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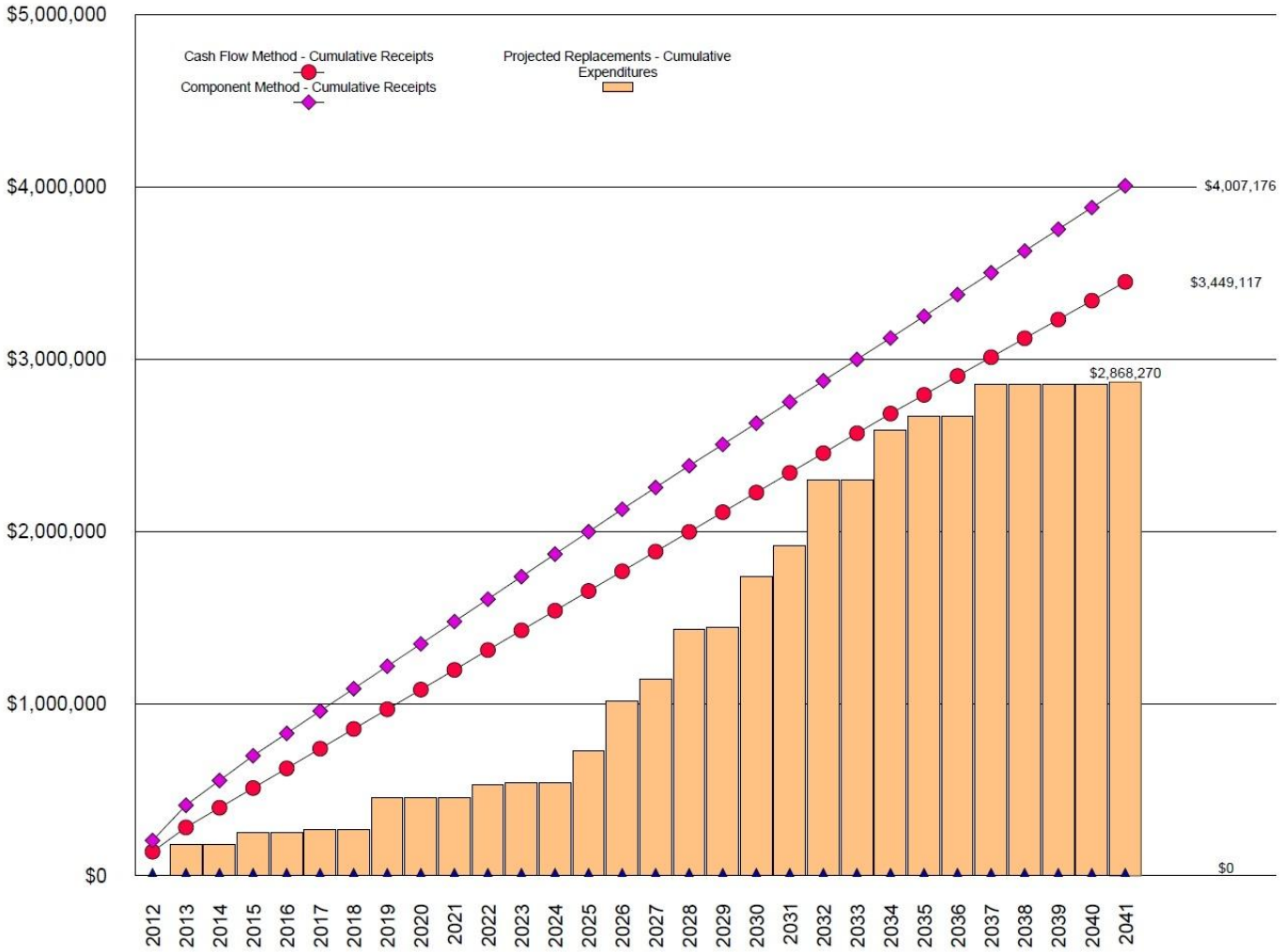

CUTTING THROUGH THE FOG

Cash Flow vs Component
Understanding Different Methodologies

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CUTTING THROUGH THE FOG

CASH FLOW vs COMPONENT
UNDERSTANDING DIFFERENT METHODOLOGIES

Peter B. Miller, Architect, RS

Many Association Board members and community management professionals are still faced with confusion when considering the two primary methods for properly calculating a community's Replacement Reserve Fund needs. Should you be using the Cash Flow Funding and Component Funding calculation method for your Association? Unfortunately, there is little agreement, even among industry professionals, as to which is better or which is "safer". Also contributing to that confusion is the fact that there are conflicts between some state legislation and IRS guidelines regarding which items can be included in the Reserve Study inventory. Ultimately, whether you use one or the other should be determined after discussion with your accounting professional and legal advisor. Discussion of the different state statutes will be reserved for a later article.

The purpose of this article is to cut through at least some of this fog of confusion, and to examine the fundamental differences in the two methods by which Reserve Studies are calculated. This discussion should start with an examination of the basis nomenclature, and then move on to the root differences between the two calculation methods.

DIFFERENCES IN NOMENCLATURE AND BACKGROUND

Reserve Funds and Studies: The funds accumulated to pay for the replacement of commonly-owned elements in a community association are commonly referred to *"Replacement Reserve Funds"*. They are also called *"Capital Reserves"*, *"Depreciation Reserves",* or just *"Reserves"*. Consequently, the process of analyzing the Reserve requirements is called a *"Replacement Reserve Study"*, *"Capital Reserve Study"*, *"Depreciation Analysis*" or just *"Reserve Study"*. All of these terms refer to the same process by which the need for a specific level of monetary funding for future Reserve expenditures is determined. For the purpose of this article, we will refer to these funds simply as *"Reserve Funds"* and to these studies as "Reserve Studies".

Background: Why Two Methods of Calculating? In the infancy of modern community association living, if Reserve Studies were done at all, the task typically fell to the management professionals to perform on their own. Some of these early Studies were as rudimentary as setting aside a percentage of the association dues. Some simply propagated the funding level set by the Developer. Many associations simply went for years without Reserve Funding and were forced to rely on Special Assessments to pay for un-funded capital replacements. Although somewhat anecdotal, one of the first formal methods of calculating Reserve funding reportedly had its inception in the Department of Housing and Urban Development. This

calculation method called for specific monies to be set aside for each specific commonly-owned component. There was undoubtedly some logic to not co-mingle "roof" funds with "paving" funds in HUD-financed multi-family projects. Each fund had to stand alone to insure "full" funding. Funding was also based a simple calculation, i.e., a roof which lasts 20 years and costs $20,000 requires a $1,000 annual contribution to the Reserves for that component.

Component Funding Method: The HUD model became the basis for what is now known as the "*Component Funding Method"* (sometimes referred to as the "*Full Funding Method")*. Under this method, each component category is treated as its own "line item" budget, and must be fully funded according to its remaining useful life. Therefore, a roof that lasts 20 years and costs $20,000 should be funded at the level of $5,000 after 5 years, $10,000 after 10 years, etc.

Over the years, however, many community associations came to realize that the application of the *Component Funding Method* principal had some hidden drawbacks in this seemingly simple mathematical model. The primary drawback is the "catch-up" effect funding for older items. What if the roof in the example above is 10 years old and has no funding. Then $2,000 per year, not $1,000, is required to "fully fund" the roof by year 20. If the roof only has 5 year of remaining life, then $4,000 per year is required.

This acceleration of funding has the result of increasing the annual contributions to the point of being financially burdensome. This burden is especially pronounced in older, under-funded communities which have responsibility for numerous older items in their inventory of components which are not fully funded. In these communities, the accelerated funding requirements can be financially devastating.

A related drawback, as this article will illustrate, is the effect of carrying an unused and sometimes very large balance in the Reserves. Due to statutory restrictions on investment vehicles, this large balance, more often than not, would draw minimal bank interest.

The reaction to the Component Method among Community Managers and community association board members was eventually to question whether there wasn't some "better" method by which to determine proper Reserve Funding levels. Perhaps another method of calculation that would ensure that the fund balance simply did not "drop below zero", and one that hopefully did not require such large front-end "catch-up" contributions.

Cash Flow Funding Method: This industry reaction led to the eventual development of the *"Cash Flow Funding Method"* as a formal and accepted methodology for calculating required funding levels. (Please note that some State statutes currently make the use of the Cash Flow Funding Method problematic. So check with your accounting professional to be certain.)

As hoped, this new *Cash Flow Funding Method* provides for adequate Reserves without the requirement of carrying a large unused balance, thus reducing the annual contributions to the Reserve fund. Under the *Cash Flow Funding Method*, the Reserve Fund is established as an

aggregate “pool” of funds with no individual line item budgets. Funds are set aside to adequately cover all Reserve expenditures included within this pool so that the Reserve Fund balance never drops below a pre-determined “Threshold”.

DIFFERENCES IN METHODOLOGIES

***“Component Funding”* versus *“Cash Flow Funding”*:** It is important to understand that both methods use exactly the same data, i.e., an identical “inventory” of commonly-owned components for which the community association is required to set aside Reserve Funds, the same replacement costs and the same replacement years. As we examine the two methods of calculation, we see that the difference arises not from the data, but rather from the mathematical model used to calculate the necessary funding contributions for those replacements. For the purpose of this article, we will refer to these two methods as the *“Component Funding Method”* and the *“Cash Flow Funding Method”*.

Table 1 and Table 2 illustrate simple examples of each mathematical model. Using these Tables, it is easy to compare the mechanics of each method so that the basic differences can be understood. In this exercise, we assume that four hypothetical replacements, costing $12,000 each, are scheduled on a four year interval. One of these replacements occurs in each of four buildings and the replacements are staggered so that one building is done each year.

Again, it is important to note that for each of these calculation methods, the Inventory of Components and replacement timing are identical.

COMPONENT FUNDING METHOD

The *Component Funding Method* is predicated on the principal that each item in the Inventory of Components is based on the Principal of "individual line item budgets". Under this method, monies set aside for one component cannot be used to pay for a different component. ***The essential goal of the Component Funding Method is to individually fund each line item budget so that each item is fully funded by the time that item requires replacement.***

Table 1: Component Funding Method (based on the Principal of Line Item Budgets)

	COST/	Yr. 1	Yr. 2	Yr. 3	Yr. 4		
ITEM	(in $1,000s)						
Bldg. 1	$12	12	3	3	3	21	
Bldg. 2	$12	6	6	3	3	18	
Bldg. 3	$12	4	4	4	3	15	
Bldg. 4	$12	3	3	3	3	12	
	Yearly Total	$25	$16	$13	$12	**$66**	**Grand Total**

Explanation: Both examples assume four buildings, each with a $12,000 recurring expenditure staggered every four years, and for the sake of simplicity, both examples assume $0 starting balance, with no interest or inflation.

Building 1 is scheduled for a $12k replacement in Year 1. Therefore, the Year 1 contribution to this item is $12k, since this line item has to be "fully funded" in Year. Reserve contributions for Building 1 for Years 2, 3 and 4 are $3k each so that the next $12k is available by the time that the next replacement would take place for Building 1 in Year 5.

Building 2 is scheduled for a $12k replacement in Year 2. Therefore, the contributions for Years 1 and 2 are $6k each year, since there are just two years left before the line item has to be "fully funded". Subsequent years would require a $3k annual contribution for the next scheduled $12k Building 2 replacement in four years (Year 6).

Building 3 is scheduled for a $12k replacement in Year 3. Therefore, the contributions for Years 1, 2 and 3 are $4k each year, again since there are just three years left before this line item has to be fully funded. Subsequent years would require a $3k contribution for the next scheduled Building 3 replacement in four years (Year 7).

Building 4 is scheduled for a $12k replacement in Year 4. Therefore, the contributions for Years 1, 2, 3 and 4 are $3k each year, since there is a full cycle of four years before this line item has

to be fully funded. Subsequent years would all require a $3k contribution for the next scheduled Building 4 replacement (Year 8).

The mathematical principal behind the *Component Method*, as illustrated in Table 1, is logical, and easy to understand on the surface. Yet, if we examine the Yearly Totals and the Grand Total and compare those to the $12k annual expenditure, we observe that $25k was contributed in Year One, $16k in Year Two, $13k in Year Three and $12k in Year Four. In total, $66k was been contributed over the initial four year period. This is 37.5% more than the actual $48k that was required for the four expenditures. We see, therefore, that it is the initial "catch-up period" (that period until each of the under-funded component items have been replaced) that presents a drawback to this methodology. (Incidentally, this unused balance of $18k will carry forward indefinitely, or until the next Reserve Study Update adjusts for current balances.)

Drawback – The Catch-Up Period: The example above assumes a 4-year life and a 3-year initial catch-up period for the 4 sample components. In reality, however, this "initial period" may extend 15 or 20 years or longer, since most associations deal with real commonly-owned components such as roofs, siding, sidewalks, and asphalt. While this "accelerated funding" effect typically tapers off as shorter-lived items are fully funded and replaced, the unused balances that are generated can be surprisingly large. In all examples using the *Component Method*, the initial "catch-up period" will always require an accelerated reserve contribution for any component that have a remaining life of less than a full funding cycle. The one exception to this accelerated funding effect is a community where each individual component has been adequately funded from the day that it was installed!

It is vitally important to understand that the older and the less funded a particular component (or group of components) is, the greater the acceleration of Reserve funding that will be required. This sometimes excessive level of Reserve funding results in many communities "under-funding" their Reserves. When this under-funding of Reserves is done on an intentional basis, it is referred to as *Proportional Funding*.

Proportional Funding is a term that applies only when using the *Component Method* of calculation. "Proportional Funding" describes any Reserve Funding condition which represents less than 100% "full funding". This term is also applied where the "reserve balance" is less than "fully funded" when compared to the "Current Objective", or where the annual level of the Annual Contributions to Reserves are less than that recommended using the *Component Method*. For example, if the recommended Reserve Fund Current Objective is projected to be $100,000, but the Reserve Fund Balance is only $60,000, then the Reserve Fund is 60% funded. Likewise, if the recommended annual contribution to Reserves is supposed to be $10,000, but only $6,000 is being contributed, then the Reserves are being funded at the 60% level. The reader should familiarize themselves with the term "Funding Objective" and "Accrued Fund Balance" contained the GAP Report #24 and other literature.

The practice of assigning a “proportional” or “Percentage” value to a Reserve Fund may be of limited benefit, at best, as a snapshot of the current status of the Reserves. At worst, this may actually be misleading in that the correlations drawn between “proportion funded” and the eventual need for special assessments. While well intentioned, is less than scientific in that it examines only a small sampling of the market. Proportional Funding should be analyzed against the Cash Flow Method. As we can see in the above Examples, the $12k first year funding, which is adequate under the Cash Flow Method, is only 48% funded under the Component Method.

CASH FLOW METHOD

The *Cash Flow Funding Method* is predicated on the principal that an "aggregate pool" of funds exists into which monies are paid, and from which the Reserves are drawn when needed. This is different from the *Component Funding Method* where each component has its own "line item budget". Remember, Cash Flow Funding Method uses the identical inventory of components as the Component Funding Method. Under the Cash Flow Funding Method, monies are not segregated nor designated to individual inventory items. ***The essential goal of the Cash Flow Funding Method is to make sure that funds are contributed so that the aggregated pool is sufficient to pay for all replacements over time.***

Table 2: Cash Flow Funding Method (based on the Principal of Aggregate Pool of Funds)

	COST/	Yr. 1	Yr. 2	Yr. 3	Yr. 4	
ITEM	($1,000)					
Bldg. 1	$12	3	3	3	3	12
Bldg. 2	$12	3	3	3	3	12
Bldg. 3	$12	3	3	3	3	12
Bldg. 4	$12	3	3	3	3	12
	Yearly Total	$12	$12	$12	$12	$48

Explanation: Again, both examples assume four buildings, a staggered $12,000 recurring expenditure every four years, and $0 starting balance, with no interest or inflation.

Building 1 is scheduled for a $12k replacement in Year 1. However, in this example, the Building 1 expenditure is funded out of the entire "pool" of Reserve funds available for Year One. As we can see, the Year I pool of funds of $12k would be adequate to "fully fund" this $12k expenditure.

Building 2 is scheduled for a $12k replacement in Year 2. Again, in this example, the Building 2 expenditure is funded out of the entire "pool" of Reserve funds. And again we can see, the Year 2 pool of funds of $12k would be adequate to "fully fund" this $12k expenditure.

Likewise, the Building 3 and Building 4 are scheduled for a $12k replacement in Year 3 and Year 4 respectively. These expenditures are each funded out of the available $12k "pool" of Year 3 and Year 4 Reserve funds.

The mathematical principal behind the *Cash Flow Method* as illustrated in Table 2 is logical, straightforward, and easy to understand. However, if one is used to working with the *Component Funding Method*, this paradigm shift is not easy. One must re-orient their thinking away from "line item budgets" and think instead about "monetary pools" that include funding for all component items included in the inventory.

If we examine the Annual Totals and Grand total in the Cash Flow Method example, we find that we have provided $12k per year, $48k total in funding for $48k in expenditures. The *Cash Flow Funding Method*, therefore, gives us a much closer relationship between funding and expenditures. This closer correlation between the funding and the expenditures offered by the *Cash Flow Funding Method*, however, presents both benefits and potential pitfalls. The benefit is that there are no large and unused balances as there is with the *Component Funding Method*. Therefore, annual contributions to the Reserve Fund are lower. The potential pitfall is that there is less of a margin of error. Funding projections can become inadequate over time if replacement costs and remaining life are not regularly updated. In response to this potentially troublesome occurrence, the industry has responded with the practice of using a "Threshold".

Threshold Cash Flow As the use of the Cash Flow Method became more widespread, Reserve Study providers, in consultation with accounting professionals, modified their practices away from the zero or "baseline" cash flow calculation. In order to avoid cutting the margins too close, most practitioners currently utilize a "Cash Flow Threshold". This threshold is a minimum balance below which the Reserves will not decrease. In other words, rather than calculating the annual amount that is needed so that the funds do not drop below "zero", the calculations are now computed so that the Reserve Fund balance do not decrease below a predetermined amount, or "Threshold". This Threshold may be an amount dictated by the Board, or may be based on an amount recommended by the Reserve Study provider.

OTHER VARIABLES

There are other considerations that have an impact on the Reserve Study, aside from the basic choice between Cash Flow and Component Method. Many of these relate to what items are to be included in the Inventory of Components, and how they are "modeled". The Association's documents will answer the obvious questions regarding common elements, limited common elements, and so on. However, many other issues need to be considered during the financial modeling of the Study. Some issues are simply practical considerations as to whether a specific component is best treated as a "maintenance" item or a "capital reserve" item. Other considerations involve how the individual Reserve Specialist treats different items in the financial modeling. Below is a short list of variables which each Reserve provider may consider during their deliberations of each of the different Inventory items. This list is by no means inclusive of all the possible considerations.

- Is a component entirely replaced or is an incremental replacement more appropriate? Examples may include concrete sidewalks and curbs, and repointing masonry.
- Is a component replaced on a cyclical basis and therefore should be included on a smaller, more frequent basis?
- Is a component Item relatively small and more appropriately handled in a maintenance budget?
- Is a component, such as wooden siding and trim, typically replaced as part of the painting contract and therefore does not need to be included in the Reserve Inventory?

Analysts' Discretion: In addition to those considerations listed above, other questions need to be addressed such as the predetermined dollar level of the Threshold, or the percentages to be used in calculating interest and inflation factors. While many of these considerations are at the discretion of the Reserve Specialist, all should be disclosed in the Study and should be included only with the informed consent of the Association's representatives.

CONCLUSION

The formal practice of Reserve Studies has advanced greatly over the last 20 years. Industry practices have become more standardized, especially since the Community Associations Institute's development and adoption of the National Reserve Study Standards in 1998. The challenge now facing the Reserve Study practitioners, management professionals, and by the Associations they serve, is to continue to push for wider understanding and implementation of CAI's National Standards. By necessity, this will eventually include the larger tasks of bringing IRS Guidelines and state laws into step with currently accepted industry best practices.

The Association Board members and management professionals have the opportunity, and the responsibility, to become better informed regarding Reserve Study practices. But ultimately they will have to depend on the professionalism of their Reserve Study providers. For this reason, it is important that Associations and managers insist on providers who have earned the *Reserve Specialist* (RS) designation. *Reserve Specialists* have demonstrated the requisite background qualifications and experience, and have pledged to uphold both the professional quality and the ethical standards that Associations expect and deserve.

For more information regarding Reserve Studies, please refer to the publications listed below, or direct your questions to CAI through your State or local Chapter representative.

Note to the reader: Many of the technical terms and procedures involving Reserve Funds and Reserve Studies are also presented in the Community Associations Institute's *GUIDE FOR ASSOCIATION PRACTITIONERS, (GAP) Report #24,* and CAI's *"BEST PRACTICES – RESERVE STUDIES/MANAGEMENT."* The latter is available as a PDF download from the www.caionline.org website. Florida readers should also read *"RESERVES, DEFERRED MAINTENANCE AND CAPITAL EXPENDITURES"*, published by Gray Systems Incorporated. This explains in detail the specific requirements for Florida community associations.

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A frequent author and lecturer on the subject of Capital Reserves, Mr. Miller has earned the professional designation of Reserve Specialist (RS). He was the 2004 President of the Washington Metropolitan Chapter of CAI and has also served on the Board of Directors of the South Carolina CAI Chapter. In additional, he recently served as Vice-Chair of the CAI National Reserves Committee, and in that capacity, maintained a chair on the CAI National Ethics and Credentialing Committees. Mr. Miller was the 2002-2003 Recipient of CAI National's "Award for Excellence in Chapter Leadership", and was one of the recipients of the 2004 President's Award for his work on the CAI Governance Taskforce.

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Capital Replacement Reserve Study
Video Answers to Frequently Asked Questions

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Who are we?

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What kind of property uses a Reserve Study?
Who are our clients?

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Who conducts a Reserve Study?
Reserve Specialist (RS) what does this mean?

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When should a Reserve Study be updated?
What are the different types of Reserve Studies?

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What is in a Reserve Study and what is out?
Improvement vs Component, is there a difference?

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What is my role as a Community Manager?
Will the report help me explain Reserves to my clients?

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What is my role as a Board Member?
Will a Reserve Study meet my community's needs?

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Community dues, how can a Reserve Study help?
Will a study help keep my property competitive?

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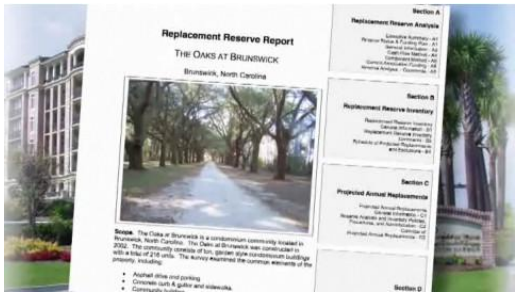
How do I read the report?
Will I have a say in what the report contains?



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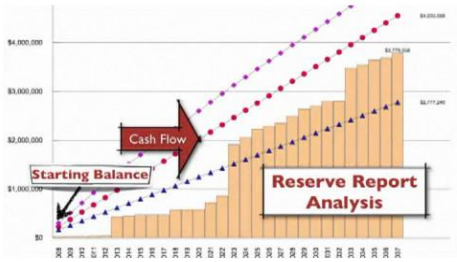
Where do the numbers come from?
Cumulative expenditures and funding, what?



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How are interest and inflation addressed?
What should we look at when considering inflation?

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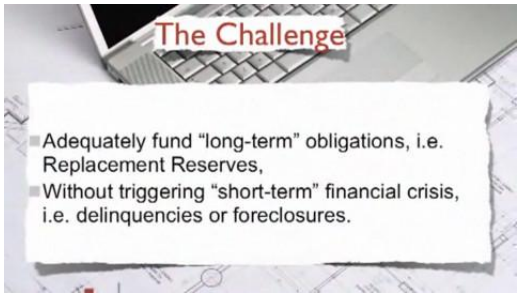
A community needs more help, where do we go?
What is a Strategic Funding Plan?



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