



## README

- This sheet explains some high-level model conventions, especially helpful in case you're onboarding somebody new
- Given the extensive sensitivities, I recommend you refresh the model with ALT>M>X>E (automatic calculations except for data tables) to refresh, then immediately set back to manual recalculation with ALT > M > X > M each time you need to refresh. This will happen nearly instantaneously.

## Control Sheets

### Global

- These are the global controls for the model
- If something is blue, you can change it, if not, don't worry about changing it
- You'll notice a few things that are like "Hold Period Sensi" and "Hold Period Output" -- those are black so you can ignore, since they're formulas. But they're basically just routing the user's hold period input along with a sensitivity expander so the sensitivity tables in sensi\_backup work automatically
- You'll notice I added a general "Data Confidence" toggle to the first 5 control sheets, which are the main areas you'll be updating in your daily use of the model. I have included this to signal whether the degree of information quality reflects Preliminary, Moderate, or Extensive research

### Leases

- This sheet enables granular lease modeling.
- I've setup the model to work with 20 leases by default. I can easily make it work for more, I just need to add additional rows in the "lease\_opex\_detail" and "cf\_detail" sheets
- The magic in leases happens in the collapsed rows beneath row 79. You don't really need to look into any of these, but the reason you need to copy-paste the entire column is so these bottom functions come with the input areas when you make new leases

### Other

- This other income sheet enables inputs of simpler income streams. Helpful if you want to just insert an income figure without fiddling too much on a lease input.

### Expenses

- Hopefully this sheet is self-explanatory
- Blue items are inputs that you should focus on, the other items are more automated functions

### Construction

- This sheet functions mechanically the same way as the other income in 'other,' it's just a general construction budget on a timeline

## Output Sheets

### Summary

- Executive summary output designed for PowerPoint. Can highlight metrics more relevant to development here.

### Cash Flow

- You can change the granularity of the cash flows displayed on this page using the cash flow detail toggle
- The annual cash flows are on the left and the monthly cash flows are on the right
- You can dive into specific leases if you want to audit anything in particular without switching over to the 'cf\_detail' sheet

### Sensitivities

- This is purely an output page, the logic for each of these exists in 'sensi\_backup'



- Note that sensitivities read as best-case top left, worst case bottom right, and are all set up to flow like that

## Checks

- The key to updating with speed is to know nothing is broken and everything is working well. The unit tests for every sheet are combined here in the Checks sheet. In Checks cell A1, the results of the local unit-level validations on every sheet are combined together. And every single sheet links to A1 in their own cell A1. So if anything is wrong anywhere, per the unit tests, you will see
- A great way to test this model is to just build random unit tests, which when working, solve to zero. And if you build some that don't solve, feel free to send them to me and I'll do what I can to fix it.
- The combination of writing unit tests and seeing the result of their calculations every time you run the model results in a much greater degree of user confidence than would be possible without robust testing and check aggregation on each sheet.

## Change Log

- The change log tracks important metrics throughout the model and flags whenever any of them are different against the last entry
- The idea is to encourage users to explain their changes as they update the model
- In practice, this can be as frequent or as infrequent as is practical
- Either way, the change log can be very helpful for creating returns bridges, especially if you guys ever report performance updates to investors
- You can add any metric you want to the change log, all you have to do is link to it

## Model Sheets

### Tags

- For daily use, you don't need to worry much about this sheet
- This is the control center for your cash flows. Every cash flow is named here, the "tag" column is like the unique key. The Style for the "Cash Flow" sheet is controlled between columns H and L under "Style Inputs"
- You probably don't need to mess with this much unless you'd like to add a new cash flow to the model. If you do, it is very easy. I just recommend copy-pasting the entire row for the most similar cash flow, and updating all the columns.
- Make sure you update everything, such as the "feeds" column which indicates which subtotal each cash flow feeds

### Metrics

- Again, not super relevant for daily use.
- This sheet is not as intensive as tags, but tracks a few "metrics" which are non-cash flow backup calculations, such as each possible reimbursement option. I just keep track of a few important relationships mapped here, mostly for the Reimbursements

### Data Table On Off

- Custom VBA macro I wrote to erase / rebuild data tables, so model can run faster when we shut them of and don't need them.

### sensi\_backup

- You can change the sensitivities here, otherwise not relevant for daily use
- This sheet controls the sensitivities throughout the model. You can run a "trace dependents" to see where each "Sensi" (column E) flows. The steps in Column D control how much each sensitivity expands/contracts to the left/right. Each sensitivity is 5 steps, with the midpoint representing the model's base case. We can of course change this if you want things to only expand and not contract, but this is the default behavior of each sensitivity.



## lease\_opex\_detail

- Ideally you never have to go into this tab
- As the name suggests, this sheet only calculates the OpEx and lease cash flow forecasts. Anything that is ultimately considered a cash flow by the model will have an entry in the "tag" column C. Otherwise, it's a backup "metric" that helps us calculate the cash flow.
- There are helper columns off to the right starting in EL -- these can be any sort of reference useful for calculating the metric or cash flow in that particular set of rows.
- This is the brains of the lease and opex logic. This is a pretty intense tab logic-wise, as I've painstakingly mapped out each logical step. The idea is to calculate everything in terms of dependency, which is why OpEx is at the top of the sheet (because CAM relies upon OpEx to be calculated already)

## cf\_detail

- This is where everything comes together. The top section called "Operational CFs (no sale cutoff)" first brings in the lease\_opex\_detail cash flows, but doesn't shut them off for exit dates
- The subsequent section, "Hold Period Cash Flows", calculates all relevant cash flows for the deal. This is like the "Monthly Cash Flows" sheet, except I also have the Annual Cash Flows off to the right.
- Note there are some buffer rows that indicate when certain groupings of cash flows end. This helps with removing circularity and general speed.

## waterfall

- This is the waterfall, monthly cash flows are on the left and annual cash flows are on the right
- Changed monthly waterfall start date to 6/30, to follow model convention of only using month end dates (with the exception of the lease schedules). Was previously set to 6/1.

## sequencers

- Backup logic to automatically generate the rows in cf\_detail for cash flows. Makes the model much more dynamic based on the tags entered in "tags", etc. This helps greatly reduce repetitive entries if we ever wish to add leases or new tags.

## functions

- Certain parts of the model, primarily cf\_detail, use custom functions that were created just for this workbook.
- This workbook contains the definitions of the custom functions, which rely on Excel 365's new user-defined "LAMBDA" functionality.
- These lambda functions improve user experience when implementing complex formulas.
- However, at the cost of the ability to understand them. This sheet helps clarify exactly how each works.

## SOFR

- This is the SOFR curve, I have included instructions here and in the sheet "Formatting & Updating" explaining how to refresh the SOFR curve.