted operating expenses	5% of annual budget	Policy does not address
Santa Clara Valley Transportation Authority (San Jose)	15% of the annual operating budget	Maximum balance of \$35 million. Maybe moving to a % based target in the future.	Policy does not address
TransLink (Vancouver, B.C.)	1% of budgeted operating expenditures in budget line item	Operating surplus of 12% of total funded expenditures (not cash reserve target)	Unallocated funds within the Capital Program for ad-hoc projects (13% in 2015)
Dallas Area Rapid Transit	90 days worth of operating expenses (25%)	10% of the current year's sales tax budget	Placeholders in CIP. Roughly \$125 million per year, or 2.5 billion over 20 years (60% of total 20-yr capital expenditures)
VIA Metropolitan Transit (San Antonio)	60 days of operating expenses (16%)	60 days of operating expenses (16%)	Information not available
Orange County Transportation Authority	45 days of working capital reserve (12%)	Information not available	Information not available

Exhibit 1 shows that there is not a lot of consistency in the approaches among the various transit agencies. For the short-term reserve target, there are some outliers such as Charlotte on the high end (45% of annual expenses) and Tri-Met on the low end (3% of annual expenses), but most agencies are in the range of 10-16% of operating expenses. TransLink in Vancouver does not have a target fund balance but instead has a target annual surplus.

For long-term stabilization reserves, Utah Transit Authority is on the low end with a target of 5% of annual budget, while Tri-Met and Charlotte are on the high end with 21% and 23% of annual operating budget, respectively. Denver does not distinguish between short-term and long-term reserves, while Santa Clara Valley expresses it in terms of a maximum dollar amount, not a percentage of revenue or expenses. San Diego does not have a long-term target; we could not determine whether Orange County has one.

The approach to capital reserves also varies widely. Even when capital reserves do exist, there is no consistent method for choosing a target balance.

b) “Best Practices” Statements

We also looked for guidance about target reserve levels from professional associations, the Federal Transit Administration (FTA), and bond ratings agencies.

Federal Transit Administration (FTA) – Financial Capacity Policy (Circular C 7008.1.A) emphasizes the importance of financial sustainability and identifies working capital levels, cash balances, and capital reserves as factors to be taken into account when evaluating financial condition, but it does not give a specific target for the level of balances.

American Public Transit Association (APTA) – In our research into APTA standards and guidance, we could find no references to a specific target for working capital or cash reserves.

Governmental Finance Officers Association (GFOA) – GFOA is the professional association with the most concrete guidance about target reserve balances. Best Practice Statement “Determining the Appropriate Levels of Working Capital in Enterprise Funds” describes various considerations to be taken into account in establishing a target minimum level of working capital. It states, “GFOA recommends that under no circumstances should the target for working capital be less than 45 days [about 12.3%] worth of annual operating expenses and other working capital needs of the enterprise fund. A target of 45 days would only be appropriate for those enterprise funds with the least amount of need for cushion or buffer. In order to arrive at a customized target amount of working capital, governments should start with a baseline of 90 days [about 24.7%] worth of working capital and then adjust the target based on the particular characteristics of the enterprise fund in question (using 45 days as the minimum acceptable level).”

This guidance applies to the sum of the revenue stabilization and operating reserves for Metro Transit. The GFOA Best Practice statement recommends that the process of choosing a target balance start with a presumption of 90 days (or about 24.7%) of operating expenses and then adjust upward or downward based on specific risk factors. Since the majority of this memo consists of an analysis of risk factors that are specific to Metro Transit, the approach we are taking is consistent with the approach suggested by GFOA.

While the GFOA statement recommends that the target balance be based on operating expenses, we suggest that the Metro Transit target be based on discretionary operating revenue. Annual operating expense is roughly equivalent to annual operating revenue. In the case of Metro Transit, non-discretionary revenue comes from grants or interagency contracts, such as the contract with Sound Transit for regional bus operations. In general, non-discretionary revenue must be used as the funding agency directs, to support the funding agency’s purposes. Discretionary revenues such as

sales tax, property tax, farebox revenue, or bus advertising are flexible enough that they can be used for Metro Transit’s core purposes.¹

Moody’s Investors Service – Liquidity factor is 5% of the total bond rating. It applies to all operating and capital reserves combined, other than debt service reserves. The approximate minimums (expressed in days of operating expenses) before adjustments up or down are:

- Aaa: 225 days (62%)
- Aa: 150 days (41%)
- A: 60 days (16%)
- Baa: 15 days (4%)
- Ba: 7 days (2%)
- B and below: Less than 7 days

Standard and Poor’s (S&P) – The Standard and Poor’s basic criterion is more complex than Moody’s because it is a two-by-two matrix, with liquidity on one axis and cash-to-debt service ratio on the other axis. However, the ratings use the following thresholds for liquidity: 180 days (50%), 90 days (25%), 30 days (8%), 20 days (5%), and less than 20 days.

As with Moody’s, S&P counts all operating and capital reserves in its liquidity assessment, and it adjusts upward or downward from the basic score. One recent example was a rating for San Francisco Municipal Transportation Agency (MUNI). MUNI received an overall favorable rating of AA, which is as high as any transit agency. A positive factor was its liquidity of 244 days (67%).

B3. OPERATING AND REVENUE STABILIZATION RESERVES – HISTORICAL REVIEW

Our review of the County’s historical revenue risk yielded the most specific guidance about the level of financial cushion that could allow the County to buy time during a revenue downturn, which is the most predictable type of event that could drive the need for operating and revenue stabilization reserves. (Capital reserves will be discussed later in this memo.)

a) Variability of Primary Revenue Source – Sales Tax Base

By far the largest revenue source for Metro Transit is the sales and use tax (shortened in this memo to “sales tax.”) **Exhibit 2** shows that in the proposed 2015-16 budget for the Enterprise Fund as a whole, sales tax revenue is 70% of transit discretionary revenue.

Exhibit 2: Sales Tax as Percentage of Discretionary Revenue - Transit Enterprise Fund

	2013/2014 Budget	2013/2014 Actuals ¹	2013/2014 Estimated	2015/2016 Proposed	2017/2018 Projected ²
Sales Tax Revenue	858,184,860	909,571,651	909,571,651	1,017,625,331	1,117,665,390
Ongoing Transit Discretionary Revenue *	1,266,033,124	1,339,582,136	1,340,527,384	1,456,910,338	1,558,555,490
Sales Tax as % of Ongoing Discretionary	68%	68%	68%	70%	72%

* "Transit discretionary revenue" is total revenue minus grants and reimbursements from Sound Transit and other King County departments. Ongoing transit discretionary revenue excludes the one-time congestion relief charge from 2011 through 2014.

¹ A case can be made that grant revenue for bus replacement should be included in the basis of the reserve calculations, since bus replacement is a core function that would need to be funded by local revenue if the grant revenue went away. For the sake of simplicity, we have assumed in this analysis that grants are excluded from the basis for target reserves, but if the County chooses to include grant revenue, the resulting targets can be re-calculated accordingly. For instance, in 2016, 10% of discretionary operating revenue is equivalent to 9% of discretionary operating revenue plus bus replacement grants. Including grants would change the percentages but not the overall approach. One reason it is simpler to focus only on discretionary revenue is that the bus replacement schedule varies widely from year to year, so grant revenue does also.

If we look at the Operating Fund only, sales tax is currently only 66% of discretionary revenue. The Great Recession reduced the Operating Fund’s reliance on sales tax from 75% to 63% in only two years. However, during non-recession years, the sales tax percentage can be expected to creep up, and a reasonable assumption for the long-term average would still be about 70%.

Exhibit 3: Sales Tax as % of Discretionary Revenue – Operating Fund

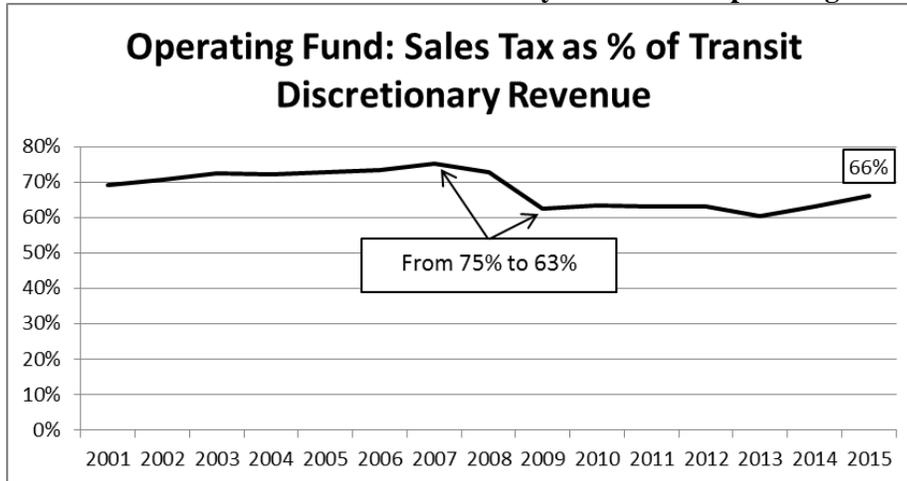
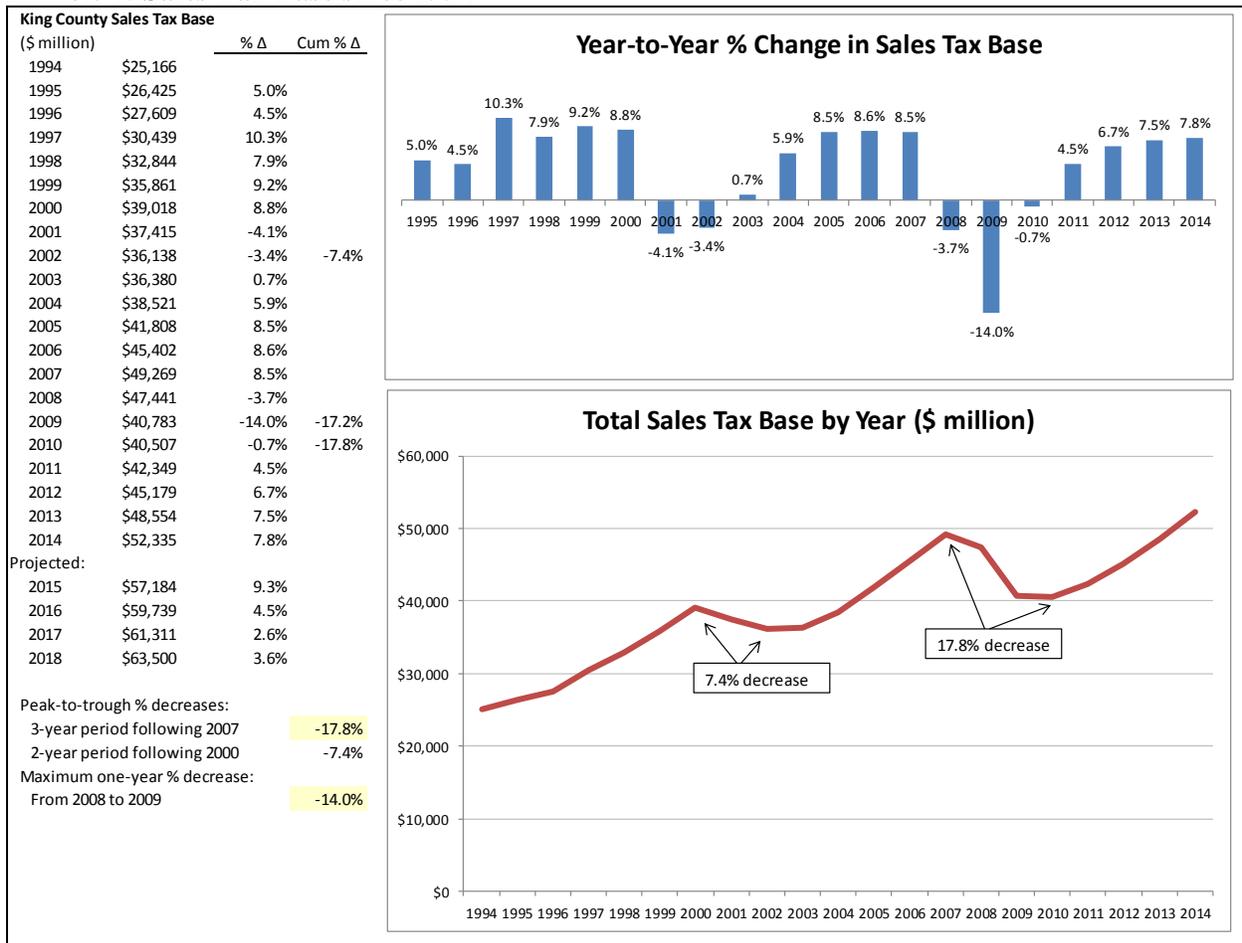


Exhibit 4 shows the long-term history of the sales tax base.

Exhibit 4: Sales Tax Base since 1994



By showing taxable sales rather than sales tax revenue, **Exhibit 4** excludes the impact of changes to the sales tax rate. Sales tax base is the purest measure of changing external economic conditions, without taking into account how the County responds to those changes.

Over the past 20 years, the maximum peak-to-trough loss in sales tax base has been 17.8%, which occurred in the three-year period following 2007, the “Great Recession.” During that period, the sales tax base also had its worst single-year decrease, which was 14.0% from 2008 to 2009. Following the Great Recession, the sales tax base did not recover its pre-recession level until 2014, seven years after the previous peak in 2007.

A previous recession in 2001 and 2002 caused the sales tax base to drop by a cumulative 7.4% from the previous peak in 2000; following 2002, it stayed flat for another year. The sales tax base started to recover in 2004, but it was not until 2005—five years after the beginning of the recession—that the total sales tax base recovered its pre-recession level.

From the standpoint of the sales tax base, the thing that distinguished the Great Recession from the 2001-02 recession was not its duration but its depth. In both cases, total taxable sales were flat or declining for three years. Compared with the first part of the decade, the reason it took an extra two years for taxable sales to climb out the 2009-10 hole was that the hole was much deeper.

The Great Recession began seven years after the beginning of the previous recession. The period previous to the 2001-02 recession was a relatively long economic expansion dating to the early 1990s. Of course, no one knows how long it will be before the beginning of the next recession, but it has already been seven years since the beginning of the last one.

It is always tempting to consider the current state of affairs as normal and to project the future based on the present. However, when it comes to sales tax base, the historical reality seen from **Exhibit 4** is more complex. There clearly is an upward long-term trend, but it is just as clear that the thing that is normal is *fluctuation*. With this type of trend, it is easy to be confident in the long-term direction but more difficult to know where we are now in the short-term cycles. Since budgeting has to be done with resources available in the short-term, a financial reserve that can expand and contract with the economic cycles can be useful to the County. If adequately funded, the revenue stabilization reserve can serve as a counterweight to the ups and downs of Metro Transit’s primary source of funding.

b) Variability of Discretionary Operating Revenue

Exhibit 5 shows the historical trend in the *ongoing transit discretionary revenue* received by the Operating Fund. Transit discretionary revenue includes all revenue except for grants and interagency reimbursements. Because we are excluding one-time discretionary revenue, this data also excludes the congestion relief revenue that the County received from 2012 through 2014. Sales tax is the largest single revenue, but because there are other discretionary revenues in addition to sales tax, total transit discretionary revenue is noticeably more stable over time than the sales tax.

While **Exhibit 4** focused on variability in economic conditions, **Exhibit 5** focuses on variability in *actual revenue*. Sales tax base is a pure independent variable, over which the County has no control. The trend in actual revenue, on the other hand, takes into account how the County chooses to react to the good news and bad news that occurs—thus, it includes the effect of fare increases, sales tax increases, and any shifting of costs to or from other funds.

Exhibit 5 also takes into account another important part of the County’s decision-making context: inflation in operating costs. During the time that revenue fluctuates from year to year, the level of expenditures that would be needed to maintain bus service levels needs to grow as a result of escalating annual operating costs. In discussion with OPSB staff, our understanding is that basic cost inflation during past years was closer to 4% per year but that in recent years the County has been aiming for basic inflation of 3% per year. Because this reserve policy is oriented to future conditions,

these charts assume that a 3% increase from a given year’s actual discretionary revenue would be the “current service level” (CSL) equivalent for the following year.

Exhibit 5: Discretionary Operating Revenue Since 2001

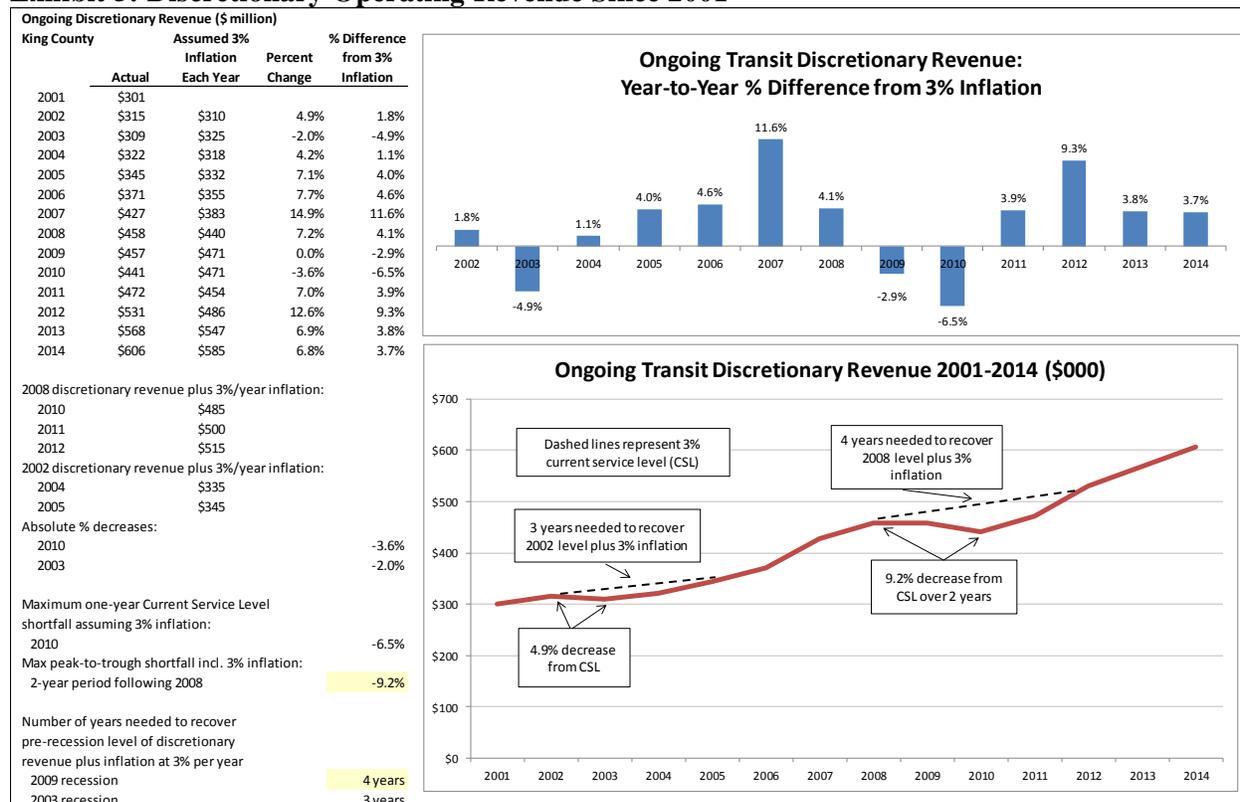


Exhibit 5 yields the following observations.

- From 2001 through 2014, the maximum one-year loss in transit discretionary revenues *after* taking into account the response to negative economic conditions was in 2010. In that year, the Transit Operating Fund saw a 3.6% reduction of discretionary revenue in absolute terms, which was 6.5% less than the current service level.
- Based on the pre-recession year of 2008² and assuming inflation of 3% per year, the Great Recession created a 9.2% current service shortfall in discretionary revenue through 2010.
- It took four years for discretionary revenue to recover the level it would have been at if it had grown at 3% from the pre-recession level.

c) Forecast Variances

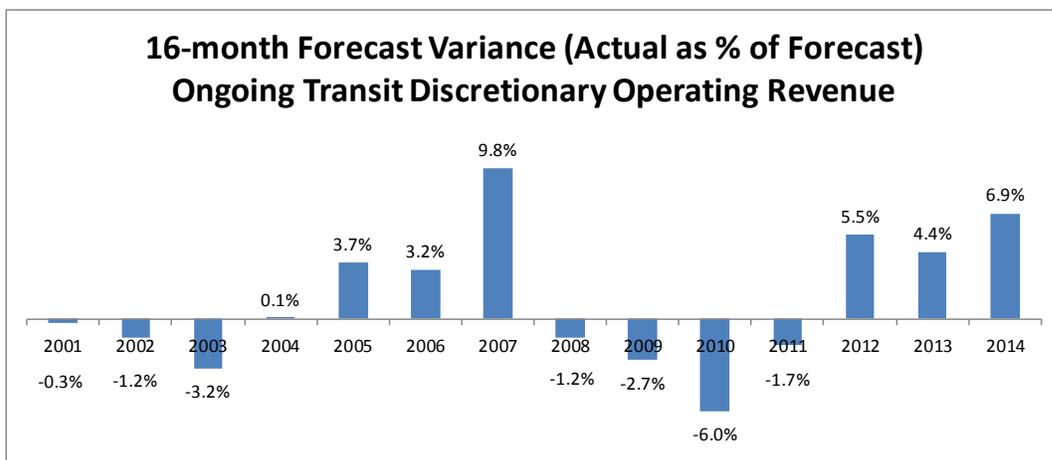
Exhibits 4 and 5 showed the variability of sales tax base and discretionary revenues from one year to the next. Before we explore the implications of this financial history for the reserve policy, we will review one other piece of background data: the variability between forecast revenue and actual revenue. While the previous two exhibits help us judge the need for a *stabilization reserve*, reviewing the forecast variances can help us judge the need for an *operating reserve*.

² The sales tax base peaked in 2007, but the discretionary revenue did not peak until 2008. For the purposes of this analysis, we assumed that for the use of stabilization reserves to be considered, both an economic and a revenue indicator needs to fall short of the 3% “current service level” threshold, which in this case occurred in 2009. So the base year for the pre-recession CSL calculations in this case would be 2008.

Exhibit 6 shows the variances between forecast and actual revenues for the ongoing transit discretionary revenue received in the Operating Fund. Once again, this data takes into account all of the real-life adjustments that were made in response to the changing budget picture. It focuses on the variation between forecast and actual at different stages of the forecast. The time frames shown here are the approximate number of months before the end of a fiscal year. For example, the 16-month forecast horizon represents the September forecast before the beginning of a given year, while the 4-month forecast horizon represents the projection-to-year-end during September of a given fiscal year, after 8 months of the year have already passed. The 28-month horizon could represent the second-year forecast shortly before the adoption of a two-year biennial budget. The data for **Exhibit 6** came from the financial plans published with County budget documents.

Exhibit 6: Discretionary Operating Revenue – Forecast vs. Actual

Ongoing Discretionary Revenue (\$ million) - Forecast vs. Actual										16-month Forecast Variance (\$ million)
Operating Fund revenue minus grants, interagency reimbursements, and congestion relief charges.										
Forecast Horizon (# months until year end)				Actual	Forecast Variance (actual as % of forecast)					
40 months	28 months	16 months	4 months		40 months	28 months	16 months	4 months		
Revenue Year:										
2001			302	301			-0.3%			(1)
2002		348	319	315			-1.2%	-1.2%		(4)
2003	361		319	309	-14.4%		-3.2%	-0.7%		(10)
2004		331	322	322		-2.8%	0.1%	0.8%		0
2005	345	335	333	345	-0.2%	2.9%	3.7%	0.5%		12
2006	352	360	360	371	5.7%	3.0%	3.2%	0.4%		12
2007	375	375	389	427	13.7%	13.9%	9.8%	2.2%		38
2008	404	419	463	456	13.2%	9.1%	-1.2%	0.2%		(6)
2009	442	494	470	457	3.4%	-7.4%	-2.7%	0.1%		(13)
2010	523	509	469	441	-15.7%	-13.3%	-6.0%	-1.9%		(28)
2011	546	499	480	472	-13.6%	-5.6%	-1.7%	-2.3%		(8)
2012	540	525	503	531	-1.6%	1.2%	5.5%	2.0%		28
2013	540	521	544	554	5.1%	8.9%	4.4%	2.5%		24
2014	548	556	567	606	10.6%	9.1%	6.9%	2.1%		39



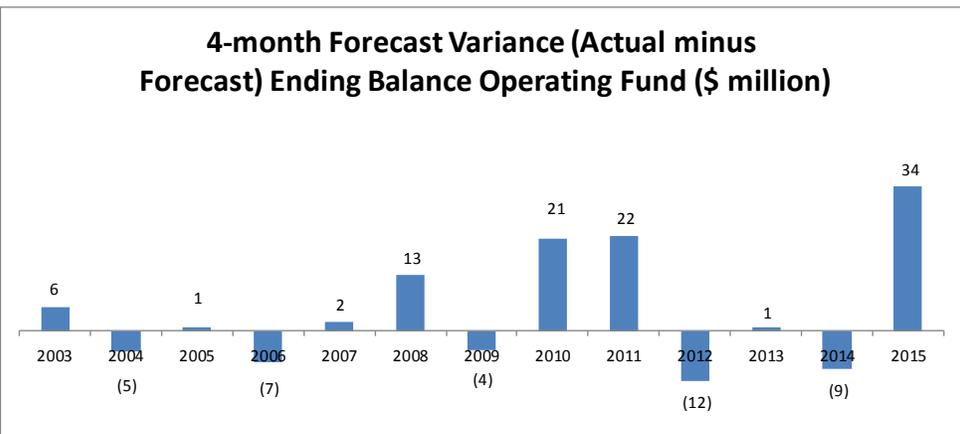
- As one would expect, the farther out the time horizon goes, the more variability there is between forecast and actual results.
- Again as we would expect, there is an appropriate degree of conservatism in the County’s forecasting. In general, people’s tolerance for risk is asymmetrical—good news is easy to take than bad news. In this data, we can see that there are more positive than negative variances, and the magnitude of the forecast surpluses tends to exceed the magnitude of forecast shortfalls, particularly in the 4-month and 16-month time horizons.

- From this data, we see that the worst forecast shortfall over a 16-month period (that is, from the September preceding the fiscal year to the end of the fiscal year) is 6%, which occurred with the 2010 fiscal year.
- In most years the forecasting has been considerably closer than that, measuring from the 16-month forecast to the year-end actual. The second worst shortfall in the past 14 years was 3.2% of the budgeted discretionary revenues.

Exhibit 7 shows the same type of forecasting history, but for beginning fund balance rather than for discretionary revenues.

Exhibit 7: Beginning Operating Fund Balance – Forecast vs. Actual

Beginning Balance Operating Fund (\$ million) - Forecast vs. Actual										16-month Forecast Variance (\$ million)	4-month Forecast Variance (\$ million)
Forecast Horizon (# months until year end)				Actual	Forecast Variance (actual as % of forecast)						
40 months	28 months	16 months	4 months		40 months	28 months	16 months	4 months			
Revenue Year:											
2002			35	58				66.2%		23	
2003			31	26				-15.8%		(5)	
2004	33		31	24	-25.6%			-22.8%	-16.1%	(7)	
2005		31	33	25		-18.7%		-24.7%	3.7%	(8)	
2006	29	35	25	38	7.2%			-12.2%	24.1%	6	
2007	37	39	42	46	28.7%	23.8%		12.7%	4.6%	5	
2008	40	40	42	46	59	48.1%	47.3%	41.8%	28.6%	17	
2009	42	43	45	41	37	-12.2%	-15.5%	-17.8%	-10.6%	(8)	
2010	45	49	35	17	39	-14.1%	-20.7%		11.8%	4	
2011	52	13	25	26	48	-6.7%	263.6%	97.0%	85.2%	24	
2012	(0)	37	26	63	51		40.3%	96.4%	-18.7%	25	
2013	28	27	70	131	132	374.8%	381.4%	88.1%	0.8%	62	
2014	28	81	185	230	221	690.8%	172.8%	19.6%	-3.9%	36	
2015	79	(32)	51	235	269	242.3%		426.4%	14.4%	218	



- We can see that beginning fund balance is a more sensitive variable than discretionary revenue, because it incorporates uncertainty about the expense side as well as the revenue side of the budget. For that reason the percentage variances are much greater than those in **Exhibit 6**. The 16-month variances here range from -24.7% to +426.4%, and the 4-month variances range from -18.85 to +123.8%. In absolute dollars (rather than percentages), the 4-month variances range from negative \$12 million in 2012 to positive \$34 million in 2015.
- When they occur, positive variances in beginning balance are particularly useful for replenishing reserves because fund balance is a one-time resource, not part of ongoing discretionary revenue. One-time resources should not be used to expand service, but they can be used for one-time purposes such as replenishing reserves.

B4. RECOMMENDATIONS FOR REVENUE STABILIZATION RESERVE

a) Use of Stabilization Reserve

As we discussed earlier, we suggest that the trigger for use of the stabilization reserve be two-pronged: if projected growth in sales tax base from year-to-year is less than 3% *and* projected growth in ongoing discretionary operating revenue is less than 3%, then the stabilization reserve should be drawn down. The amount of the draw should be either 50% of the reserve fund balance or the current service level gap, whichever is less. The “current service level gap” is the difference between projected discretionary revenue and the CSL estimate based on 3% per year inflation since the year prior to the revenue downturn.

b) Target Balance

Given that suggested trigger and method for drawing down the stabilization reserve, how large should the target balance be? We believe that the size of the target balance should be guided mainly by long-term variability in sales tax base. Sales tax represents about 70% of the total discretionary revenue for the entire Transit Enterprise Fund and for the Operating Fund, and it is the strongest indicator of the risks to the transit revenue stream at any given point in time. Of course, in the event of an economic downturn, the County will simultaneously take action to generate alternative revenues, reduce non-essential expenses, and delay any capital expenditures that are not time-sensitive, so drawing on a stabilization reserve is not the only tool in the toolbox. However, the percentage change in sales tax base gives the clearest picture of the *magnitude* of the budgetary challenge that must be addressed by the various tools in the toolbox.

Based on our review of the twenty-year history of the sales tax base, we suggest that the revenue stabilization target balance be 25% of ongoing discretionary operating revenue. The 25% threshold consists of 18% (largest downturn in sales tax revenue base over the past twenty years) multiplied by 70% (sales tax as % of discretionary revenue), then doubled (to respond to a multi-year recession using the recommended drawdown pattern of up to 50% in any given year). In other words, if the County wants to be prepared to implement a 50% drawdown of reserves in the event of a recession matching the Great Recession in depth, the revenue stabilization reserve would need to be about 25% of discretionary revenues. Based on actual 2014 discretionary revenue into the Operating Fund, a 25% target balance for the revenue stabilization reserve is equivalent to about \$152 million.

c) Separation of Reserve Balances

Currently, the revenue stabilization reserve is not in a separate subfund of the Transit Enterprise Fund; instead, it consists simply of the difference between the actual fund balance and the minimum operating reserve. We suggest that the County consider a stronger degree of separation between Operating Fund balances and the stabilization reserve, so that Council approval would be required in order to draw on the reserve balance. This separation can be accomplished either by creating a new subfund or by creating a restricted account within the Operating Fund that, by policy, requires Council approval for withdrawals. If the use of the stabilization reserve is considered within the context of the biennial budget process or mid-biennium update, then Council adoption is automatically required, but even then, the reserve draw should be clearly identified and discussed as part of the budget process.

d) Replenishment

As soon as the projected discretionary revenue catches up to the CSL trend line, draws on the stabilization reserve should end, and within two years, replenishment should begin. At that time, a replenishment schedule should be established that restores the stabilization reserve to its target

balance within five years of the beginning of the replenishment period, so the reserve is ready for use in the next recession. In addition to repaying the accumulated draws on the reserve during the replenishment period, the County will need to add amounts to the reserve in order to catch up with growth in discretionary revenue since the year that use of reserves were first authorized.

e) **Maintaining Target Reserve Balance**

Even after the stabilization reserve is fully funded, the County will have to maintain that target balance each year. In order to keep up with growth in discretionary revenue from year to year, 25% of the incremental growth from one year to another will need to be committed to maintaining the reserve. One source of funds that can be readily committed to reserve additions is interest earnings on the reserve itself.

f) **Priority Use for Higher-than-Budgeted Beginning Fund Balances**

We suggest that the County create a policy that higher-than-budgeted beginning fund balances first be used for the replenishment, establishment, or maintenance of reserves. Especially in the aftermath of a recession, the pressure to restore ongoing service levels will be great, so it is difficult to carve out money from the discretionary revenue forecast to establish or replenish reserves. For that reason, a higher-than-budgeted beginning fund balance represents an unusual opportunity. As we explained earlier, unexpected fund balances are a one-time resource, so they should not be used to ramp up service levels; instead, it should only be used for one-time purposes such as capital expenditures or adding to reserves. Compared with a commitment of ongoing revenue, committing unexpected beginning fund balances when they occur is a relatively painless way to fund reserves. It is also fitting that the one-time resources that result from “good surprises” be committed to creating the asset that helps the County deal with “bad surprises.”

B5. **RECOMMENDATIONS FOR OPERATING RESERVE**

For the short-term *operating reserve*, we suggest relying on guidance from the GFOA “best practices” statement as well as the County’s own experience with forecasting variances. The GFOA statement recommended that determination of a target minimum fund balance begin with a presumption of 90 days (about 25%) of operating expenses and then adjusting upward or downward based on specific risk factors, but not less than 45 days (about 12%). The fund balance addressed in the GFOA guideline is the sum of the operating and revenue stabilization reserves, and we are assuming that the target in this case should be a percentage of discretionary operating revenues.

We have already discussed 25% as a target for the stabilization reserve alone. So how much *in addition* should be committed as an operating reserve to protect the Transit Operating Fund from mid-year fluctuations? For guidance, we look to our earlier review of forecast vs. actual discretionary operating revenue, with a sixteen-month time frame. We saw that the worst forecast shortfall from the September preceding the fiscal year to the end of the fiscal year was 6% of discretionary revenue (about \$28 million at the time), which occurred with the 2010 fiscal year. The second worst sixteen-month shortfall in the past 14 years was 3.2% of discretionary revenue, or about \$10 million in 2003.

It is true that mid-year fluctuations occur on the expenditure side as well as the revenue side of the budget. In fact, during 2010, when revenues were falling short by \$28 million, additional savings in expenditures more than offset the revenue shortfall, so that the 2011 beginning fund balance ended up *above* the budgeted level. However, there is no guarantee that expenditures would come in so much more favorably during the same year that revenues fall short of projections. It seems prudent for the target reserve to address the range of mid-year revenue variability that Metro Transit has actually experienced.

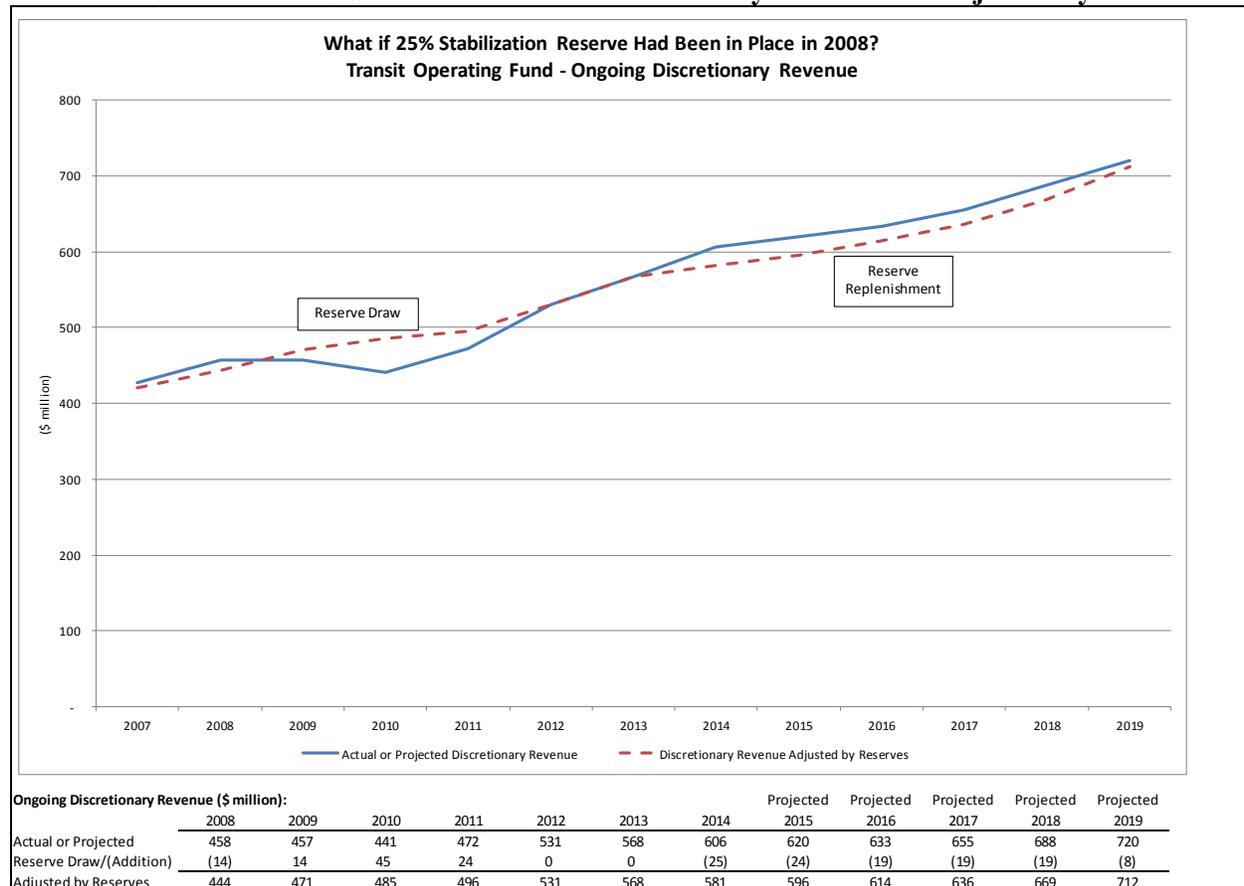
For that reason, we suggest a separate operating reserve consisting of 5% of discretionary revenue. Based on 2014 actual revenues, this is equivalent to about \$30 million, which would have been enough to cover the worst of the forecast shortfalls over the past fourteen years. In combination with the recommended 25% target balance for the revenue stabilization fund, the combined working capital target balance would be 30% of discretionary revenues, which exceeds the 90 days suggested by GFOA as a medium-risk benchmark.

As we mentioned previously, the reserve policy does not need to describe conditions of use for the operating reserve, because its use simply consists of the unpredictable fluctuations of the operating fund balance. Replenishment should be built into the annual budget process: if for some reason the projected Operating Fund balance (excluding the revenue stabilization reserve) were to fall below 5% of discretionary revenue, the following year’s budget process should make spending and revenue adjustments necessary to bring the balance back up above the target level.

B6. COUNTERFACTUAL SCENARIO

What if a 25% revenue stabilization reserve had been in place in 2008? How much would have been used during the Great Recession? When would replenishment have begun, and when would the replenishment need to be completed? In order to address those questions, we created a “counterfactual scenario,” which estimated what would have resulted if our recommended revenue stabilization reserve had already been fully funded in 2008. **Exhibit 8** shows both the actual history and the alternate scenario. The solid blue line represents actual discretionary revenue from 2008 through 2014 and projected revenue for 2015-2019. The dashed red line represents the same revenue adjusted by draws or replenishment of reserves. **Appendix B** at the end of this memo shows the detailed calculations for the counterfactual scenario.

Exhibit 8: Counterfactual Scenario – Actual Discretionary Revenue vs. Adjusted by Reserves

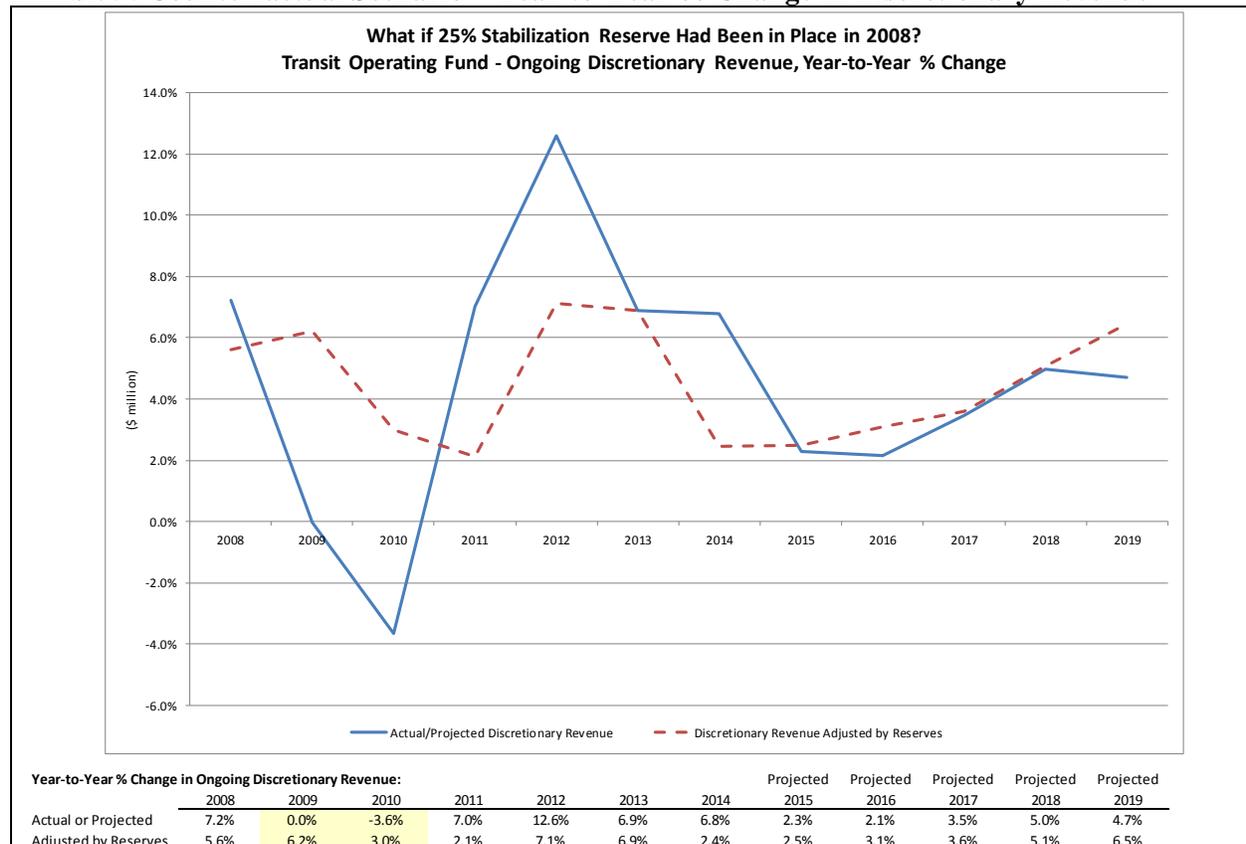


From **Exhibit 8**, we can see that the effect of a revenue stabilization fund would have been to smooth out the usable revenues. If a revenue stabilization reserve funded at 25% had been in place before the Great Recession, it would have softened the impact of the revenue loss. In 2009, the reserve draw would have been only \$14 million because that was the amount of the CSL gap in that year. In 2010, the reserve draw would have been \$45 million, again making up the entire amount of the CSL gap. In 2011, only \$24 million would have been available from the reserve within the constraints of the “50% drawdown” approach, but that would have been close to the CSL gap of \$28 million.

Beginning in 2012, actual discretionary revenue exceeded pre-recession levels plus 3% inflation, so no further draws would be made, and according to our suggested policy, replenishment would need to begin within 2 years. The period from 2014 through 2018 would be the replenishment period, when the cumulative draw would be repaid to the reserve over five years, plus additional amounts needed to keep up with growth in discretionary revenue. A windfall occurred in January 2015, when the actual beginning fund balance for 2015 exceeded the budgeted level by \$34 million. Under this scenario, all of the \$34 million would have been opportunistically used to replenish the reserve, which makes it easier to achieve full funding by the end of 2018.³ By 2019, the reserve replenishment is complete, and the \$9 million shown as an addition to reserves in 2019 is simply to keep up with growth in discretionary revenue.

Exhibit 9 shows the smoothing effect of the reserves even more clearly. It contains the same two scenarios, but it shows the year-to-year percentage change in usable discretionary revenues. The actual/projected revenue bounces around between an increase of over 12% and a decrease of nearly 4%. The adjusted revenue stays between 2% and about 7% during the same period.

Exhibit 9: Counterfactual Scenario – Year-to-Year % Change in Discretionary Revenue



³ Because fund balance is not ongoing discretionary revenue, the \$34 million unbudgeted beginning balance is not shown as a deduction from 2015 discretionary revenue in **Exhibit 8**. However, it is part of reserve replenishment.

C. CAPITAL RESERVES

C1. BACKGROUND ABOUT CAPITAL FUNDS

The County has two capital funds, the Transit Capital Fund and the Revenue Fleet Replacement Fund (RFRF). The RFRF Fund serves as a “holding tank” for money set aside for the future replacement of existing fleet vehicles. In the year of expenditure, the money for that year’s replacement of existing vehicles is transferred from the RFRF Fund into the Transit Capital Fund. Transit Capital Fund revenue is used for other capital expenditures, including any expansion of the revenue fleet.

The main revenue source for both the Transit Capital Fund and the RFRF is the sales tax. In keeping with existing bond covenants, 0.2% of the total 0.9% transit sales tax rate is dedicated to capital or debt service purposes, with debt service receiving the highest priority. After debt service is paid, the remainder of the 0.2% capital share of sales tax is committed by County policy first to RFRF and then to the Transit Capital Improvement Plan (CIP). In 2019, due to debt retirement, there will no longer be a requirement that capital and debt service receive a fixed 0.2% of the sales tax, so after that point, the County will be able to credit all of the sales tax revenue into the Operating Fund and then transfer the needed amounts into the RFRF and Capital Fund. Most of our analysis is based on the existing division of sales tax, with 0.2% for capital and 0.7% for operating. However, later in this memo we discuss how the recommended policy might be adapted if the County decides to eliminate the distinction between operating and capital sales tax.

C2. PURPOSE OF CAPITAL RESERVES

In general, capital fund balances have two components, a *capital contingency* (or minimum planned reserve balance), and *balances above the minimum*. The two components have separate purposes.

The goal of the *capital contingency* (or *minimum* planned reserve balance) is for it to be large enough to accommodate sudden capital requirements, revenue shortfalls or cost overruns without disrupting the schedule for the most time-sensitive of the planned capital projects. In other words, the capital contingency is designed to ensure that bad news in the capital budget is contained within the capital budget, rather than spilling over into operating budget decision-making in a sudden and painful way.

To the degree that planned CIP expenditures are not already relatively level over time, then capital reserves should also include *balances above the minimum* to the degree necessary to accommodate peak-year capital expenditures (net of explicitly planned debt proceeds and grant revenue), to achieve a smooth pattern of demands on operating revenue sources. In other words, the goal of the capital contingency is to deal with *unplanned* capital needs; the goal of capital reserves above the minimum is to smooth the demands on ongoing revenue sources given what is *planned* in the CIP.

a) Financial Risk in Capital Funding

When it comes to dealing with uncertainty and risks, capital budgets have some advantages over operating budgets. Many capital projects can be delayed if necessary, and that timing flexibility creates a natural cushion for capital fund balances. In addition, the County has had the past practice of paying cash rather than borrowing for most of its transit capital spending, and that conservative approach to debt gives the County flexibility—in an economic pinch, debt could be incurred for the most time-sensitive capital projects. Finally, given the County’s commitment to capital planning and “pay as you go” financing, capital fund balances are likely to be greater than the minimum, just to smooth out the timing of future capital funding needs. Any cash saved up for future *planned* capital does double duty—it also adds to the financial cushion in the event of *unplanned* capital demands.

But still, there are capital projects for which delays would be costly, and some of those time-sensitive projects are large. Whenever there are large capital projects, there is the risk of cost overruns. And a large part of the transit capital program consists of revenue fleet replacements, which are the type of routine capital expenditure for which timing flexibility is short-term; if a given batch of purchases is delayed, the County would then have to catch up. An adequately funded capital contingency can allow the County to keep the timing of capital expenditures logical and cost-effective, even in the event of bad news, without undue reliance on debt or bailouts from the operating fund.

b) Capital Contingency Located in Transit Capital Fund

In our suggested policy, the minimum capital contingency for both capital funds would entirely be located in the Transit Capital Fund. For the RFRF, the minimum forecast fund balance would be zero—all of its projected balances are for the purpose of smoothing out the demand on ongoing revenue sources. Therefore, the capital contingency in the Transit Capital Fund should be large enough to protect the RFRF as well as the Transit CIP from disruption due to unforeseen events.

C3. SOURCES OF GUIDANCE

Again, the comparative survey yielded very little useful standards about capital reserve policies. Some agencies have policies for capital reserves, but most do not.

The GFOA best practice statement was oriented to the minimum balance of the operating fund, and it did not address capital funds specifically. The Moody's and Standard and Poor's rating criteria lump capital reserves, stabilization reserves and operating reserves together in their "liquidity" test; they do not offer guidance about liquidity that is specific to a capital fund's responsibilities.

In our firm's extensive practice with water and sewer utilities, the most common target for the minimum capital fund balance (or capital contingency) is 1% of the original cost of capital assets. As far as we are aware, this rule-of-thumb guideline does not have a scientific or research basis, but it is scalable—it differentiates between large and small utilities. It is also well tested; for those who manage utility finances, it passes an intuitive "reasonableness" test by yielding results that seem not too large and not too small. Another method used by a few utilities is to set their minimum capital fund balance at the estimated cost of replacing a major piece of infrastructure if it were to suddenly fail. Since a major source of unplanned capital funding needs is cost overruns on time-sensitive capital projects, it might make sense to define the capital contingency as a certain percentage of the total capital improvement plan. However, we cannot point to a list of utilities that actually use that criterion; most use the simple "1% of asset cost" criterion.

In short, there is not much general guidance from other organizations to guide the policy choice for capital contingencies, so we use reasoning that is specific to the Transit capital program.

C4. RECOMMENDATIONS FOR TRANSIT CAPITAL RESERVE

The transit capital reserve is the minimum planned fund balance in the Transit Capital Fund. It functions as a capital contingency, and its primary function is to protect the Transit Capital and RFRF funds from the risk of revenue disruptions or expenditures that are large, urgent, and unplanned. What should be the basis for the capital contingency?

For the Transit Capital Fund, the "1% of original cost of assets" rule-of-thumb used by utilities gives us a starting point in considering an appropriate capital contingency. According to the County's financial statements at the end of 2014, the original cost of assets totaled \$2.75 billion, and 1% of that figure would imply a minimum capital contingency of \$27.5 million. A \$27.5 million capital contingency would be equivalent to about 14% of the average CIP over the next ten years.

However, another consideration in setting a capital contingency is the potential variability of sales tax revenue now received by the two capital funds and the debt service fund. As long as the County has a dedicated increment of sales tax for capital and debt service, the CIP and debt service are vulnerable to fluctuations in sales tax revenue just as the Operating Fund is. We saw previously that the maximum peak-to-trough percentage drop in sales tax base over the past twenty years was about 18%. Doubling that percentage (to reflect the gradual drawdown of reserves) would suggest a capital contingency that is 36% of sales tax revenue into the RFRF, Transit Capital, and Transit Debt Service funds (the 0.2% share of sales tax). The 0.2% share of sales tax was about \$82 million in 2014, so 36% of it represents about \$30 million.

Between the two benchmarks shown here--\$27.5 million and \$30 million—we suggest using 36% of the capital sales tax revenue. They are close, but the \$30 million figure is more conservative and has a clearer rationale, based on historical experience with revenue variability.

But might not the capital funds experience *both* unexpected capital costs and also a drop in sales tax revenue? Yes, but it is not necessary to set aside a separate pot of money for each conceivable type of risk, particularly for a capital fund. As we mentioned earlier, capital funds by their nature have flexibility in project timing and the availability of debt for the most time-sensitive projects—advantages that operating reserves do not have. Choosing the higher of the two benchmarks creates an adequate cushion for unexpected events on the revenue or the expenditure side.

With a target minimum balance of \$30 million (36% of capital sales tax), we suggest that the County use the same stepwise drawdown pattern for the capital reserve as it does for the revenue stabilization fund. During a recession—assuming the same economic and revenue triggers as the revenue stabilization fund—the minimum balance of the Transit Capital Fund should be reduced by up to 50% of its target level, and the following year by another 50%. The replenishment period should also mirror that of the revenue stabilization fund, with the minimum Capital Fund balance restored to its target level within five years of the beginning of the replenishment period.

a) If the Fixed Capital Share of Sales Tax is Eliminated in 2019

According to County staff, the retirement of existing bonds in 2019 will allow the County to eliminate the distinction between transit capital sales tax (0.2%) and transit operating sales tax (0.7%). Instead, the County would be able to collect all of the sales tax into the Operating Fund, consider all of it as a discretionary revenue in the normal budget process, and transfer the amounts required for capital purposes each year into the Transit Capital and RFRF funds.

If that change in fund management occurs, then we suggest that the revenue stabilization reserve be responsible for offsetting revenue shortfalls in all of the transit funds, including the two capital funds. By coincidence, the sales tax represents approximately 70% of the discretionary revenue for the Transit Enterprise Fund as a whole—similar to the percentage for the Operating Fund alone—so the target balance for the stabilization reserve could still be 25% of discretionary revenue, but the 25% would apply to Enterprise Fund discretionary revenues rather than to discretionary operating revenues.⁴ If this occurs, the two capital funds will be fully dependent on the Operating Fund each

⁴ An alternative would be to set the stabilization fund reserve at 36% of sales tax revenue, since 36% of sales tax revenue is approximately the same as 25% of discretionary revenue. However, there is value in using discretionary revenues (rather than sales tax revenue) as one of the triggers for the use of the stabilization reserve. Compared with sales tax revenue, discretionary revenue is a more stable variable, and there is more of a difference in how it behaves compared with sales tax base, which is the other suggested trigger. Requiring two variables that are only partially correlated to fall short in the same year before reserves are drawn down helps ensure that the draws are truly needed.

Discretionary revenue is also a better measure of the actual resources that the County has available to it to run the core functions of the transit system, so the “CSL gap” is best determined with reference to discretionary revenue rather than just sales tax revenue. For those reasons, we suggest using discretionary revenue as the basic metric used

year for their financial requirements, and they will have no capital contingency. Instead, all of their fund balances will represent amounts needed to smooth the peaks in planned capital expenditures.

b) Reserves Above Minimum Balance – Transit Capital Fund

If there are balances in the Transit Capital Fund above the minimum, they should be for the purpose of fitting the planned CIP onto a schedule that matches the available sales tax while minimizing the need for borrowing. When it comes to forecasting reserves above the minimum, our detailed modeling focuses on the RFRF, not on the transit CIP. However, the same basic forecasting approach we describe in the RFRF section can also be applied to the Transit Capital Fund. One difference between the RFRF and the Transit Capital Fund is that the Transit CIP forecast is limited to 10 years, while the vehicle replacement projections go out 20 years. But the basic idea of balancing the planned capital requirements over a multi-year forecast horizon—which we illustrate in the next section—can be applied to the Transit CIP in the same way we demonstrate with the RFRF.

C5. BACKGROUND ABOUT REVENUE FLEET REPLACEMENT FUND (RFRF)

The revenue fleet replacement fund functions as a specialized subset of the broader Transit Capital Fund. Its purpose is to set aside money for the future replacement of the existing fleet of buses and other revenue-generating vehicles.⁵ The RFRF deserves attention not only because it is a large part of the Transit Division’s capital needs, but also because any timing flexibility is short-term only—if you get behind in funding replacements, you have to catch up, or else vehicle maintenance labor and materials costs will start to creep up over time.

The reserve policy for the RFRF has two simple objectives:

1. Ensure that replacements can stay on schedule; and
2. Smooth out the demand on the sales tax.⁶

In the current vehicle replacement schedule, planned expenditures fluctuate widely from year to year. The planned replacement cost is \$213 million in 2016. After 2016, the cost of replacements is generally low until 2024. There are major peaks in 2024, 2028, 2030, 2031, and 2035. Generally, the second half of the current 20-year forecast places the heaviest demands on fund balance, while the first half of that forecast period represents an opportunity to build up the fund balance. The point of maximum pressure on the fund is in 2031, when the cumulative effect of several consecutive years of high demand causes the fund to reach its lowest point.

a) What is the Current Policy toward RFRF Funding and Reserves?

In the current policy, after debt service is paid, first priority on the 0.2% capital share of sales tax goes to the RFRF. The main planning parameter that determines how much sales tax is needed by the RFRF in a given year is the target reserve balance. This target reserve is defined as 30% of the *funded value* of the existing fleet.

to manage the stabilization fund—including the triggers for drawing on the reserve, the amount of the gap to be filled, and also the target balance.

⁵ The RFRF only addresses the cost of replacing existing vehicles; the cost of vehicles for fleet expansions must be funded from the Transit Capital Fund.

⁶ Grants are also a significant part of the funding for vehicle replacements. This policy assumes continuation of current federal law and funding criteria. If it turns out that a major change takes place in grant availability, that could create a revenue shortfall, for which the risk reserves would need to be relied on for a “soft landing.” The RFRF approach recommended here addresses *planned* capital needs, not the risk of unplanned events.

b) What Does “Funded Value” Mean?

The terms used in explaining this concept are illustrated below in a simple hypothetical replacement plan.

Exhibit 10: Illustration of Fleet Replacement Terms

Illustration of Fleet Replacement Terms <i>In \$000. Ignore inflation.</i>			Annual replacement contribution of Vehicle A is \$50.												Cumulative as of 2015	Funded Value of Vehicle A is \$500.				
Expected Life	Year Replaced	Net Replacement Cost	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		
Vehicle A - Bus	12	2017	\$ 600	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50		
Vehicle B - Bus	12	2021	600					50	50	50	50	50	50	50	50	50	50	50		
Vehicle C - Van	4	2016	80									20	20	20	20	20	20	20		
Vehicle D - Trolley	15	2020	900	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60		
Total												180	1,460							

Annual fleet contribution is \$180.

Funded Value of fleet is \$1,460.

For any given vehicle, there is an *annual replacement contribution* that would need to be set aside over the life of that vehicle to ensure that its replacement cost (including inflation, net of trade-in value and grants) can be fully met by the time of its scheduled replacement. For a given vehicle, the *funded value* is the sum of past years’ annual replacement amounts for that vehicle. Note that different vehicles are at different stages in their life cycle. The funded value for a vehicle nearing its replacement date will be close to the replacement cost, while the funded value for a relatively new vehicle may reflect only one or two years of annual replacement charges. The *annual fleet contribution* is the sum of the annual replacement contributions for each vehicle currently in the fleet. The *funded value for the fleet as a whole* is the sum of the funded value for each of the current vehicles in the fleet.

c) Where Did the Existing Target RFRF Reserve Balance Come From?

In 2011, the Transit Division developed a revised policy on the financial management of the transit funds. Among the issues the revised policy addressed was a call from the County Auditor to re-evaluate the target balance of the RFRF, since the fund balances seemed to be higher than necessary.

In any replacement program, the concept of funded value is a useful one—it can be modeled for each vehicle, and it is based on projected future replacement costs.⁷ However, for the fleet as a whole, 100% of funded value is not actually needed in order for the RFRF to maintain sufficient cash to stay on schedule. That is because of the staggered schedule of replacements. If the entire fleet were replaced on exactly the same schedule, then the fund would need to maintain cash equal to 100% of funded value. In reality, however, replacements are staggered over time, so those vehicles being replaced in any given year can, in effect, “borrow” against the funded value of vehicles that are in the middle of their replacement cycles.

So the 2011 policy was developed based on an assumption that the appropriate fund balance should be some designated percentage of the funded value for the overall fleet. In order to create a basis for choosing that percentage, the transit forecast model was run with alternate “percentage of funded value” assumptions, in order to compare the average ending fund balance in each scenario against the average fleet purchase costs. The 30% criterion turned out to be the scenario in which the average ending fund balance was 108% of the average (not the peak) fleet purchase cost.

d) Results of Current Policy

As we noted above, the twin goals of the RFRF reserve policy are to ensure that replacements can stay on schedule and to smooth out demand on sales tax. After a few years of experience with the 2011 policy, its weaknesses are now apparent. The big batch of replacements in 2015 and 2016 were the first big test of the new policy. In both 2015 and 2016, 100% of the capital sales tax (after debt service) is going to

⁷ The actual term “funded value” has not been used previously by County staff, but it is the concept underlying the County’s existing policy. In the RFRF forecast model, it is referred to as “annual fund contributions (annuities) – full funding.” We have shortened it to “funded value.”

RFRF, leaving no funding in those years for other capital needs. More significantly, in 2016 the fund balance in the RFRF was insufficient for planned vehicle replacements even after claiming all of the available sales tax; instead, the vehicle replacement program in 2016 has had to rely on a \$94 million transfer from the Transit Operating Fund. Looking ahead at the next big peak, in 2024, the RFRF is forecasted to again be inadequate for the vehicle replacements scheduled for that year. The current policy neither smooths out the demand on the sales tax, nor ensures that replacements can stay on schedule.

C6. RECOMMENDED APPROACH TO REVENUE FLEET REPLACEMENT FUND

The main problem with the current policy is that it has been treated as *both* a minimum and a maximum each year. As a result, the fund has not been able to save up in advance of the known peaks over the full life of the 20-year forecast. By asking what the balance should be in each year, we have been focusing on the wrong question. The right question is, “What level percentage of sales tax revenue would be needed in order for the RFRF fund balance to stay above zero over the life of the 20-year forecast?”

If the goal is to ensure adequate replacement funding and smooth the demand on ongoing revenues, then the RFRF has to be balanced over a 20-year forecast rather than equal a certain percent of funded value each year.

a) Forecast Illustrating a “Peak Smoothing” Methodology

In order to show what a “peak smoothing” methodology would look like and how it would work, we created a simplified forecast model. This model illustrates an approach in which the main forecast parameter is not a target reserve balance but rather a smooth pattern of using sales tax for vehicle replacement purposes. This forecast is shown in **Appendix C**.

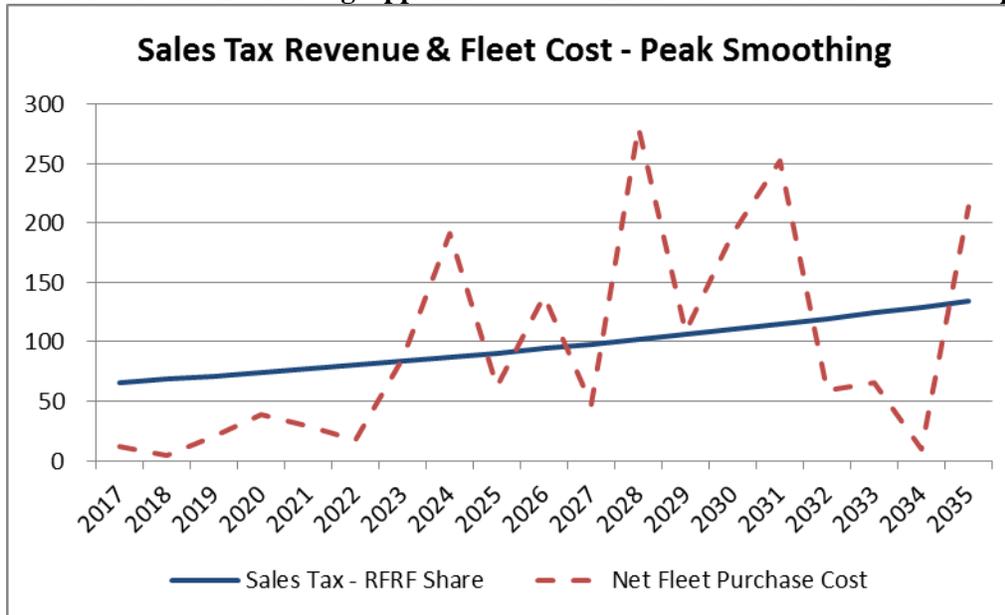
The forecast begins with 2017, after the 2015-2016 batch of replacements is complete, so there is a little bit of time to begin building fund balances before the replacement schedule ramps up in 2023 and 2024. Each year starts with beginning balance, adds a certain percentage of the transit sales tax⁸ plus interest earnings, subtracts the net fleet purchase cost (net of grants and trade-in value), and winds up with an ending balance.

The peak smoothing model assumes that the fund balance must stay at or above zero throughout the 20-year life of the forecast with a constant percentage of sales tax revenue each year. Given that constraint, the key question is, “What percentage of sales tax must be committed to RFRF?” The answer to that question is 12%. In other words, by committing 12% of projected sales tax revenue to RFRF each year, the County would be ensuring that the RFRF balance stays above zero over the next 20 years, regardless of the peaks and valleys of the replacement schedule. The 12% figure was derived by simply testing different percentages until we found the lowest one (rounded off to a whole percentage point) that resulted in an ending balance that stayed above zero for the life of the forecast. The year with the lowest balance is 2031, with a projected ending balance of \$3 million.

Exhibit 11 shows the projected sales tax revenue and net fleet purchase cost under this approach.

⁸ Looking ahead to the possibility that the County might someday eliminate the distinction between capital and operating sales tax, the percentage shown in the **Appendix C** model is based on the total transit sales tax (0.9% of sales), not just the share that is currently allocated for capital and debt service (the 0.2% increment). But the relevant “percentage of sales tax” can be calculated either way—each 1% of total sales tax is equivalent to 4.5% of the capital sales tax alone, so 12% of total sales tax is equivalent to 54% of the capital sales tax alone.

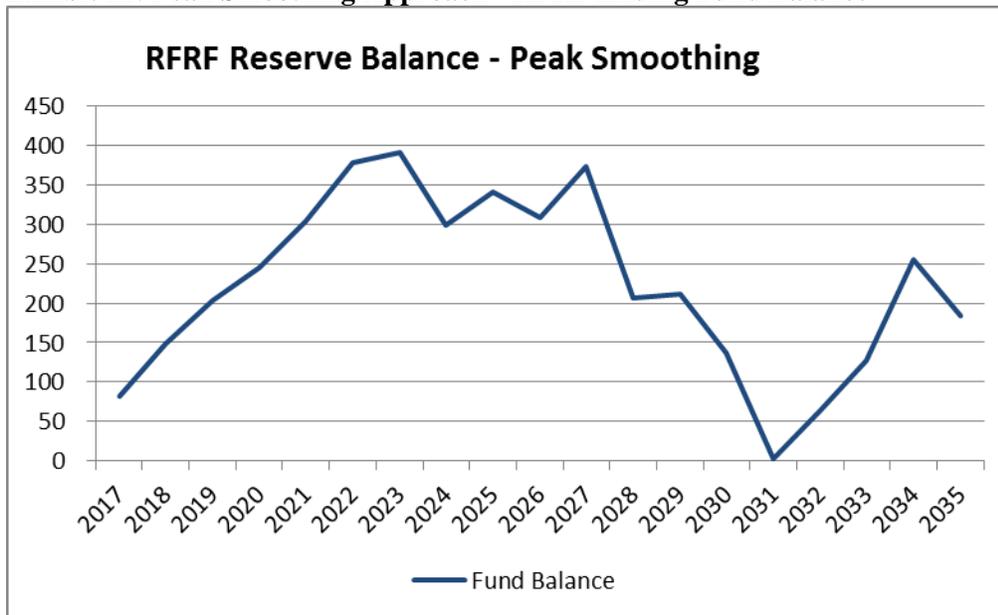
Exhibit 11: Peak Smoothing Approach – RFRF Sales Tax Revenue and Fleet Expenditures



The most obvious thing we see in **Exhibit 11** is that the sales tax figures are a straight line, while the net fleet purchase cost bounces around from year to year. By providing for a level demand on sales tax, this approach is meeting one of the purposes of the RFRF.

Exhibit 12 shows the projected ending fund balance with the “peak smoothing” forecast. The fund balance reflects not just sales tax revenue but also interest earnings, which range from \$1 million to \$15 million per year. Again, the fleet replacement cost is net of trade-in value and grants.

Exhibit 12: Peak Smoothing Approach - RFRF Ending Fund Balance



The notable thing about Exhibit 12 is that the fund balance is about \$3 million in 2031—which, considering that the “percentage of sales tax” assumption was rounded off to the nearest whole percentage point, is close to zero. As long as the projected balance stays above zero, then the RFRF is meeting its goal of ensuring that vehicle replacements can stay on schedule.

The projected fund balance is about \$300 million or more from 2021 through 2027. Isn't that more money than the RFRF needs? The answer is no—not if the RFRF is to rely on a level stream of sales tax revenue without requiring borrowing or bailouts from the Operating Fund. The fact that the fund balance approaches zero at some point in the forecast—in this case, in 2031—is what gives us assurance that the RFRF is not overfunded. The fact that the fund balance has to be very high for several years merely shows how variable the vehicle replacement cost demands are—there is a lot of smoothing to do.

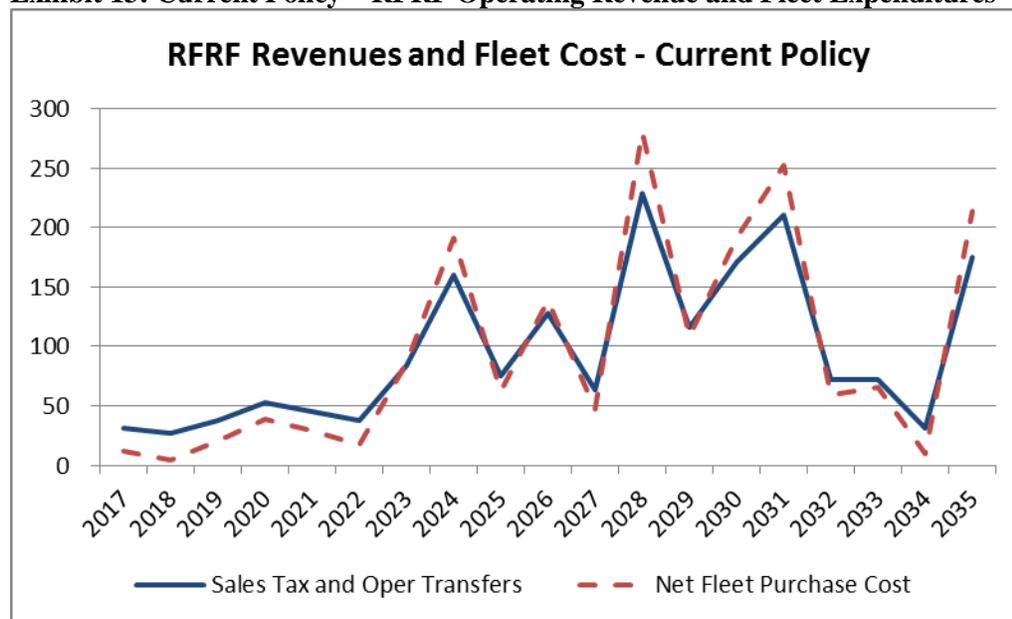
In order to be confident that the fund is accumulating enough but not too much, we need to watch only two variables: the straight-line sales tax revenue in **Exhibit 11**, and the “close to zero” fund balance in 2031 shown in **Exhibit 12**. In this forecast, the fund balance figures before and after 2031 are not relevant to the question of whether the RFRF is appropriately funded.

b) How Does the Peak Smoothing Approach Compare with Existing Policy?

In order to compare the peak smoothing methodology with the current methodology, we had to make some assumptions about how the current approach might be extended over a 20-year time frame. In Metro Transit’s current financial planning, the vehicle replacement forecast extends past 2035, but from 2024 and beyond, projected RFRF expenditures are not balanced against projected revenues using the current target reserve policy. In order to extend current projections through 2035, we assumed that any negative ending fund balance would be offset by a transfer from the Transit Operating Fund.

Exhibit 13 shows the revenue and expenditure forecast under existing policy. The revenue line includes both the allocated RFRF share of sales tax and also transfers from the Operating Fund that are needed in some years to provide for shortfalls in the RFRF.

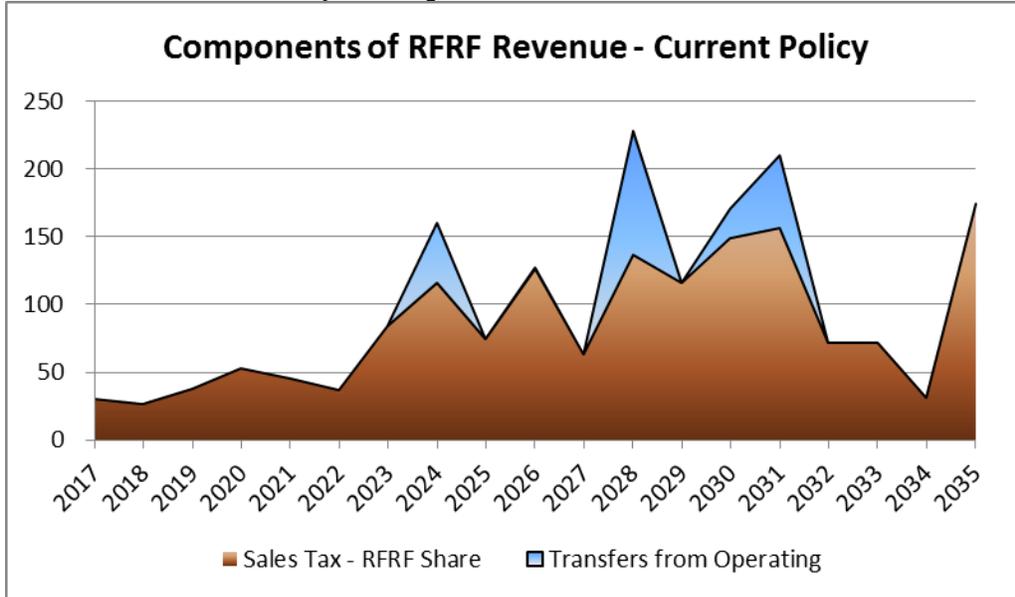
Exhibit 13: Current Policy – RFRF Operating Revenue and Fleet Expenditures



It is clear that the current policy does not do much smoothing of the demand on sales tax revenue. Compared with a “peak smoothing” approach, the current policy allows more of the 0.2% capital sales tax to be spent on other transit CIP projects in the first half of the forecast, but that would come at a cost in the second half of the forecast. In 2024, 2026, 2028, 2030, and 2031, the forecast under current policy shows the RFRF consuming all of the 0.2% capital sales tax after debt service, leaving nothing available for other transit capital projects.

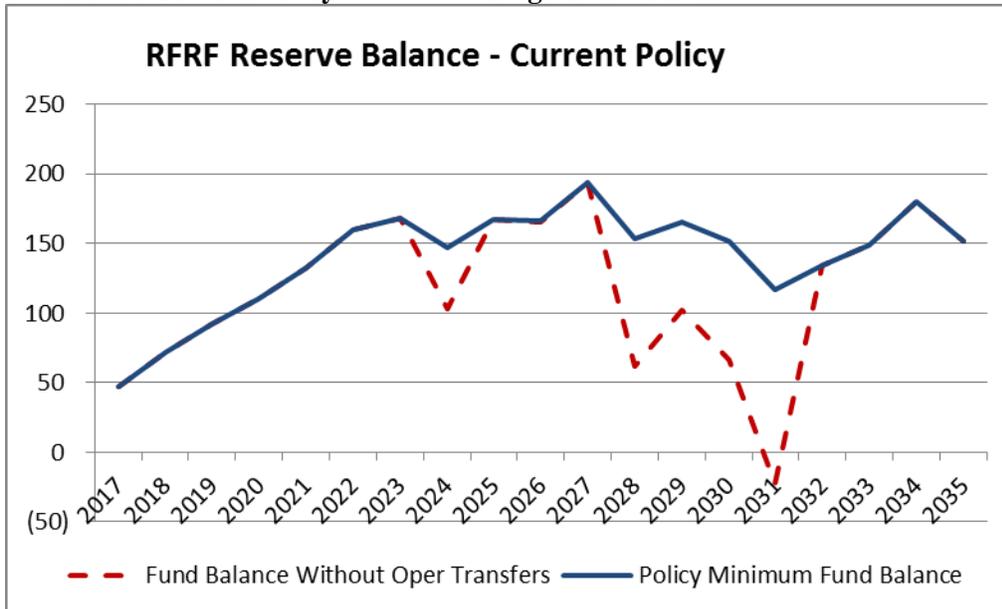
Exhibit 14 breaks projected RFRF revenue under the current policy between sales tax and transfers from the Operating Fund. During 2024, 2028, 2030, and 2031, the RFRF would require a transfer from the Operating Fund in order to keep fleet purchases on schedule and still maintain the “30% of funded value” minimum reserve balance.

Exhibit 14: Current Policy – Components of RFRF Revenue



The projected ending fund balance for the RFRF is shown in **Exhibit 15**.

Exhibit 15: Current Policy – RFRF Ending Fund Balance



The solid blue line represents the “30% of funded value” policy minimum reserve balance for the RFRF. In most years, that would be the same as the projected ending fund balance. However, there are years in which transfers from the Operating Fund would be needed in order for the reserve balance to achieve its policy level. In addition, there is one year—2031—in which a transfer from the Operating Fund would be needed to keep the RFRF above zero.

c) Annual Updates to RFRF Forecast

Each year, as part of the biennial budget process or mid-biennium update, the RFRF forecast would be updated, so the amount of sales tax projected to be needed over the next 20 years will vary by a little bit as each forecast is updated. But as long as the County takes advantage of the low-demand years from 2017 through 2023 and allows the fund balance to grow, with an eye on the peak-demand years farther out, then each year's adjustments to the demand for sales tax should be relatively minor.

d) Potential Borrowing for Peak Replacement Needs

Looking at the extreme variability in the replacement schedule, a question naturally arises: what if the County were to borrow during the peak-replacement years? It would change the numbers but not the overall approach of balancing the forecast over a 20-year period in order to smooth the demand on sales tax. Debt proceeds are just another offset against the fund requirements, and debt service is just another type of funding requirement. In our simplified forecast model, the "net cost" of replacing an individual vehicle is net of grants and salvage value for that vehicle. For the RFRF as a whole, each year's net funding requirements consist of the net replacement cost of that year's batch of vehicles, minus interest earnings. If the County were to borrow as a way to smooth out some of the peaks, then each year's net funding requirements would consist of net replacement cost plus debt service, minus interest earnings and debt proceeds. The County staff can model potential borrowing to see if there would be any cost advantage, but as long as the County plans to save up in advance for at least some of its vehicle replacements, then the "peak smoothing" approach is the best way to manage the savings target and the RFRF reserve balance.

D. SUMMARY

D1. SUMMARY OF RECOMMENDATIONS

We suggest the following guidelines for Metro Transit reserves.

Revenue Stabilization Reserve:

- Purpose: Provide a temporary (1-3 years) financial cushion for the Operating Fund in the event of economic recession, other revenue shortfalls, or spending requirements that are large, urgent, and unplanned.
- Target Balance: 25% of projected ongoing discretionary operating revenue.
- Trigger for Use of reserve: When projected growth in both sales tax base and ongoing discretionary operating revenue is less than 3%.
- Maximum Reserve Draw in Any One Year: Current service level gap or 50% of stabilization reserve balance, whichever is less.
- Replenishment Timeline: Begin replenishment not more than 2 years after ongoing discretionary operating revenue meets or exceeds the pre-shortfall level plus 3% per year. Complete replenishment not more than 5 years after beginning of replenishment period.
- Other Recommendations:
 - Commit any positive variances in Operating Fund beginning balance to establishment, maintenance, or replenishment of target balance for revenue stabilization reserve.
 - Commit interest earnings on revenue stabilization reserve balance to maintenance of target balance.
 - Require Council action in order to draw on stabilization reserve, either by accounting for the reserve in a separate subfund or by keeping it in a restricted account that requires Council action to be used. If it is not in a separate subfund, financial plans in the budget document should continue to identify revenue stabilization reserve separately from other Operating Fund balances.

Operating Reserve:

- Purpose: Ensure that Operating Fund balance stays above zero within a fiscal year, so that there is time to respond to any negative financial developments in the next budget process.
- Target Balance: 5% of projected ongoing discretionary operating revenue.
- No trigger for use, since any draws are part of normal fluctuation in fund balance.
- Replenishment Timeline: If operating reserve balance drops below target level, budget to restore target balance in the following fiscal year budget.

Transit Capital Reserve:

- Capital Contingency is the target minimum fund balance in the Transit Capital Fund.
- Purpose of Capital Contingency: Provide a temporary (1-3 years) financial cushion for the Transit Capital, Revenue Fleet Replacement, and Transit Debt Service funds in the event of economic recession, other revenue shortfalls, or spending requirements that are large, urgent, and unplanned.
- Size of Capital Contingency: 36% of sales tax that is committed to capital or debt service.
- Trigger for Drawing Capital Fund Balance Below Capital Contingency: Same as trigger for use of revenue stabilization reserve.
- Maximum Lowering of Minimum Capital Fund Balance in Any Given Year: Amount of the funding shortfall or 50% of remaining capital contingency, whichever is less.
- Timeline for Restoration of Capital Contingency: Same as revenue stabilization reserve.
- Forecast Criteria: Capital Fund balances above capital contingency should be determined by balancing 10-year forecast of planned capital expenditures (net of non-sales tax revenues and planned debt proceeds) against projected sales tax revenue over the same period, assuming a level percentage of sales tax in any given year.

Revenue Fleet Replacement Fund (RFRF):

- Purpose of RFRF: Set aside funds for planned future replacement of existing revenue fleet vehicles.
- Target Minimum Balance: Zero
- Forecast Criteria: Determine the lowest fixed percentage of sales tax revenue that will keep RFRF above zero throughout the 20-year forecast period, without planned transfers from Operating Fund.

D2. CURRENT RESERVE FUNDING

Exhibit 16 shows the status of current reserve balances (as of the most recent financial plan data available to us), compared with the recommended target balances. The 2014 figures are actuals, while the 2015-2019 figures are based on the adopted 2015-2016 biennial budget and projections for subsequent years.

Exhibit 16: Current Reserve Funding vs. Recommended Target Reserves

Current Reserve Funding (\$ million)	2014	2015	2016	2017	2018	2019
Operating Fund:						
<i>Discretionary Operating Revenue</i>	593	620	633	655	688	720
Operating Fund Ending Balance	236	315	170	97	133	208
Recommended Target Balances:						
Revenue Stabilization Reserve 25%	148	155	158	164	172	180
Operating Reserve 5%	30	31	32	33	34	36
Total Target - Operating Fund Reserves	178	186	190	197	206	216
Reserve Over/(Under) Target Balance	58	129	(20)	(100)	(73)	(8)
Capital Funds:						
<i>Capital Sales Tax (incl. debt svc)</i>	82	87	91	95	99	100
Capital Fund Ending Balances:						
Transit Capital Fund	176	100	97	94	108	99
RFRF	85	71	28	47	71	92
Total Capital Ending Balances	261	171	125	141	179	191
Recommended Target Balances:						
Capital Contingency 36%	30	31	33	34	36	36
RFRF Forecast Balance (Peak Smoothing)	85	71	28	82	148	204
Total Capital Target Balances	114	102	61	116	184	240
<i>Note: excludes amounts needed for planned Transit Capital other than RFRF.</i>						
Reserve Over/(Under) Target Balance	146	69	64	25	(5)	(49)
Combined Operating and Capital:						
Reserve Over/(Under) Target Balance	205	198	44	(75)	(78)	(57)

An important caveat is that we did not do a forecast for the Transit CIP like we did for the RFRF, so we do not know what reserve balances above the minimum capital contingency are needed for planned future capital expenditures in the Transit Capital Fund. Without taking that into account, Exhibit 16 indicates that if the County were to adopt the recommended reserve target balances, including the forecasted RFRF, its existing reserves would meet the target levels for the projected 2015 and 2016 budgets. However, additional revenue would need to be committed to reserves for the 2017-2019 period, in addition to whatever is needed for Transit CIP smoothing.

	Questions Jurisdictions	1. What reserves are currently maintained by the jurisdiction?	2. What are the defined purposes of each reserve?	3. What is the target balance of each reserve?
1	Tri-Met - Portland	General Fund: Unrestricted Fund Balance which includes a Contingency	TriMet does not maintain any unrestricted reserves other than Unrestricted Fund Balance. The Unrestricted Fund Balance (which includes unused Contingency), are available for the ongoing operation of the District and are subject to the limitations defined by this Policy. Contingency represents dollars appropriated in the annual budget that are set aside for unanticipated or undefined costs incurred in the year. Costs such as self-insured claims, capital investments and asset replacement, and unanticipated or higher than anticipated expenses, and unexpected declines in revenue all must be covered by the Unrestricted Fund Balance each year.	Unrestricted Fund Balance should be at least 2.5 times the appropriated average monthly operating expenditures for the upcoming fiscal year. Contingency will be at least 3% of Total Operating Requirements. Based on an assessment of expenditure risk for the upcoming fiscal year the General Manager may recommend a higher level of Contingency and include such recommendation in the Proposed Budget. The Board holds final authority over approval of annual budget.
2	Metro Transit System - San Diego	Contingency	Contingency: For ongoing operations, future matching of grants; 12.5% of operating budget per Policy 36. Staff said that this reserve is intended to handle day to day obligations, smooth gaps in the timing of ordinary revenues or expenditures, unexpected expenditure overruns, or revenue shortfalls. There is no separate capital reserve, as resources become available, they are assigned to either a unfunded project or a project that needs additional funding.	Contingency: A minimum percentage of approximately 12.5 percent of the total combined MTS operating budgeted expenses should be maintained in a contingency reserve. Excess funds beyond this minimum level in unrestricted, contingency reserves will be available for the Board's purposes. Periodically, due to the timing of subsidy fund receipts, contingency reserves act as working capital advances in anticipation of the receipt of these subsidy funds. Such advances are to be immediately repaid upon receipt of the subsidy funds.
3	Charlotte Area Transit System	1. Minimum Unrestricted Fund Balance 2. Revenue Reserve Fund 3. Capital Investment	1. The unrestricted fund balance serves as a contingency fund against precipitous increase in costs; provides funds available to support the Capital Program; and provides an internal hedge against certain existing and potential new debt service costs. Several factors dictate the maintenance of a significant fund balance, including, the challenges of the establishment of an expanded mass transit system, the size and complexity of the Capital Program, the timing of receipt of Federal and State capital grants and the impact on Sales Tax collections as changes occur in underlying economic conditions. 2. The fund provides contingency funds in years where income levels are lower than projected.	1. The unrestricted fund balance at the end of the fiscal year will be maintained at a minimum of \$100 million. The level of unrestricted fund balance will be evaluated annually and any changes below the minimum amount must be approved by the MTC prior to adoption of the annual transit program in March of each year. 2. Eventual goal of \$30 million in "good years." 3. An amount equal to or greater than 20% of Sales Tax Revenue shall be budgeted each fiscal year and allocated to the Debt Service and Capital Programs.
4	Regional Transportation District - Denver	1. Board Appropriated Fund 2. Capital Replacement Fund 3. Unrestricted Fund 4. TABOR Reserves Note: In the aggregate, RTD has only one fund, an enterprise fund, and a single budget and a single appropriation.	1. Board Appropriated Fund: a reserve designated by the Board of Directors, to be used with Board approval to avoid cash flow interruptions, reduce the need for short-term borrowing, and assist in maintaining an investment grade rating. 2. Capital Replacement Fund: a reserve utilized to fund vehicle replacement and local new capital expenditures 3. Unrestricted Fund: a reserve equal to the excess and undesignated working capital balance that may accrue at each year-end, net of all other required or designated reserves. 4. TABOR Reserves: a reserve required by Article X, Section 20 of the Colorado Constitution, equal to 3% of current year revenues from sources other than federal grants, gifts, bond proceeds, or lease/purchase income. The Taxpayer's Bill of Rights (TABOR), or Article X, Section 20 of the Colorado Constitution, approved by Colorado voters in November 1992, restricts the ability of the District to enter into a multi-year fiscal obligation without voter approval unless there are adequate present cash reserves. TABOR also requires voter approval in advance for: (i) any increase in the District's revenues and spending from one year to the next in excess of a specified growth rate (CPI plus a growth factor based on net increase in the value of new taxable property); or (ii) any new tax or tax increase.	For the Base System: RTD will strive to maintain a fund balance in the Base System and in the FasTracks operating budget, to provide for unanticipated expenditures of a nonrecurring nature, to meet unexpected increases in costs or to mitigate service disruptions as a result of economic downturns affecting revenue. This unrestricted fund balance will be comprised of a Board appropriated fund, a capital replacement fund and an undesignated working capital fund as described below. Base System: the total of these three funds should be maintained at an amount approximately equal to three months of Base System operating expenses excluding depreciation. TABOR: RTD will maintain an emergency (TABOR) reserve equal to three percent of non-Federal revenues, as specified by Article X, Section 20 of the Colorado Constitution.
5	Utah Transit Authority	Operations Related Board Reserves: 1. Service Sustainability Reserve Fund 2. Working Capital Reserve	1. To preserve service levels when the Authority is facing revenue shortfall or cost overrun due to extraordinary circumstances, such as economic downturn or rapid rise in fuel prices or any combination of such event 2. Set up to make sure we can meet cash flow needs, in case revenues/grant payments are delayed. Serves as a cash minimum. Notes: The UTA does not maintain a formal capital reserve, but rather capital is funded from the unrestricted fund balance. In addition to the reserves above, the UTA also maintains separate fuel and parts reserves. The fuel reserve's target is a maximum of 30 cents per gallon, with a current balance of \$1.4 million. The part's reserve is for the anticipated State of Good Repair initiative and has a maximum of \$6 dollars compared to a current balance of \$3 million.	1. Reserve fund should equal 5% of Authority's annual budget. 2. Maintain a working capital reserve of at least 9.33% (one month expense plus 1%) of annual budgeted operating expenses.

	Questions Jurisdictions	4. Under what circumstances can each reserve balance be used?	5. If reserves are used, are there any replenishment policies?	6. What are the current balances of each reserve?	7. Is there an official financial policy document?
1	Tri-Met - Portland	With Board approval, contingency can be used during the year to cover expenditure variations.	If the Unrestricted Ending Fund Balance is less than 2.5 times the appropriated average monthly operating expenditures for the upcoming fiscal year, the Board must approve a restoration plan to correct for the shortage within a three year period.	Budget 15/16 Beginning: 185,991,352	Yes. "Unrestricted Fund Balance and Contingency Policy" Resolution 14-02-05, February 26, 2014
2	Metro Transit System - San Diego	Contingency: Reserves may be utilized and/or expended provided that staff verifies that funds are available and upon specific approval by the Board either with the adoption of the annual MTS budget or as needed.	Currently a two-year replenishment. As of fiscal year 2013, the contingency reserve rate is lower than the minimum requirement as per this policy. Beginning in fiscal year 2014, over the course of the next two fiscal years, this funding rate will increase to the 12.5 percent rate.	Contingency: \$28,828,747	Yes.
3	Charlotte Area Transit System	1. See Question 2 2. When income is lower than expected.	Unconfirmed	1. Unconfirmed 2. \$2.5 million	Yes.
4	Regional Transportation District - Denver	1. Board Appropriated Fund: Reserves are provided to meet unexpected increases in costs or to mitigate service disruptions as a result of economic downturns affecting revenue. Use of the fund balance will be minimized and occur only in specific circumstances such as severe economic downturns. With Board approval, these funds may be used to avoid cash flow interruptions, reduce the need for short-term borrowing, and assist in maintaining an investment-grade bond rating. The source of replenishment of this fund will be identified and will take place in a prompt manner. 2. Capital Replacement Fund: RTD will designate a capital replacement fund on an annual basis. With Board approval, these funds will be used for scheduled major vehicle replacements and other capital purchases. The source of replenishment of this fund will be identified and will take place in a prompt manner.	RTD will consider and pursue resources that will be directed to fund balance replenishment. For example, RTD may define the revenue sources that would typically be looked to for replenishment of fund balance to include non-recurring revenues and budget surpluses. Year-end surpluses are an especially appropriate source for replenishing fund balance. RTD will replenish fund balances as soon as economic conditions allow.	2014 Projected Ending Position (Thousands): 1. Board Appropriated Fund: 23,755 2. Capital Replacement Fund: 16,555 3. Unrestricted Fund: 23,471 4. TABOR Reserves: 19,251	Section within budget, "Fund Balance Policies."
5	Utah Transit Authority	Use reserve fund to preserve service levels when UTA faces extraordinary revenue shortfall or cost overrun, such as economic downturn or rapid rise in fuel prices. Per Bob Biles, VP of Finance: In the event of revenue shortfalls or extraordinary cost overruns, the UTA will first draw down the unrestricted fund balance, then could use the following reserves: Service Sustainability, Risk Contingency (insurance), Parts & Fuel Reserves, and the Working Capital Reserve. UTA uses a 1/3, 1/3, 1/3 policy to help mitigate severe economic conditions and help preserve service: 1/3 use of reserves, 1/3 reduction of service, 1/3 use of financing.	To help replenish reserves, UTA would seek to increase efficiencies in operations, leave positions vacant, improve fuel efficiencies, or potentially add fuel surcharge if the cost per gallon were to exceed a certain \$/gallon threshold. Increasing fares is an option as well.	Balance as of April 30, 2015: 1. Service Sustainability Reserve Fund: \$4,866,866 2. Working Capital Reserve: \$12,100,201	Section within budget, "Executive Limitations Policy No. 2.1.8" and "Executive Limitations Policy No. 2.3.3" UTA Required Reserves, Finance & Operations, May 2015.xlsx from Bob Biles

	Questions Jurisdictions	1. What reserves are currently maintained by the jurisdiction?	2. What are the defined purposes of each reserve?	3. What is the target balance of each reserve?
6	Santa Clara Valley Transportation Authority - San Jose	1. Operating Reserve 2. Sales Tax Stabilization Fund 3. Debt Reduction Fund	1. Operating Reserve: To ensure that sufficient funds are always available in the event of either unavoidable expenditure needs or unanticipated revenue shortfalls from sources other than sales tax based revenues. 2. Sales Tax Stabilization Fund: To mitigate the impact of the volatility of sales tax based revenues on service levels and the operating budget. 3. Debt Reduction Fund: To reduce long-term liabilities or provide funding for approved transit-related capital improvements and replacement of capital assets. This reserve is used primarily to fund the local portion of the VTA Transit capital program in order to keep assets in a state of good repair.	1. Operating Reserve: It is the policy of VTA to accumulate a prudent level of reserves by building and maintaining an Operating Reserve equal to 15 percent (15%) of the annual operating budget for the VTA Transit Fund 2. Sales Tax Stabilization Fund: In the event sales tax based revenues received for a fiscal year are in excess of the amount budgeted, the excess shall be transferred to the VTA Transit Sales Tax Stabilization Fund up to a maximum balance of \$35 million. Staff mentioned that they may be moving to a % based target in the future, rather than using a flat dollar amount. 3. Debt Reduction Fund: There is no target reserve at this point.
7	TransLink - Vancouver, B.C.	1. Budget Contingency: Corporate One-Time line item 2. Funded Cumulative Surplus: Operating surplus target within income statement; not a cash reserve target 3. Capital Contingency: Unallocated Funds within the Capital Program for Ad-hoc projects	Overarching goal: To establish prudent guidelines for the short, medium and long-term financial planning processes required by TransLink's governing legislation; improvement of TransLink's financial flexibility and ability to weather negative economic shocks; and improvement of the predictability and consistency of TransLink's rolling three year strategic plan. 1. Budget Contingency: to handle pricing uncertainties and unforeseen initiatives or circumstances. 2. Funded Cumulative: to be drawn only in the event of a budgeted shortfall. 3. Capital Contingency: Unallocated funds within Capital Program for ad-hoc projects	1. Budget Contingency: A minimum Budgeted Contingency of up to 1% of budgeted operating expenditures (total budgeted expenditures less debt service costs, before the contingency) 2. Funded Cumulative Surplus: In the 3-Year Plan, Cumulative Reserve Surplus of 12% of Total Funded Expenditures (Includes Operating Expenditures, Interest Expense and Capital Repayments). For the subsequent 7-Year outlook, a lower minimum Funded Cumulative Reserve Surplus of 10% of will be maintained. In terms of cash minimums, there is an informal target of roughly \$150 million. 3. Capital Contingency: No formal target amount
8	Dallas Area Rapid Transit	1. Capital Reserves (Built in CIP?) 2. Financial Reserve (sales tax) 3. Reserves for Operating Deficits 4. Working Cash Requirements	1. Capital Reserves (Built in CIP): These reserves represent placeholders within the Financial Plan for either known capital asset maintenance and replacement cycles, or for funds that are set aside for projects of a specific type, for which the exact nature, timing, and amount is unknown at the present time. 2. Financial Reserve (sales tax): To cover variability in sales tax revenue 3. Reserves for Operating Deficits: Incoming resources available for operating expenses and debt service that exceed projections 4. Work Cash Requirements: To manage cash flow, as sales tax revenue is received on a monthly basis	1. Capital Reserves (Built in CIP): Roughly \$125 million per year, or 2.5 billion over 20 years (60% of total 20-yr capital expenditures) 2. Financial Reserve (sales tax): A goal 10% of the current year's sales tax budget. Currently a maximum of \$50 million. Once the \$50 million maximum balance is reached, all interest from the reserve and all future sales tax collections that exceed the budget will be placed into a Capital Project Reserve to help ensure that DART can fund its capital program 3. Reserves for Operating Deficits: Unknown 4. Work Cash Requirements: the unrestricted cash balance at the end of the year shall not be less than one-twelfth of the difference between the subsequent year's total sources of cash (excluding sales taxes) and total uses of cash as projected in the Financial Plan. For an improved safety margin, the Financial Plan maintains this cash balance to a minimum 90 days worth of operating expenses (as opposed to 30 days required by policy).
9	VIA Metropolitan Transit - San Antonio	1. Stabilization Fund 2. Working Capital Fund 3. VIA Capital Fund (other information about this capital fund is unconfirmed)	1. Stabilization Fund: represents assets to provide a level of financial resources to protect against revenue shortfalls or unpredicted one-time expenditure 2. Working Capital Fund – represents assets designated to provide VIA with sufficient operating funds to pay its day-to-day operational obligations.	1. Stabilization Fund: Target 60 days of operating expenses 2. Working Capital Fund: Target 60 days of operating expenses
10	Orange County Transportation Authority	1. Capital Replacement Fund (other information about this capital fund is unconfirmed) 2. Working Capital Reserve	2. Working Capital Reserve: This reserve fund is in place to accommodate normal fluctuations in revenues and expenditures and protects against significant changes in funding or major expense items	2. Working Capital Reserve: The Comprehensive Business Plan (CBP) requires a 45-day working capital reserve fund for transit operations.

	Questions Jurisdictions	4. Under what circumstances can each reserve balance be used?	5. If reserves are used, are there any replenishment policies?	6. What are the current balances of each reserve?	7. Is there an official financial policy document?
6	Santa Clara Valley Transportation Authority - San Jose	<p>1. Operating Reserve: Either unavoidable expenditure needs or unanticipated revenue shortfalls from sources other than sales tax based revenues</p> <p>2. Sales Tax Stabilization Fund: Per the Board policy adopted on April 5, 2012, this reserve may be utilized during development of the biennial budget if sales tax based revenues are projected to decline</p> <p>3. Debt Reduction Fund: Staff said that this fund can be used to defease current debt, but its primary purpose is to cash fund capital projects.</p>	<p>1. Operating Reserve: Any non-sales tax surplus, tax-related surplus when STSF exceeds \$35 million, or savings generating from under expenditures.</p> <p>2. Sales Tax Stabilization Fund: In the event sales tax based revenues received for a fiscal year are in excess of the amount budgeted, the excess shall be transferred to the VTA Transit Sales Tax Stabilization Fund up to a maximum balance of \$35 million.</p> <p>3. Debt Reduction Fund: After STSF and Operating Reserve are at their targets, additional sales tax surplus is directed towards this fund.</p>	<p>FY14 Actuals in Thousands -</p> <p>1. Operating Reserve: 59,827</p> <p>2. Sales Tax Stabilization Fund: 35,000</p> <p>3. Debt Reduction Fund: 101,948</p>	<p>Yes. VTA Transit Fund Operating Reserve Policy on April 5, 2012. VTA Transit Fund Comprehensive Reserve Policy on December 12, 2013.</p>
7	TransLink - Vancouver, B.C.	<p>1. Budget Contingency Reserve: Access to the Budgeted Contingency Reserve is subject to Executive approval and any application will require a supportive business case.</p> <p>2. Funded Cumulative Reserve: To be drawn only in the event of a budgeted shortfall.</p> <p>3. Capital "Contingency": Unexpected or Ad-hoc capital projects</p>	<p>No replenishment policies in place because revenues fairly stable. Borrowing is used to replenish liquidity if needed.</p>	<p>1. Budget Contingency: \$6.1 million in 2013 actuals.</p> <p>2. Funded Cumulative Surplus: \$295 million in 2012 surplus, ending cash of \$217 million in same year.</p> <p>3. Capital "Contingency": \$10 million</p>	<p>Yes, "Budgeted Contingency Reserve Policy." Is Confidential.</p>
8	Dallas Area Rapid Transit	<p>1. Capital Reserves (Built in CIP): When a project that is to be funded from a specific reserve is requested and approved, the new project is given its own specific line in the capital program, and the balance of the reserve is reduced by the budgeted cost of the new project.</p> <p>2. Financial Reserve (sales tax): accessed in the event of a downturn in sales tax receipts, unanticipated capital overruns, or other financial difficulties.</p> <p>3. Reserves for Operating Deficits: Unknown</p> <p>4. Work Cash Requirements: While awaiting next months sales tax revenue</p>	<p>1. Capital Reserves (Built in CIP): Reserve balances are reviewed on an annual basis to ensure they are adequate to cover future needs for each respective expenditure type.</p> <p>2. Financial Reserve (sales tax): Replenished when sales tax revenues exceed budget, cap of \$50 million.</p> <p>3. Reserves for Operating Deficits: None projected so not mentioned.</p> <p>4. Work Cash Requirements: As soon as possible.</p>	<p>Estimated End of FY 2014 -</p> <p>1. Capital Reserves: (Built in CIP)</p> <p>2. Financial Reserve (sales tax): \$46.1 million</p> <p>3. Reserves for Operating Deficits: None</p> <p>4. Work Cash Requirements / General Fund: \$808,288</p>	<p>"FY 2015 Financial Standards" from FY2015 Business Plan</p>
9	VIA Metropolitan Transit - San Antonio	<p>1. Stabilization Fund: Revenue shortfalls or unpredicted one-time expenditures</p> <p>2. Working Capital Fund: Day-to-day operational obligations</p>		<p>1. Stabilization Fund: At \$33.4M at the end of FY14, equal to 60 days of expenses.</p> <p>2. Working Capital Fund: At \$33.4M at the end of FY14, equal to 60 days of expenses.</p>	
10	Orange County Transportation Authority	Unconfirmed	Unconfirmed	Unconfirmed	

Counterfactual Scenario - What if 25% Revenue Stabilization Reserve Had Been in Place in 2008?													
Transit Operating Fund (all figures in \$ million)													
Assume target stabilization reserve is 25% of ongoing discretionary revenue													
	2007	2008	2009	2010	2011	2012	2013	2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019
Beginning Reserve Balance	\$ 86	\$ 93	\$ 107	\$ 93	\$ 48	\$ 24	\$ 24	\$ 24	\$ 49	\$ 107	\$ 126	\$ 144	\$ 164
50% of Reserve Balance	43	46	53	46	24	12	12	12	24	53	63	72	82
<i>50% of the reserve balance is assumed to be the maximum amount that can be drawn from the reserve in any given year.</i>													
Economic and Revenue Indicators:													
<i>Economic Indicator:</i>													
Sales Tax Base	\$ 49,269	\$ 47,441	\$ 40,783	\$ 40,507	\$ 42,349	\$ 45,179	\$ 48,554	\$ 52,335	\$ 57,184	\$ 59,739	\$ 61,311	\$ 63,500	\$ 66,035
Year-to-Year % Change	8.5%	-3.7%	-14.0%	-0.7%	4.5%	6.7%	7.5%	7.8%	9.3%	4.5%	2.6%	3.6%	4.0%
2008 Sales Tax Base plus 3% inflation			48,864	50,330	51,840	53,395	54,997	56,647	58,346	60,097	61,900	63,757	65,669
Gap in Sales Tax Base from 2008 plus 3% inflation			8,081	9,823	9,491	8,216	6,443	4,312	1,162	358	589	257	-
<i>By the 2016 projected budget, sales tax base had almost--though not quite--recovered to the 3% trend line from 2008.</i>													
<i>Revenue Indicator:</i>													
Ongoing Discretionary Revenue	\$ 427	\$ 458	\$ 457	\$ 441	\$ 472	\$ 531	\$ 568	\$ 606	\$ 620	\$ 633	\$ 655	\$ 688	\$ 720
Year-to-Year % Change	14.9%	7.2%	0.0%	-3.6%	7.0%	12.6%	6.9%	6.8%	2.3%	2.1%	3.5%	5.0%	4.7%
<i>Beginning 2009, both ongoing discretionary revenue and sales tax base are growing by less than 3% per year. Assume that condition triggers use of reserves.</i>													
Use of Reserves for 2009 Recession:													
2008 Disc. Revenue plus 3% Inflation		458	471	485	500	515	530						
Current Service Level Gap from 2008			14	45	28	-	-						
<i>Assume drawdown is the "current service level gap"--the difference between projected discretionary revenue and 2008 level plus 3% inflation--but not more than half of projected reserve balance.</i>													
Drawdown of Reserves			14	45	24	-	-						
Cumulative Drawdown			14	59	83								

Counterfactual Scenario - What if 25% Revenue Stabilization Reserve Had Been in Place in 2008?													
Transit Operating Fund (all figures in \$ million)													
Reserve Replenishment:													
<i>Beginning in 2012, there is no longer a gap between projected discretionary revenue and the actual 2008 discretionary revenue plus 3% inflation. Assume replenishment begins within 2 years.</i>													
<i>Once replenishment begins, assume a minimum replenishment amount with two components: (1) repayment of cumulative drawdown over five-year schedule, plus</i>													
<i>(2) 25% of incremental growth in discretionary revenue, to keep up with a growing reserve target.</i>													
	2007	2008	2009	2010	2011	2012	2013	2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019
Repayment of Cumulative Drawdown	\$ -	\$ -						\$ 16	\$ 16	\$ 16	\$ 16	\$ 16	\$ -
Keep Up with Growth in Disc. Revenue	7	14						9	9	3	3	3	8
Minimum Replenishment	\$ 7	\$ 14						\$ 25	24	19	19	19	8
<i>In addition to the planned minimum replenishment each year, opportunities for replenishment arise when the Operating Fund balance ends the year higher than projected. This counterfactual scenario assumes that all of the unexpected beginning fund balance in 2015 (that is, actual minus budgeted) is committed to reserve replenishment. Fund balance is not an ongoing discretionary revenue, so taking advantage of "good surprises" to replenish the asset used to deal with "bad surprises" does not reduce the revenue available for ongoing service commitments.</i>													
Beginning Fund Balance - Forecast Variance (actual minus budgeted)									34				
Total Reserve Additions	7	14						25	58	19	19	19	8
<i>The replenishment period ends when the actual reserve balance regains the level called for in the policy--25% of discretionary revenue. After that, additions to reserves are only needed to keep up with growth in discretionary revenue each year. In this scenario, the reserve balance catches up to the policy level achieved in 2018, five years after beginning the replenishment.</i>													
	2007	2008	2009	2010	2011	2012	2013	2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019
Reserve Balance:													
Ending Reserve Balance	93	107	93	48	24	24	24	49	107	126	144	164	172
Policy Target - 25% of Disc. Revenue	93	107	114	114	110	118	133	142	152	155	158	164	172
Reserve Additions Still Needed						94	109	93	45	29	14	0	0
	2007	2008	2009	2010	2011	2012	2013	2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019
Summary - Impact of Reserve Use:													
Actual Discretionary Revenue	427	458	457	441	472	531	568	606	620	633	655	688	720
Adjusted Discretionary Revenue	420	444	471	485	496	531	568	581	596	614	636	669	712
Difference	(7)	(14)	14	45	24	-	-	(25)	(24)	(19)	(19)	(19)	(8)
Year-to-Year % Change:													
Actual Discretionary Revenue		7.2%	0.0%	-3.6%	7.0%	12.6%	6.9%	6.8%	2.3%	2.1%	3.5%	5.0%	4.7%
Adjusted Discretionary Revenue (counterfactual)		5.6%	6.2%	3.0%	2.1%	7.1%	6.9%	2.4%	2.5%	3.1%	3.6%	5.1%	6.5%

RFRF Basic Forecast Data (\$ million), 2015-2025											
<i>Revenue:</i>	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total Sales Tax (0.9%)	497	521	546	571	596	620	644	670	697	725	754
Total Capital Sales Tax (0.2%) Current Policy	87	91	95	99	100	105	109	113	117	122	127
Debt Service	15	15	15	15	4	6	6	6	6	6	6
Capital Sales Tax after Debt Svc	71	75	80	84	96	99	103	107	112	117	121
<i>Demand:</i>											
Gross Fleet Purchase Cost	138	284	27	8	41	91	59	34	135	217	75
Trade-in Value	(1)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(1)
Grants	(21)	(71)	(15)	(3)	(20)	(52)	(30)	(16)	(49)	(24)	(12)
Net Fleet Purchase Cost	116	213	12	4	21	39	29	18	86	191	62
RFRF Basic Forecast Data (\$ million), 2026-2035											
<i>Revenue:</i>	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
Total Sales Tax (0.9%)	785	817	850	884	920	957	996	1,036	1,078	1,122	
Total Capital Sales Tax (0.2%) Current Policy	132	137	143	149	155	160	167	174	181	187	
Debt Service	6	6	6	6	6	4	4	4	4	1	
Capital Sales Tax after Debt Svc	127	132	137	143	149	157	163	170	177	186	
<i>Demand:</i>											
Gross Fleet Purchase Cost	151	60	292	122	205	265	72	90	21	227	
Trade-in Value	(1)	(1)	(0)	(1)	(1)	(1)	(0)	(0)	(0)	(0)	
Grants	(12)	(12)	(12)	(12)	(12)	(12)	(12)	(24)	(11)	(13)	
Net Fleet Purchase Cost	138	47	280	109	191	252	59	65	9	214	

Peak Smoothing Based on Sales Tax (\$ million), 2015-2025											
<i>RFRF % of Total Sales Tax:</i>											
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total Transit Sales Tax (0.9%)	497	521	546	571	596	620	644	670	697	725	754
Assumed RFRF % of Sales Tax	12.00%										
Sales Tax to RFRF	60	63	66	69	72	74	77	80	84	87	91
Net Fleet Purchase Cost	(116)	(213)	(12)	(4)	(21)	(39)	(29)	(18)	(86)	(191)	(62)
Annual Surplus/(Draw)	(57)	(151)	53	64	51	35	48	63	(2)	(104)	29
<i>Hypothetical Cash Flow:</i>											
		2017	2018	2019	2020	2021	2022	2023	2024	2025	
<i>Assumed Investment Interest Rate</i>		1.20%	1.92%	2.55%	3.05%	3.42%	3.69%	3.90%	3.90%	4.00%	
Beginning Balance		28	82	148	204	245	303	378	390	299	
Sales Tax - RFRF Share		66	69	72	74	77	80	84	87	91	
Interest Earnings		1	2	4	7	9	12	15	13	13	
Net Fleet Purchase Cost		(12)	(4)	(21)	(39)	(29)	(18)	(86)	(191)	(62)	
Ending Balance		82	148	204	245	303	378	390	299	340	
Lowest Forecast Balance (\$ million)	3	in 2031									
0.2% Sales Tax Avail for Other Cap	Avg \$33 m		14	15	24	25	26	27	28	30	31
RFRF Sales Tax above Current Projections			35	42	33	21	32	43	(1)	(30)	16
Peak Smoothing Based on Sales Tax (\$ million), 2026-2035											
<i>RFRF % of Total Sales Tax:</i>											
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
Total Transit Sales Tax (0.9%)	785	817	850	884	920	957	996	1,036	1,078	1,122	
Assumed RFRF % of Sales Tax	12.00%										
Sales Tax to RFRF	94	98	102	106	110	115	120	124	129	135	
Net Fleet Purchase Cost	(138)	(47)	(280)	(109)	(191)	(252)	(59)	(65)	(9)	(214)	
Annual Surplus/(Draw)	(44)	51	(178)	(3)	(81)	(137)	60	59	120	(79)	
<i>Hypothetical Cash Flow:</i>											
<i>Assumed Investment Interest Rate</i>		4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Beginning Balance		340	309	373	206	212	138	3	64	127	255
Sales Tax - RFRF Share		94	98	102	106	110	115	120	124	129	135
Interest Earnings		13	13	11	8	7	3	1	4	7	9
Net Fleet Purchase Cost		(138)	(47)	(280)	(109)	(191)	(252)	(59)	(65)	(9)	(214)
Ending Balance		309	373	206	212	138	3	64	127	255	185
Lowest Forecast Balance (\$ million)	3	in 2031									
0.2% Sales Tax Avail for Other Cap	Avg \$33 m		32	34	35	37	39	42	43	45	47
RFRF Sales Tax above Current Projections			(32)	34	(35)	(10)	(39)	(42)	47	52	98

Current Policy, Assuming Ending Balance = 30% of Funded Value (\$ million), 2015-2025											
<i>Based on Current Model plus Assumed</i>											
<i>Balancing Adjustments after 2023</i>											
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Sales Tax	71	75	31	27	38	53	46	37	84	117	75
Transfers from Operating	0	94	0	0	0	0	0	0	0	44	0
Total Sales Tax and Oper Transfers	71	169	31	27	38	53	46	37	84	161	75
Peak Use of ST & Oper Transfers	228 in 2028										
Ending Balance	71	28	47	71	92	110	133	160	168	147	167
0.2% Sales Tax Avail for Other Cap Avg \$45 m	0	0	49	57	58	46	58	70	28	0	47
Current Policy, Assuming Ending Balance = 30% of Funded Value (\$ million), 2026-2035											
<i>Based on Current Model plus Assumed</i>											
<i>Balancing Adjustments after 2023</i>											
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
Sales Tax	127	64	137	116	149	157	72	72	31	175	
Transfers from Operating	1	0	91	0	22	54	(0)	(0)	(0)	(0)	
Total Sales Tax and Oper Transfers	1	0	91	0	22	54	(0)	(0)	(0)	(0)	
Peak Use of ST & Oper Transfers	228 in 2028										
Ending Balance	166	194	153	166	152	117	134	149	180	152	
0.2% Sales Tax Avail for Other Cap Avg \$45 m	0	68	0	27	0	0	91	98	145	11	