

Using *Capital Plan*

Introduction

Capital expenses are one of the least well-understood parts of establishing a budget. Annual expenses, which are sometimes referred to as an *operating budget* are predictable and can be easily tracked with a spreadsheet or other straightforward tools. Where things get more complicated are long-lived assets that don't need replacement often – but when they do, they tend to be expensive. Ensuring that there are adequate funds to cover these costs is where Capital Plan comes in.

It could be a car, a roof, or an appliance for an individual. It could be periodic maintenance or a replacement schedule for major assets in a condo association. Either way, you need to know how much to set aside each year in savings – typically referred to in an association as the capital reserve – in order to meet your long-term obligations.

There's a reason why community associations are required to do periodic reserve studies to protect their owners, but these depend on accurate and up-to-date information. Capital Plan acts like an ongoing study, making it easy to stay up to date and understand the impact of updated estimates, proposed new expenses, and the inevitable surprise that life brings all of us.

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Basics: **High Level Tour**

Capital Plan is a document-based application that organizes a complete capital expense budget into a single file. You can always rely on undo to reverse an unintentional change, and the app fully supports reverting to earlier document revisions using the File menu's Revert To submenu to invoke Time Machine.

Each budget consists of several functional areas separated into tabs:

- The initial **Expenses** list is where you create and review assets or tasks, their schedule for replacement or completion, and their estimated cost.
- **Forecast** visualizes the expenses in each of the budgeted years, graphically illustrating the cost for each established expense category as well as their total cost for the year.
- **Cash Flow** provides a tabular look at each budgeted year below a graph that visualizes a key data point over time: percent funded.¹ This will typically be used to experiment with different funding levels.
- **Funding** illustrates what annual funding is required, not to cover the expenses of a specific year, but for the long haul. The total suggested amount is displayed and broken down by category.
- **Assumptions** configure the budget period, effective rates, and other pertinent information specific to a particular budget.

Each tab will be covered in depth in the pages that follow this overview.

Getting Started

Start by entering any expenses you know about, as everything else the app does depends on having expenses defined. Consider starting with just a few until you're familiar with the app.

If you have a lot of expenses to track and are comfortable with spreadsheets, consider reviewing *Importing and Exporting Expenses* under the *Expenses* section below. This can be a great way to hit the ground running with a comprehensive list of expenses.

Next, review the *Assumptions* tab to set key parameters that affect your budget. At a minimum you should ensure that inflation rate, interest rate, and interest tax rate are set to reasonable values.

Condo Tip: For condo associations, using a recent reserve study is the natural place to get started.

¹ Percent funded is an important measure that is often poorly understood. See the *% Funded Explained* subheading in the *Cash Flow* section for an explanation.

Capital Plan is a Subscription Product

Capital Plan is free to download and explore as a limited trial. To use it as intended requires an annual subscription that determines which features are available. Complex documents created at higher subscription tiers will open in view-only mode if required features are not included in the current subscription tier.

Features that are only available at a specific subscription tier are indicated in the manual with one of these markers: **only in Plus and Complete** or **only in Complete**. The **Basic** tier limits the total number of recurring expenses that can be defined, and higher tiers allow for longer-range forecasting.

Subscription tiers and their features are fully documented within the application. Select the **Capital Plan > Subscriptions...** menu item to review features and pricing for each of the available tiers.

Important Reminder: Financial Forecasting is an Educated Guess

Don't let the seemingly precise, definitive answers of *any* financial model fool you into thinking they're a guarantee about the future. There are no guarantees about the future.

Capital Plan takes the information you provide at face value and does its best to give you a forward-looking projection based on that information ... but it's only as accurate as the assumptions you've made in providing a list of expenses, inflation rates, and so on. The resulting estimates do not constitute financial advice and should never be relied upon as the sole basis for making decisions.

That's not to downplay the value of this kind of forecasting exercise because it gives you a ballpark estimate to work with. The more you invest in refining your input as you learn more about your ongoing expenses, the more refined the output will be. Take every opportunity to ask vendors for updated cost estimates to keep as current as possible.

Condo Tip: Aside from the value of the forecasting exercise itself and the board of director's responsibility to maintain a healthy financial footing for the community, there's an important secondary aspect of building this model:

Institutional memory.

With changing membership among the board of directors and employees over time, it's extraordinarily valuable to document your history and capture information about your assets. Capital Plan serves triple-duty in record-keeping, project schedule reminders, and forward-looking financial projection.

Community + - X Search Expenses

Expenses Forecast Cash Flow Funding Assumptions

Category: Amenities Name: Fitness center allotment

Cost Estimate: \$10,000.00 + Inflation Year of Estimate: 2022

Per Unit: Total Quantity: 1

Life in Years: 3 Year Last Paid: 2020

Override Next: (Optional) Year of next purchase Sunset After: (Optional) Final year Schedule ▾

Status	Expense	Life	Last Estimate	Total
Due	Amenities Fitness center allotment	3	\$10,000.00	\$10,300.00
Due	Electrical Miscellaneous electrical systems expenditures	5	\$150.00 × 25	\$3,862.50
Due	Exterior Building envelope inspection using swing stage or Boson'...	5	\$18,000.00	\$18,540.00
Due	Exterior Re-stain and re-finish wood rail caps	5	\$15,000.00	\$15,450.00
Due	Exterior Replace urethane caulking around windows and at con...	10	\$16.90 × 3,400 ft	\$59,183.80
Due	Fire Safety Dry system fire sprinkler air compressor replacement	15	\$1,500.00	\$1,545.00
Due	HVAC Replace HVAC system software and management equipme...	10	\$4,000.00	\$4,120.00

The Expenses Tab

Each expense has its own row in the expenses table, whether it's a physical asset to be replaced or a maintenance schedule for a durable asset. New expenses can be added by pressing the **+** button on the toolbar. This will create a new expense and start the editing process. You can also double-click on an existing row to edit it, or select the row and click the **/** button. Selected expenses can be deleted by clicking the **🗑** button, or by pressing the delete key.

Individual expenses are defined by the following values available while editing:

- **Category** is used to group related expenses and can be called anything you like. Terse terms are best, and an array of suggestions has been provided.
- (Required) **Name** is the brief descriptive phrase that serves as a good reminder of what the expense represents.
- (Required) **Cost Estimate**, **Quantity**, and **Year of Estimate** work together to estimate current and future pricing. The value used for forecasting is Cost Estimate times Quantity. This value is then adjusted for inflation from the Year of Estimate to the year the expense is anticipated. Tax is assumed to be included in the Cost Estimate.
 - ▶ All estimates are inflation-adjusted by default, but a custom inflation rate schedule can also be chosen as an advanced option.
 - ▶ When updating Cost Estimate, remember to update the Year of Estimate.
- (Required) The **Unit** specified doesn't affect how costs are calculated but acts as documentation to help with future quotes or estimates. Available units are **Total**, meaning the estimate is for the whole amount, **Each** for simple multiples of an item, or




a variety of specific measurements ranging from linear feet to 10-foot-by-10-foot roofing squares.

- (Required) **Life in Years** is the amount of time expected between times when this expense comes due, also known as **Useful Life in Years** or **Useful Estimated Life**. This could be the anticipated life of a new asset, or the recommended time between inspections or other routine maintenance tasks tracked as their own expense. The expected lifetime of a physical asset should be somewhat conservative, as the expense can always be deferred if an inspection deems replacement unnecessary.
- (Required) At least one of these two values must be specified in order to schedule expenses:
 - ▶ **Year Last Paid** documents when the asset was last replaced or the task was last completed. Future costs will normally be scheduled starting at Year Last Paid plus Life in Years followed by multiples of Life in Years thereafter.
 - ▶ **Override Next** can be used to change the year an expense is expected from the usual year-last-paid-plus-life-in-years timeframe. This can be used to move the next occurrence of an expense forward or backward in time without changing the normal expected life. It can also be used to schedule an expense for the first time when Year Last Paid is left blank.
 - ▶ Once a Year Last Paid date has been entered that matches or is later than the Override Next Year value, the override will be implicitly ignored.
- (Optional) **Sunset After** can be used to limit the number of expense occurrences. Expenses will only recur until the first payment on or after the sunset year.
 - ▶ The **Schedule** drop-down to the right of the Sunset After field can be used to quickly review when this expense will be paid along with the future cost of each occurrence. Selecting any line from this list will set an appropriate sunset year, but just reviewing the list without setting a sunset year can also be informative.


Once editing expenses is complete, click the ✕ button to dismiss the editor.

Tip: When multiple rows in the Expense table are selected the majority of editing features are disabled. The notable exceptions are the Category and Inflation Rate pickers which can be used to set these values for multiple selected expenses.

Notes and Attachments

When editing expenses, you'll see three icons stacked vertically along the left side of the editing area. The topmost  icon represents basic expense details as described above, while the icons below represent free-form textual notes  and attachments  respectively.

Notes

Notes are a great place to capture additional details about an expense. Everything from purchase history to preferred vendors to warranty information can be entered here. Once an expense has notes associated with it you'll see a  icon on the right edge of the expense table's Name column.

only in Complete Notes can include searchable tags, consisting of a # symbol followed by any combination of alphabetic characters, dashes, and underscores. For example, you could use #review to mark expenses you intend to discuss during a review session and then easily find them using the corresponding tag search feature.

Attachments **only in Complete**

Each expense can have files attached to it in the form of attachments. To add an attachment do one of the following:

- Click the add photo button to browse your photo library and add photos
- Click the add document button to browse your files and find an appropriate attachment. Supported types include images, PDFs, spreadsheets, HTML files, contacts, rich text files, and links to web sites.
- Drag and drop an individual document into the area where attachments are shown.
- Click in the area where attachments are shown and paste an image.

Each addition results in a thumbnail that represents the attachment, with a visual preview for photos. Double-clicking on any thumbnail will open the attachment in an appropriate application.

Attachments can be deleted by selecting their thumbnail and tapping the Delete key or using the Delete menu item under the Edit menu.


Note: Attachments become a part of your budget document. They're intended to be important reminders - not a full filing system for documents. Images will be automatically reduced in size and quality. Other documents are compressed but without loss in quality, so you will see a warning when they exceed 1 MB in size, with an absolute limit of 50 MB per attachment.

Reviewing Existing Expenses


The expense table offers a brief summary for each expense added to the budget:

- The **Status** column is particularly useful. It shows when an expense is **Due** during the first budget year, **Due YYYY** specifying a later year, **Overdue** because it would normally have been scheduled in the past, or **Past Sunset** and no longer contributing to anticipated expenses.

- ▶ Double-checking status when making changes to an expense can be a good way to avoid a variety of mistakes.
- ▶ Overdue entries should be reconciled by either updating their Year Last Paid if they have been addressed, or by using Override Next Year to reschedule them appropriately.

 In cases where an expense is incompletely defined or values contradict one another, the status column will show a warning symbol for its status.

- **Name** identifies the expense and is actually a combination of the expense category [in square brackets] and its name. Icons will appear at the end of this column to indicate when an expense has notes or attachments.
- **Life** shows the expected number of years between occurrences of this expense. When an expense has a Sunset After date its expected life will be followed by an orange sunset icon.
- **Last Estimate** summarizes the Estimated Cost, Unit, and Quantity as appropriate (eg: "\$22.00 x 140 ft²".)

 The presence of this umbrella percentage icon indicates that the expense uses an advanced feature, tracking a custom rate schedule instead of inflation.

- **Total** reflects the Estimated Cost times Quantity, inflation adjusted for the first budget year. This doesn't indicate that an expense falls in this year, it merely serves as a common reference point for apples-to-apples comparisons between expenses, particularly relevant when sorting by this column.

Sorting

The expense table starts out sorted by Status, in descending order of urgency:

- Incomplete or inconsistent expenses marked with a warning symbol. These may represent expenses that cannot be incorporated into the budget schedule, rendering it inaccurate.
- Overdue expenses. These may need to be rescheduled, or they may have been taken care of but not recorded - in which case the budget schedule will be inaccurate.
- Expenses due in the first budget year labeled as "Due" in green, followed by all other budget years in sequence labeled with "Due YYYY" in gray.
- Expenses that have been sunsetted. These are expenses already paid on or after their established sunset year. They no longer represent any anticipated costs and are effectively ignored. They remain for historical reference.

The table can also be sorted by three of the four remaining columns: **Name**, **Life**, or **Total**. The Name column actually sorts by category and then name, conveniently grouping related expenses. The Last Estimate column consists of multiple types of information that have no natural sort order, making the Total column a much more natural way to sort by relative cost.

Click on a column header to sort in ascending order. Click the same column again to flip to descending order. Click on the Status column header to return to the original sort order.

Searching

Type text in the search field to narrow the expense list to those that match. Descriptions of the matching criteria being considered will appear in a list below the search field:

- “Name contains:” always shows up when search text is typed, ensuring that expenses whose names contain the text you type will be shown.
- If category names contain the text typed, “Category is:” will indicate that expenses in the named categories will be shown. To avoid cluttering results, category criteria aren’t included when there are more than two matching categories.
- To see expenses associated with a particular year, type just the year into the field and you’ll also see both “Due in YYYY” and “Last paid in YYYY”.
- **only in Complete** Once you have added tags to expenses, you can find them by typing search text starting with #. “Tagged with:” criteria for all matching tags will be shown.

Expenses matching any of the relevant criteria will be shown.

Click on any one of these suggestions and it becomes required instead, eliminating the other possibilities from consideration. This requirement appears as an item to the left of the search field, and multiple requirements can be added. You can use the delete key or other text editing tools to remove these.

Clear the search field by clicking the ✕ icon at its right edge. This will remove both search text and any required search criteria you have added.

Note: Once a “due in” requirement has been added, this guarantees that the only expenses shown are those due in a specific year. Taking advantage of this, the rightmost column will reflect the expense adjusted by inflation to that year instead of the first budget year. The column heading will be updated to reflect this (eg: “Total in 2029” instead of the usual “Total”).

This doesn’t affect the Status column, which will continue to reflect the first year the expense is due as usual because each expense can be due in multiple years. For example, an expense due in both 2024 and 2030 will show up in searches for expenses due in 2030 – but its status will still show as “Due 2024.”

Importing and Exporting Expenses only in **Plus** and **Complete**

Some or all of a budget's expenses can be exported for use in other applications by selecting the relevant rows in the Expense table, copying the data with the **Edit > Copy ⌘C** menu item, and then pasting the data into an appropriate application. The data is provided in tab separated value format, suitable for pasting into a spreadsheet.

Similarly, tab separated data in either tab-separated or comma-separated form can be imported into a budget by selecting the Expense table and using the **Edit > Paste ⌘V** menu item. A file in this format with a **.tsv** or **.csv** extension can also be dragged into the Expense table to achieve the same goal. The application will attempt to analyze the data to make sense of it but may not always be able to determine what columns are present. Naming columns using the same terminology seen elsewhere in the app will improve your odds.

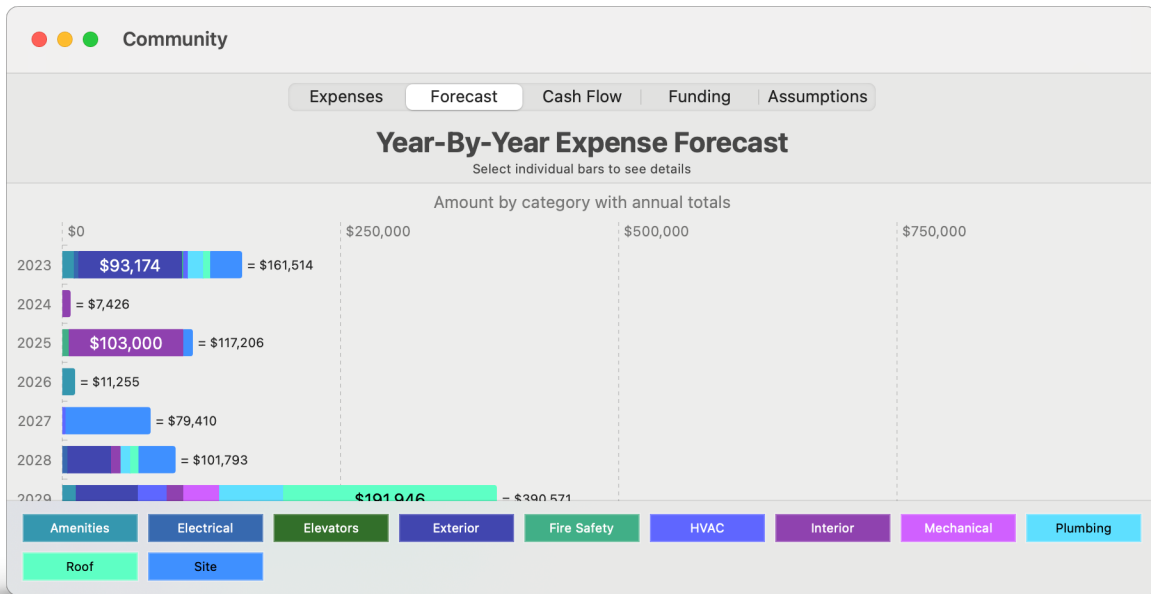
Lastly, the menu items **File > Import CSV/TSV...** and **File > Export TSV...** provide another means for accessing the same functionality. Once exported, tab separated value files can typically be opened directly in spreadsheet applications for further manipulation.

It's worth noting that since copying and pasting use the same textual representation, you can use these features in several creative ways:

- You can copy expenses from one budget and paste them into another.
- You can import professional reserve studies by massaging their data into an appropriate tabular form in a spreadsheet and then copy and paste the data into your budget.
- You can copy expenses and paste them into a text editor or spreadsheet to make changes and then copy and paste them back into your budget. You'll see an ID column with a complex unique value for each expense when copying data out of the app. When pasting expenses into a budget, existing expenses with a matching identity will be replaced. If the ID column is absent or blank the imported expense will be added to those already present.

*Caution: The ability to copy and paste expenses includes only information that can be represented in text. It does **not** include attachments. To enable the final scenario described above, when pasting an updated version of an existing expense, any existing attachments will be automatically preserved.*

It's still worth exercising caution. To avoid loss, don't build the habit of deleting expenses before pasting replacements. If you forget, just use undo to bring the original expense and its attachments back before you quit or manually save.

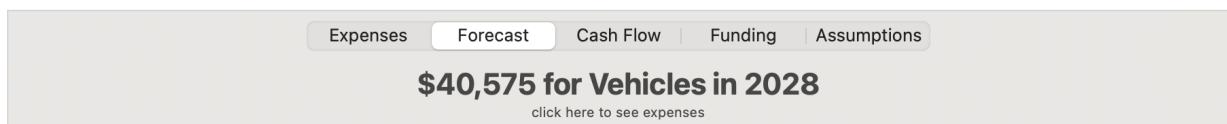


The **Forecast** Tab

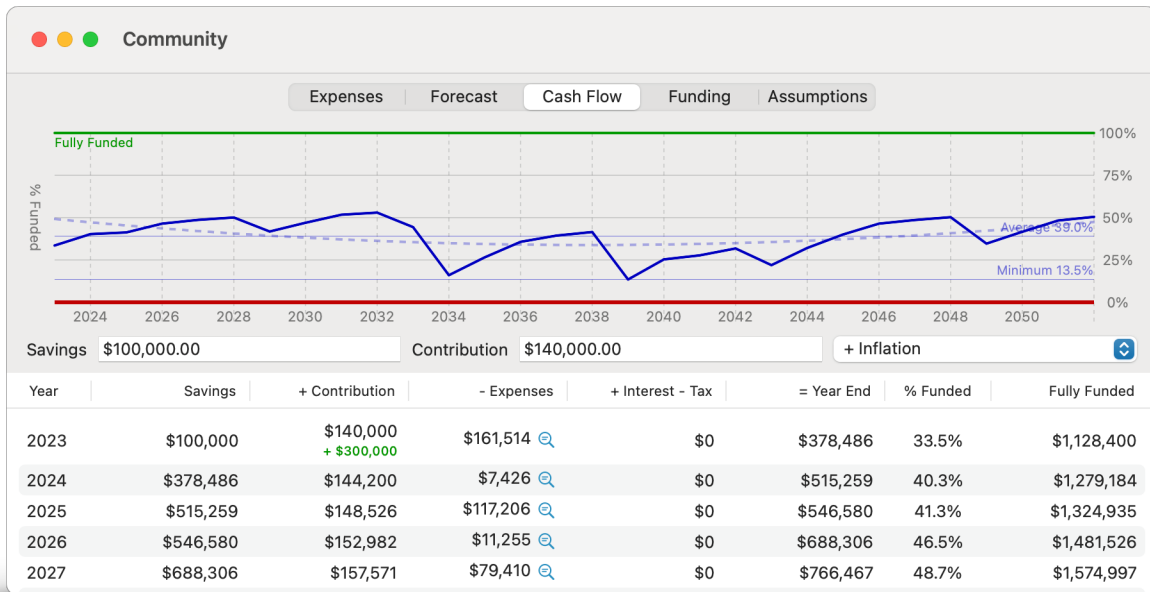
The expense forecast provides an overview of expenses that fall in each year. Stacked colored bars represent different expense categories that fall in that year, and a total for the year will be displayed to the right of the complete set. These values have already been adjusted for inflation from the estimates originally provided.

A typical budget will forecast more years than can be displayed at once, so scroll down to see each year's anticipated expenses.

Longer bars will be labelled with the total cost of the category, and details can be seen by clicking once on any bar. The title text will change to reflect the specific selection, as shown below:



You can click on this summary or double-click on any bar to see the individual expenses that contribute to this figure. The app will switch to the expenses tab and pre-configure the search field to show only related expenses. The Total column in the expense table will automatically change to reflect inflation-adjusted amounts for the year in question.



The Cash Flow Tab

The cash flow analysis for your budget is presented in tabular form below a graph of a key indicator. The table presents the following information:

- **Year** is the calendar year of each forecasted budget year. The first year and the number of years forecasted can be controlled on the Assumptions tab.
- **Savings** is the amount of money you have set aside for tracked expenses at the start of the budget year. This might be a personal savings account, or it could be a condo association's reserves account.
- **Contribution** is the amount of money expected to be added to savings over the course of the year. Establishing savings targets is an essential part of ensuring that there are funds adequate to cover expenses in every year.
- **Expenses** are the total of all expenses that fall in the budget year. These are deducted from savings.
 - To understand where this total comes from see the *Expense Forecast* tab, or click the magnifying glass icon beside the expense total. Clicking this icon will switch to the expenses tab with search pre-configured to show only expenses that contribute to this total. In doing so, the expense tables *Total* column will also reflect inflation-adjusted amounts for the year in question.
- **Interest - Tax** reflects interest earned on savings, compounded monthly, on the average of savings at the start of the year and savings plus contribution less expenses. The interest rate used is defined on the *Assumptions* tab, as is the tax rate which will be automatically deducted from interest earned.

- **Year End** is the amount of savings available to start the subsequent year. This value comes from the year's initial savings, plus contribution, plus interest after tax.
- **% Funded** and **Fully Funded** are closely interrelated. The basic idea is that a fully funded figure represents the amount you should have already saved, assuming steady contributions, in order to be ready to pay every expense when it comes due. The % Funded figure is the fraction of this amount that your year-end savings represents.
 - ▶ If your immediate reaction is "I should always be 100% funded" then you're not alone. That's the obvious answer. It's always safe ... but it's also rarely necessary. See the section on [% Funded Explained](#) below for a more in-depth discussion.

Tip: Savings and Year End figures will be shown in red whenever they're below zero.

Visualizing % Funded

The graph above the cash flow table charts % Funded over time. Any time this graph reaches 0% it means your Year End figure is zero or negative for the corresponding year, so it's a clear indicator that you need to examine your costs and contributions more closely.

When the graph merely approaches zero it can still reflect cash crunch situations where the amount you need during the year to cover expenses has to be covered in part by contributions through the year, a situation that can suggest the need to investigate when in the year these expenses will occur and whether you'll have funds available to cover them.

The lines present on the graph illustrate the following:

- The **Fully Funded** line in green marks the 100% funded level, while **Zero Funds** in red marks the opposite end of the spectrum.
- The prominent solid blue line represents **% Funded** for each year.
- Two faint solid lines represent the **average** and **minimum** % Funded levels.
- The faint dashed blue line is a **% Funded Trend** which can make it easier to see whether your funding level is trending up or down when the actual value bounces around.
 - ▶ For the statisticians in the room, this line is a 2nd-order trend, a polynomial approximation of the underlying data.

% Funded Explained

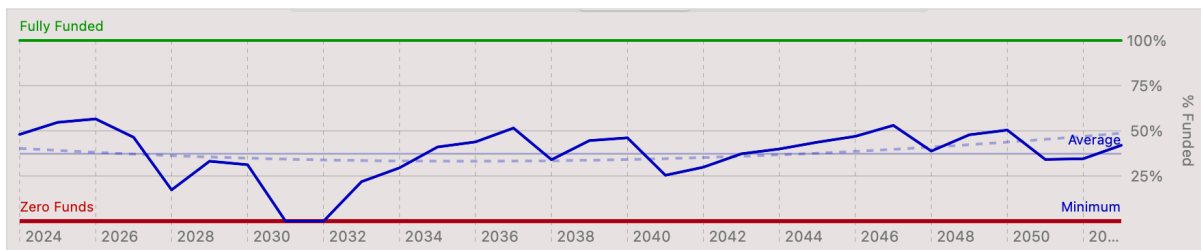
If "fully funded" means you've saved everything needed for every expense by the time it comes due, then isn't 100% funding the only rational course of action? It turns out it's not that simple.

Having 100% of the required funds is really only necessary *when every expense comes due in the same year*. Under most circumstance you'll have some money set aside for expenses that aren't due yet, and it's a time-honored practice to draw from these funds to pay for expenses due today.

This amounts to borrowing from the future.

Isn't that dangerous and unsustainable? Not if properly managed. The good news is we're never going to run out of future. There's always more of it, and there's not even any interest to pay. The trick is ensuring that you're sufficiently funded to deal with the "lumpy" nature of capital expenditures – and that you're not getting progressively further behind until you run out of funds.

Consider the following cash flow graph:



There are three essential variables that impact your cash flow over time. It's important to understand the role each one plays:

- **Savings.** This is what determines your initial % Funded level. One-time adjustments to savings will tend to move the entire graph up or down without changing its overall slope.
- **Contribution.** This determines whether your % Funded tends to get better, worse, or trend roughly flat over the long run. There will always be short-term ups and down any time you're not 100% funded because you're borrowing from the future and then paying it back over time – and trying to correct for this year-by-year with contribution changes is something of a fool's errand.
- **Contribution Increase Rate.** This controls whether the graph tends to follow an exponential curve upward, downward, or follow a straight line. Annual increases that don't keep up with inflation will make the graph curve downward. Matching inflation will keep the general trend on a straight line (which might be diagonally up, down, or flat.) Increases at a rate above inflation will make it curve upward.

So what does this graph tell us?

- A. In this instance we're completely running out of funds around 2031, indicating that our overall funding level is definitely too low to act as an effective shock absorber against years with heavy expenses. Options to address this include a one-time addition to savings, finding a way to control expenses to stay out of the red, or adjusting contributions to attempt to trend upward to a % funding where we never bottom out.
- B. The graph is pretty flat according to the dashed trend line, so it suggests that the annual contribution amount would be sustainable with a higher initial initial savings amount. If it trended down you'd want to increase contributions (or reduce expenses.) If it trended above 100% you'd have an obvious opportunity to cut back on contributions.
- C. The dashed trend line isn't strongly curved, and a quick check confirms that contributions are increasing at a rate matching inflation - which is appropriate for everything except brief periods of time as a tool to increase to contributions.

Condo Tip: It may be tempting to try to make gradual changes to contributions over a series of years, but there's no way for a board to dictate what future boards will do. It often makes more sense to "rip off the band-aid" and make appropriate corrections in a single year to put your finances on a healthy path - if you have high confidence in your expense forecast.

How Much is Enough?

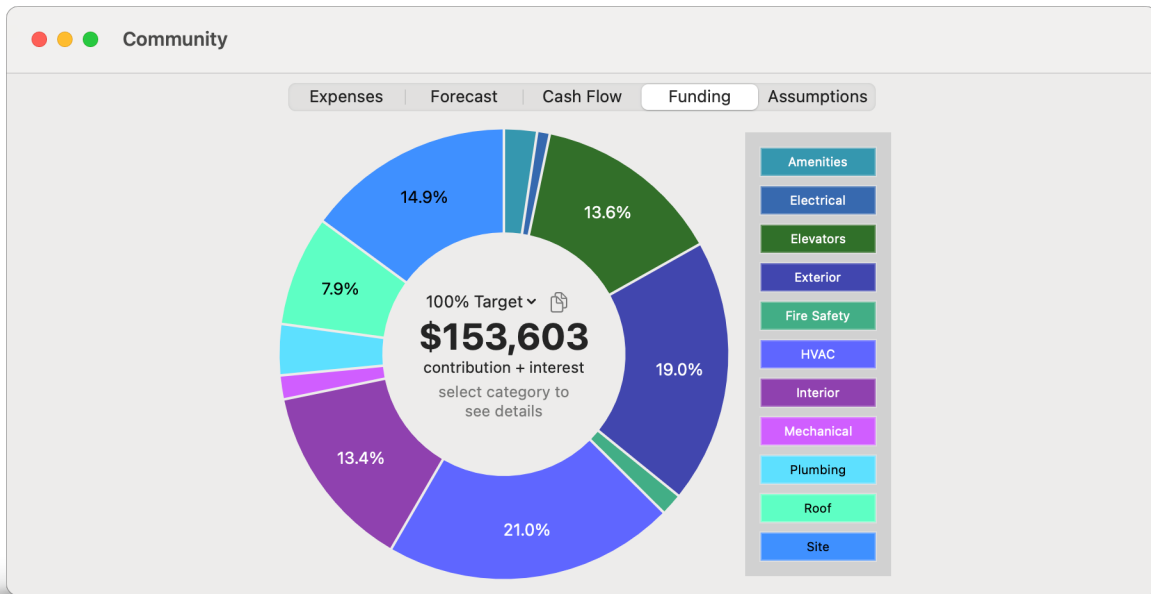
Operating expenses, those due every single year for rent, insurance, payroll, services, or consumable items, tend to be relatively smooth and predictable. Capital expenses, those due periodically to replace or maintain assets tend to ebb and surge. Having many comparable expenses on their own unique schedules will tend to smooth our spending and reduce the % funding requirement, whereas having a few big-ticket items that dominate your expense calendar will tend to increase the required level.

Every budget is a unique byproduct of its particular expenses, so there's no one-size-fits-all guidance about the "right" funding level. Exploring options using the Cash Flow graph and table as a guide will help you understand your budget and make a call that makes sense for you.

Exploring Your Options

Edit the first-year savings or contribution amounts to make immediate changes and see their impact without leaving the tab. The graph will smoothly animate when you press return or tab out of a field.

Want some help finding a good starting point for your savings contribution? See the [Funding](#) section for its suggestion based on automated analysis of your complete budget.




The **Funding** Tab

The Funding tab provides both general insight and actionable information about your budget.

General Insight

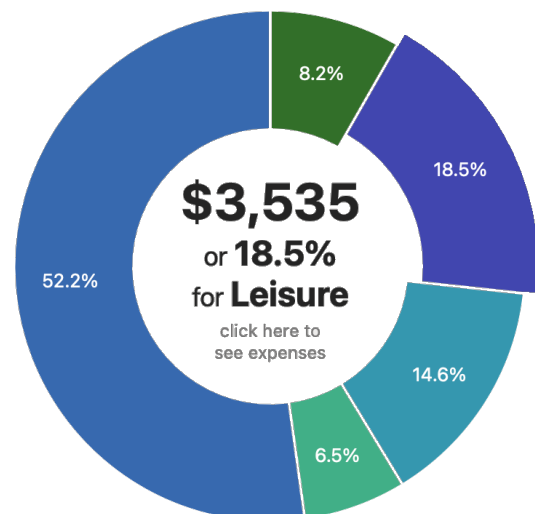
The graph shows what portion of your funding is associated with which expense category. While expenses can vary from year to year as a result of differing schedules, funding for eventual replacement remains relatively constant.

As a result, this is a useful big picture answer to the question “where does my money go over the long run?” This contrasts with the Expense Forecast view which answers “what expenses are coming up in a particular year?”

The  button displayed beside the overall funding recommendation will copy the amount shown to the clipboard.

Clicking on a category will reveal the portion of recommended funding that comes from a given category.

Clicking on these details or double-clicking on a category will switch to the Expenses tab with search preconfigured to show only expenses in that category. Click again on the selected category or outside the graph to remove the selection and show the overall funding recommendation again.



% Target

The value shown below your **% Target** is a great starting point for determining an appropriate annual supplement to savings.² Funding at the level shown with annual increases matching inflation will result in savings that tend toward the target % funded figure.³ Clicking on the % Target title will offer alternatives in 10% increments, while finer adjustments can be made on the Assumptions tab.

Note: Contribution increases will match inflation by default and indeed this is usually your best bet. If you've chosen a custom contribution increase rate the amount recommended will take that into account.

If you get an absurdly low recommendation? One that curves upward strongly on the Cash Flow tab? Check to make sure you don't have open-ended contribution increases at a rate above inflation. These will also make it impossible to target a % funded level without periodic corrections.

Keep in mind that your starting point is important, no matter how high your % funded target is. While not fully funded you'll see the impact of borrowing from the future:

- Years where expenses are greater than average will move % funded away from fully funded.
- Years where expenses are less than average will move % funded toward fully funded.

This effect is progressively more pronounced the lower your funding rate is. Within the recommended range it will average out over time, but exhausting your savings, even briefly, is still a very real problem to be avoided.

While running out of funds is clearly not the way to balance a budget, there is no single "correct" funding level. Pick what looks like an appropriate target and experiment using the tools available to find a funding strategy that meets your goals and obligations while respecting your constraints.

² Keep in mind that the target value shown is inclusive of interest. The actual contribution rate you set should take this into account.

³ Over a shorter budget period you'll see gradual change in funding levels, but it can take quite a while to reach the funding target – and at anything other than 100% there will still be year-to-year variability.

The recommendation takes into account all costs and incremental funding needs over the budget period, so it's reasonably resilient in the face of one-time or similar expenses with a sunset date. Even so, these can make it impractical to pick a single inflation-adjusted contribution rate spanning many years.

Community

Expenses | Forecast | Cash Flow | Funding | **Assumptions**

Budget Period

First Year

Total Years

Common Rates

Inflation every year ▾

Interest on Savings every year ▾

Tax Rate on Interest every year ▾

Savings for Capital Expenses

Currency

Amount in Savings

Annual Contribution

One-Time Contribution

The **Assumptions** Tab

There are no global settings that affect all of your budgets. Instead, each budget document can be configured independently in a way that suits its purpose. There are four areas that can be configured, each of which is described below.

You'll normally come back to these values once a year to establish a new budget period and review everything to make sure it's as accurate as possible.

Budget Period

The **First Year** and **Total Years** values define the budget period used for all of the analysis tools and visualizations. They can be changed at any time to explore different scenarios as this change is non-destructive; the budget period is used purely for analytical purposes.

New budgets start out with the current year and a 30-year span as their default values.

Common Rates

Inflation is used to predict future costs for expenses and is compounded annually. It's also used to bring out-of-date estimates up to date by applying retroactive inflation to an estimate from last year – or last decade. Getting revised estimates is always best, but this feature can help fill gaps in your knowledge until revised estimates are available.

Interest on Savings is used to compute interest. It is specified as an annual rate of return, but is compounded monthly on the average anticipated savings during a year. In cases where savings are distributed across multiple accounts or investment styles, this should be a blended rate that can be applied to savings as a whole.

Tax Rate on Interest is used to estimate taxes to be deducted from interest and is specified as an annual percentage of interest paid that will be due in taxes. Non-profit

organizations like condo associations are exempt from many taxes, but this is often an exception. Some research may be required to set this to an appropriate rate.

By default, Inflation is set to 3% and both Interest and Tax rates are set to 0%. Typing in a new value will update the entire budget model to reflect the new rate. As an advanced option you can also add additional rate periods to define a rate that varies over time.

Savings for Capital Expenses

The cash flow analysis needs to know both the starting point for savings, and some idea of what contributions will bolster savings over time. This section defines the currency used for all amounts alongside values the app needs to analyze your situation:

- **Amount in Savings** is the literal present cash value that is available – or will become available in the case of bonds or similar investments – to cover anticipated expenses.
- **Annual Contribution** is the amount that will be added every year to savings, increasing to match inflation by default.
 - ▶ As with individual expenses, custom inflation rate schedules are supported but should be used with care. It's not uncommon to plan to increase contributions gradually to hit a target.⁴ Return to matching inflation as rapidly as possible – and consider using a rate that varies over time to model this plan (eg: 8% increases for each of the next four years, then reverting to the same rate as inflation.)
- **only in Plus and Complete One-Time Contribution** is an amount that will be added during the *first* year of the budget. It will normally be zero, but can be used to record special assessments or loans for condo associations.

Definition of Fully-Funded

The basic idea is that a fully funded figure represents the amount you should have already saved, through regular contributions to savings, in order to be ready to pay every expense when it comes due.

The amount required is determined by starting with a cost estimate, which is then adjusted for inflation using the rate provided. It's essential that all expenses be accounted for, that estimates are kept up to date, and that both the estimates and inflation rate provided are as good an approximation as is practical.

A specific example can help ground the discussion below, so consider a car that costs \$35,000 in 2020 which is assumed to have a ten-year useful life. Assuming 3% inflation, it would cost \$47,037.07 to replace in 2030, and \$63,213.89 to replace again in 2040. There are multiple reasonable approaches to meeting this goal controlled by the **Funding Style** and **Funding Timeline** settings.

⁴ The wisdom of these plans is debatable. It makes sense in a growth context, but trying to soften bad news in a condo complex is problematic and can backfire.

None of these options change the target amount at the time of purchase. They only change the strategy for saving to reach that goal. They have no impact on your actual savings from year to year. They only impact how the % Funded figure is computed as a rough guide to the health of your savings over time, so it's fine to leave these at their default values and not worry about the details – unless you're curious.

The **Funding Target** figure is a % target used by the Funding tab for analysis

Advanced Option: Funding Style

It's easiest to see the difference between the three styles offered in Capital Plan with a concrete example. Here's the annual increment in "fully funded" savings for an asset that will cost \$20,000 in ten years time, and then \$26,878.33 in another ten years, reflecting 3% inflation:

	<u>Equal Amounts</u>	<u>Inflation Ramp</u>	<u>Moving Target</u>
Year 1	\$2,000.00	\$1,744.61	\$1,532.83
Year 2	\$2,000.00	+3% = \$1,796.95	+6.0% = \$1,624.80
Year 3	\$2,000.00	+3% = \$1,850.86	+5.9% = \$1,720.91
Year 4	\$2,000.00	+3% = \$1,906.38	+5.8% = \$1,821.32
Year 5	\$2,000.00	+3% = \$1,963.57	+5.8% = \$1,926.21
Year 6	\$2,000.00	+3% = \$2,022.48	+5.7% = \$2,035.76
Year 7	\$2,000.00	+3% = \$2,083.16	+5.6% = \$2,150.14
Year 8	\$2,000.00	+3% = \$2,145.65	+5.6% = \$2,269.55
Year 9	\$2,000.00	+3% = \$2,210.02	+5.5% = \$2,394.19
Year 10	\$2,000.00	+3% = \$2,276.32	+5.4% = \$2,524.27
Year 11	+34.4% = \$2,687.83	+3% = \$2,344.61	-18.4% = \$2,060.00
Year 12	\$2,687.83	+3% = \$2,414.95	+6.0% = \$2,183.60
Year 13	\$2,687.83	+3% = \$2,487.40	+5.9% = \$2,312.76
Year 14	\$2,687.83	+3% = \$2,562.02	+5.8% = \$2,447.71
Year 15	\$2,687.83	+3% = \$2,638.88	+5.8% = \$2,588.67
Year 16	\$2,687.83	+3% = \$2,718.05	+5.7% = \$2,735.89
Year 17	\$2,687.83	+3% = \$2,799.59	+5.6% = \$2,889.61
Year 18	\$2,687.83	+3% = \$2,883.57	+5.6% = \$3,050.09
Year 19	\$2,687.83	+3% = \$2,970.08	+5.5% = \$3,217.60
Year 20	\$2,687.83	+3% = \$3,059.18	+5.4% = \$3,392.41

They all add up to the same total in the purchase years: year 10 and 20. They just distribute that amount differently during the years leading up to an expense. Equal Amounts requires heavy funding early, yielding lower % Funded numbers, while Moving Target underestimates funding requirements to yield higher % Funded numbers. Inflation Ramp strikes a balance between the other alternatives and guarantees a gradual increase in the contribution required to match inflation.

Conclusion: These are all valid strategies for accumulating required savings over time, so any of them are viable. It comes down to a difference in philosophy, and you're welcome to choose any style that suits your needs. Capital Plan suggests Inflation Ramp as the least erratic and therefore most predictable over time, but you may prefer to use a style that matches what an outside agency uses in reports they provide.

In more detail: the most straightforward asset funding model assumes equal contributions over the useful life of an asset. In the example above you'd set aside \$4,703.71 each year after the original purchase to fully fund the first replacement. You'd then set aside \$6,321.39 each year in the following decade to fully fund the next replacement. This is how the app will behave when Funding Style is set to **Equal Amounts**.

This approach has two subtle issues, both rooted in inflationary pressures. That sudden switch in the amount you need to save once a decade? It only gets worse with longer-lived assets. Consider an asset with a 30-year useful life at 3% inflation. Each time it's replaced the annual funding suddenly jumps to 2.43 times as much. This can affect the schedule in unfortunate ways:

- Adjusted for inflation, putting aside the same amount in year one is a harder pill to swallow than in year thirty. Getting hit with a decade of inflation all at once is painful, and two or three decades is significantly worse.
- When the amount you need to set aside suddenly jumps, the fact that the prior funding level is woefully insufficient may come as an unwelcome surprise. Correspondingly, in years when the amount stays flat it may give the appearance that planning for increased funding isn't necessary.

If you have enough expenses on different timetables it may not matter as much because some will be early in their funding cycles and others will be late. In theory, it can all average out. In practice, your largest expenses tend to be long-lived assets that can have an outsized impact on funding requirements.

As a result, studies sometimes omit very long-lived assets, or under-estimate their lifetimes to avoid undue pressure early on. Capital Plan has its own alternative: the **Inflation Ramp** funding style guarantees a smooth, inflation-matched funding strategy. This is the default mode for new budgets.

The approach computes a contribution amount that goes up at a rate exactly matching inflation - while still guaranteeing two important things:

- The sum of these contributions still adds up to the amount required to cover each expense.
- There's no discontinuity at any point. Contributions the year after a replacement continue the same smooth inflation-based slope as contributions leading up to the replacement.

Example: Using the car example, you set aside \$4,103.07 the first year and increase this amount 3% each year for a final contribution of \$5,353.57. You still get exactly \$47,037.07 in one decade. Then you start saving for the next with \$5,518.14 and all the math works out for that replacement, too. We'll wait here if you want to double-check these numbers.

The final funding style is the way many reserve studies are prepared. **Moving Target** addresses the issues described above for Equal Amounts by using funding proportional to the *current* cost each year of an expense, an amount which increases over time. This allows early payments to be smaller, which is attractive, but it means that subsequent years require not merely paying for an additional year's depreciation – but also catching up on the additional inflation missing in every prior year's contribution.

This approach results in fully funded figures that grow faster than inflation, followed by a significant downward correction after each purchase year. While the strategy is often presented as if it's putting aside equal amounts each year, in practice this is far from the case as you can see in the table above.

Advanced Option: **Funding Timeline**

There can be reasonable differences of opinion about *when* an expense needs to be completely funded. You have two options:


- **Year of Expense** schedules the first contribution for a subsequent expense the year *after* an expense is incurred. The full amount for the next expenditure will then be available at the end of the year the next expense lands in.
- **Year Before Expense** schedules the first contribution the *same* year an expense is incurred. The full amount for the next time will then be available at the *start* of the year the next expense lands in. This is the default setting for new budgets.

The Year Before Expense setting can help to avoid cash crunch situations when outsized expenses land earlier than the contributions required to cover them. In practice the difference is usually subtle with a large number of expenses on different timelines.

Advanced Feature: **Custom Inflation Rates** only in **Plus** and **Complete**

By default, all expenses are assumed to increase over time following whatever inflation rate is set for your budget as a whole.

You have another option in instances where you know a particular product or service is contractually guaranteed to follow a different increase schedule, or where historical or geographical norms suggest another rate. Every amount affected by inflation includes a rate picking control which initially displays “+ Inflation” to indicate that inflation is applied to this value:

Cost Estimate	\$15,000.00	+ Inflation	
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In addition to being able to select “No Inflation” you may define and name any number of additional rates. This simplifies setting up an unusual rate structure and applying it to multiple expenses: once you’ve set up a rate and have given it a name, you may pick the name from this list for any applicable expense in the same budget.

Named rates work like any other rate and may vary over time.

Advanced Feature: Rates That Vary Over Time only in **Plus** and **Complete**

You may have noticed the indicator to the right of each rate field labeled “every year”. Using a single rate for all years is often sufficient - but there may be times in a sophisticated budget when more control comes in handy. For example, if interest rates are unusually high there may be an expectation that they’ll come down after a few years. That’s what this feature is for.

Initially, a newly created rate is the same in every year, past and future,⁵ and can be edited easily by typing a new percentage figure in the text field provided:

4.0% every year ▼

The “every year” indicator tells you what range of years this applies to, which will always be the defined period of years that includes the first year of the current budget. In a more complex example you might see the something like the following:

3.0% starting 2021 ▼

Typing a new rate here affects every year starting with 2021. Inflation rates are used to adjust costs from the prior year, so a 3% rate in 2021 means that a cost estimate from 2020 will be 3% greater the year following.

There are four possible naming patterns that can be shown for a rate period:

- **every year** states that there is only a single rate period, one percentage value that is applied to each year.
- **through 2025** states that this is the first rate period, but that another one begins in year following.
- **in 2023** and **in 2022-2025** both state that there are earlier and later rate periods, and describe the year or years that this specific rate is effective.
- **starting 2029** indicates that this is the last rate period, that the percentage specified applies to the year named and every subsequent year.

As hinted at by the downward caret, you can also click on the description of this period to see values for all periods. This list includes the option “Edit Rate Periods...” to make more complex adjustments as described below.

⁵ Defining inflation rates for the past may seem peculiar, but they’re used to make educated guesses about out-of-date cost estimates. You might have recorded the price you paid for an asset a decade ago and haven’t gotten around to getting a new estimate, bid, or quote. This allows the app to use an approximation until a newer cost estimate can be provided.

Editing Rate Periods

Rates are defined by a series of *rate periods*, each consisting of a percentage to be compounded annually during a range of years. All except the first period have a specific starting year, and each period automatically ends the year prior to the next in chronological order.

To create the example shown here, you'd start with a 4% rate for every year and add two additional rate periods: one starting in 2020 with a rate of 9%, and another starting in 2021 with a rate of 3%.

It doesn't matter what order rate periods are added in. You could just as easily add the 2021 rate of 3% first, followed by the 2020 rate of 9%.

Keep in mind that you can't change the starting year for an existing rate period. You can add new rate periods by entering a new **Starting In** year and rate and pressing the Add button. When Starting In matches an the starting year for an existing period, the Change button will be enabled instead, and when pressed will update the rate associated with matching period.

To alter the initial period, which has an open-ended start, leave the Starting In field blank. This will happen automatically if you select the first period from the list, allowing a new rate to be entered which will be applied when the Change button is pressed.

The Delete button can be used to delete periods selected in the table shown, but it will never allow all rate periods to be deleted. One period must remain, which will define the effective rate for every year.

Period	Rate
through 2019	4%
in 2020	9%
starting 2021	3%

Printed Reports only in Complete

For an individual user, Capital Plan's interactive features provide the most natural way to explore the elements of a capital budget. For group review or archival purposes it may be more convenient to provide PDF or paper reports.

Expenses

When the Expenses tab is selected, the **File > Print... ⌘P** menu item will print a list of expenses. It will respect the current search criteria and sort order by default, which can be disabled with a checkbox on the print panel.

Community		All Expenses by Status		
Status	Expense	Life	Last Estimate	Next Due
Due	Amenities Fitness center allotment	3	\$10,000.00	\$10,300.00
Due	Electrical Miscellaneous electrical systems expenditures	5	\$150.00 × 25	\$3,862.50
Due	Exterior Building envelope inspection using swing stage or Boson's chairs	5	\$18,000.00	\$18,540.00
Due	Exterior Re-stain and re-finish wood rail caps	5	\$15,000.00	\$15,450.00
Due	Exterior Replace urethane caulking around windows and at control joints	10	\$16.90 × 3,400 ft	\$59,183.80
Due	Fire Safety Dry system fire sprinkler air compressor replacement	15	\$1,500.00	\$1,545.00
Due	HVAC Replace HVAC system software and management equipment update	10	\$4,000.00	\$4,120.00

The information presented is similar to the presentation in the expense table with the notable exception of the final column. Unlike the interactive table the, the final column will display the "Next Due" cost for each expense unless the report is sorted by cost.

Forecast

When the Forecast tab is selected, the **File > Print... ⌘P** menu will print a year-by-year itemized list of categorized costs.

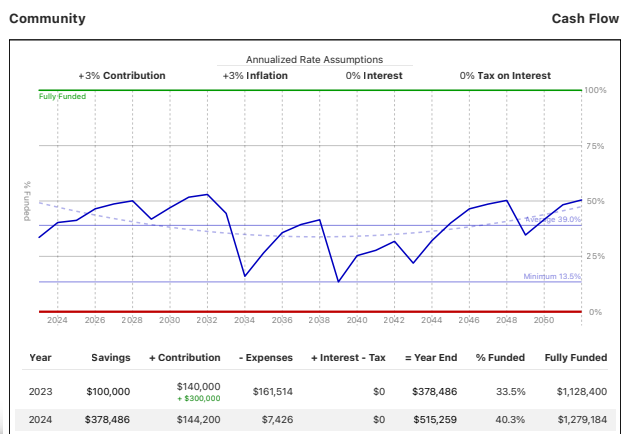
This is much more detailed than the graphical summary presented on the tab since it lacks any of the interactive features. The complete timeline makes an informative PDF to distribute or archive, but when physically printed for distribution you may want only the first five or ten years. The number of years to be printed and maximum number of lines from notes can be customized on the print panel.

Community		Expense Forecast
2023		\$161,514
Exterior		\$93,174
\$59,184 Replace urethane caulking around windows and at control joints		
Check the south side of the building first. Lower floors seem to require caulking sooner for some reason.		
\$18,540 Building envelope inspection using swing stage or Boson's chairs		
\$15,450 Re-stain and re-finish wood rail caps		
Site		\$28,840
\$18,540 Irrigation system allotment		
\$10,300 Courtyard planter coating		

Cash Flow

When the Cash Flow tab is selected, the **File > Print... ⌘P** menu item will print the full cash flow analysis.

The presentation is similar to the tab, with a graph covering every year of the budget period at the top of the first page, followed by year-by-year details spanning as many pages as are required.



Funding

When the Funding tab is selected, the **File > Print... ⌘P** menu item will print the funding analysis.

As with the Forecast report, this presents much more detail than the pie chart representation since it lacks any of the interactive features. It includes descriptive content intended to help newcomers understand the implications of funding at a range of levels:

- Cover Average Costs, which trends toward 0% funding
- Full Funding, which trends toward 100% funding
- Established Target, which only shows when set to something other than 0% or 100%, as these would be identical to either the Cover Average Cost or Full Funding figures
- First-year Funding, reflecting the actual contribution determined for the first year of the budget, including interest

Below these summaries, a category-by-category chart indicates how much funding would go to each category in the idealized scenario.

Community

Funding Summary

Analysis of 2023 contribution derived from current estimates and assumptions		
Cover Average Costs	2023 Funding	Full Funding
\$121,806	\$140,000	\$153,603
Trends Toward 0% Funded	Trends Toward 57.2% Funded	Trends Toward 100% Funded
Ongoing funding at or below this level is not sustainable. It will cover costs in average years but will not increase savings, which will be exhausted by above-average years as inflation erodes purchasing power. At this funding level it's not a question of if you will need additional funds, but when.	Consists of a \$140,000 planned contribution. Will tend to increase % funding from year-end estimate of 33.5% funded.	Continuous funding at this level is not strictly necessary as the only time full funding is required is when every recurring expense lines up in the same year. The Cash Flow analysis can be used to determine a sustainable funding target.
Category	Full Funding	% of Total
Amenities	\$3,641	2.4%
Electrical	\$1,397	0.9%
Elevators	\$20,862	13.6%
Exterior	\$29,125	19.0%
Fire Safety	\$2,437	1.6%
HVAC	\$32,193	21.0%

Important: *It's critical to understand that the funding levels described trend toward the corresponding % funding over the very long term, and that dips and surges are unavoidable below 100% funding. Periods of higher than average costs can temporarily depress % funding while also reducing interest as a factor in funding. Always use the Funding analysis in conjunction with Cash Flow analysis to anticipate shortfalls and to act before savings are depleted.*

Printing Combined Reports

It can be convenient to print a collection of all available reports in a single document. Regardless of the selected tab, the **File > Print All Reports... ⌘P** menu item will compile the available reports with sequential page numbering.

The default setting for the Funding report will be to show the first five years without notes, but this can be adjusted to taste using settings on the print panel. The Expenses Report in this collection includes all expenses sorted by category and name regardless of the current interactive view.

Currency Considerations

Capital Plan associates a specific currency with each document, starting with the default for your selected region when creating a new document. All values are explicitly entered and displayed in this common currency. This should feel natural under most circumstances and behave like any other application.

It gets slightly more nuanced when a document is created in one region and opened in another. In this situation display will be treated as a foreign currency represented using local conventions. See below for several examples:

		Created In		
		United States	United Kingdom	Portugal or Germany
Viewed In	United States	\$1,000.00	£1,000.00	€1,000.00
	United Kingdom	US\$1,000.00	£1,000.00	€1,000.00
	Portugal	1000,00 US\$	1000,00 £	1000,00 €
	Germany	1.000,00 \$	1.000,00 £	1.000,00 €

This ensures that habits for a user in a specific locale work across documents regardless of currency. In the United States or United Kingdom you could type "1,000" to enter a value of one thousand regardless of the document's currency, while in Germany you can type "1.000" to enter the same value. This is also true for importing CSV or TSV content from the clipboard or a text file. Values will be interpreted per the local conventions according to the system's selected region. This facilitates copying and pasting from another app running on the same system. If any currency symbols are present when importing expenses these must match the document's currency.

Changing a Document's Currency

The Assumptions tab displays the currency used by a document and can be used to change this setting. This does not imply any kind of exchange rate but merely changes the currency symbols used on screen and in print.

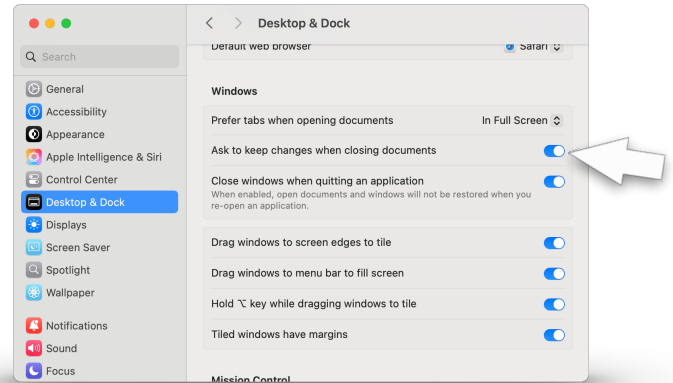
Frequently Asked Questions

Q: Can Capital Plan ask before saving changes?

A: Yes. Modern applications on macOS default to auto-saving documents, but this can be changed system-wide if you prefer to see a prompt before changes are saved.

You'll find this setting in Apple's Settings app under the Desktop and Dock category. Scroll down to find the Windows category where there's a setting labeled "Ask to keep changes when closing documents."

Turn this on and Capital Plan will start asking for permission to save when you close your documents.



Q: If I've accidentally saved changes, is there a way to get my old document back?

A: Possibly. Older versions of your budget document may be preserved by Time Machine, space permitting, even if you haven't backed up to an external disk. The File menu includes a Revert To submenu with the option to Browse All Versions... that will let you view the contents of all available prior revisions before picking one to revert to.

Q: Why doesn't my cash flow match exactly what a professional reserve study shows?

A: The year-by-year expenses and contribution can typically be aligned by setting inflation assumptions correctly⁶ and ensuring that all expenses have the appropriate **Estimated Cost** and **Year of Estimate**, and that the same expense schedule is implied by **Life in Years** and either **Override Next** or **Year Last Paid**.

Interest estimates should be in the same ballpark if the same rate is specified, but may not line up exactly. In Capital Plan, interest is computed assuming monthly compounding at the rate provided, and that both contributions and expenses are evenly distributed throughout the year. Some reserve studies assume all expenses come at the end of the year – which is patently absurd and will yield an unrealistically optimistic estimate of interest earned.

The biggest differences are likely in **Fully Funded** amounts and **% Funded**. These serve as a useful guide, but have no impact on how much money you *actually* have from year to year. Capital Plan offers several options for computing a fully funded

⁶ Reserve studies may make surprising assumptions about inflation rates. Some choose to compound inflation monthly instead of annually which will lead to differences in future price estimates.

figure as described in detail in the Funding Style section of the manual. Some are more conservative than others, so choose one that you believe is appropriate for your needs and don't worry if it's not precisely how your reserve analyst chooses to compute theirs.