
Real Estate Investment Analysis
Express Edition Version 2

User's Guide

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Real Estate Investment Analysis™ Express Edition Version 2

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List of Acronyms

APOD	Annual Property Operating Data
ARM	Adjustable Rate Mortgage
CFAT	Cash Flow After Taxes
CFBT	Cash Flow Before Taxes
CPI	Consumer Price Index
DCF	Discounted Cash Flow
EGI	Effective Gross Income
GOI	Gross Operating Income
GRM	Gross Rent Multiplier
IRR	Internal Rate of Return
NOI	Net Operating Income
NPV	Net Present Value
PDF	Portable Document File
PV	Present Value
REIA	Real Estate Investment Analysis by RealData®
RSF	Rentable Square Feet

Chapter 1. Introduction and General Information

Thank you for purchasing RealData's *Real Estate Investment Analysis Express Edition Version 2*. We are certain that you will find this easy-to-use application to be a powerful and versatile partner in your investment work.

Please review this manual and, in particular, read this chapter completely before you begin working with the program. This introduction will provide you with important information about the program's capabilities.

REIA Express Edition has been designed to assist you in evaluating income-producing property. The analysis is constructed as a multi-page Microsoft Excel workbook. Each page has a particular focus, but all of the pages are linked and share data. You use only those sections that are pertinent to the property you are analyzing.

The program includes a *Rent Roll* worksheet that allows you to estimate the revenue from your property's rental units. Next you will find an income-and-expense module we call the *Annual Property Operating Data* worksheet. Here you can make projections about individual operating expenses as well as vacancy and credit losses. The following module is a *Cash Flow and Resale Analysis* that allows you to project the before-tax consequences of ownership and resale. With it, you can evaluate how different mortgage terms, depreciation options and assumptions about income, expenses and improvements interact to affect the quality of your investment. You will also find several sheets devoted entirely to presentation: a Loan Amortization report, an Executive Summary, the Real Estate Business Plan and a set of graphs.

REIA Express Edition operates in conjunction with the popular Microsoft Excel spreadsheet program. You do not need to be an expert user of your spreadsheet software to make effective use of these models. On the contrary, you can simply "fill in the blanks" to produce a complete presentation in just minutes. You can use *REIA Express Edition* as designed without advanced spreadsheet skills as long as you have a basic familiarity with Excel. We do assume that you are comfortable with some of the standard features and functions of your computer, such as starting up the computer and spreadsheet, connecting and using your printer and locating and saving files.

As the name *Express Edition* suggests, this program is one of two editions of *Real Estate Investment Analysis*. We have designed *Express Edition* with more than a few audiences in mind. If you are new to real estate investing or are a student in the fields of real estate development or finance, this edition of *REIA* is a great place to start. The application is exceptionally easy to learn and to use and covers all of the essential issues in income-property analysis. It doesn't go into the level of detail that a professional investor or broker might require and it doesn't cover some of this discipline's more esoteric topics, but it does perform a solid analysis and produce excellent presentations. Combine this program with our books or video courses, and you are on your way to success.

However, if you *are* a professional, this *Express Edition* provides a valuable benefit to you as well. Sometimes you don't want or need to perform the kind of in-depth analysis offered by the Professional edition of *REIA*. You may be reviewing a project that is very straightforward and doesn't require extensive analysis. Perhaps you are evaluating a number of potential income-property investments and you want to begin by using a quicker and simpler analysis tool to screen out the least suitable choices. *Express Edition* is the tool for the job.

Please visit www.realdatab.com to learn more about our *Professional* edition.

System Requirements

REIA Express Edition is an Excel workbook that takes up about 3 megabytes of space on your hard disk. Each completed analysis that you save will also take up another 3 megabytes or so. You can copy analyses onto high-capacity media such as thumb drives for archive purposes to reclaim disk space. Other requirements include:

- Microsoft Excel 2010 or later for Windows computers
- Microsoft Excel 2011 or later for Macintosh computers.
- A laser or ink-jet printer
- A desktop or laptop computer. Most tablets and phones, even if they have Excel, will not properly run our software.

Microsoft Excel

REIA Express Edition Version 2 is fully compatible with the versions of Excel described above but will not work with other spreadsheet products. With macros enabled or content enabled, you should see the **RealData Menu** in the Excel ribbon:

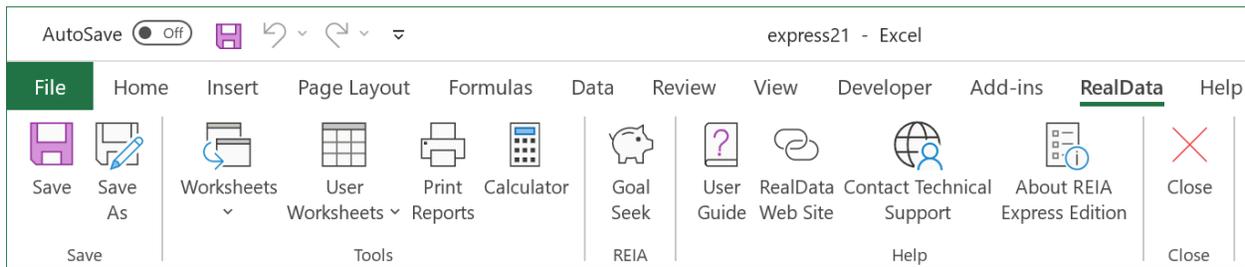


Figure 1-1 Excel Ribbon with RealData Tab

You should save a *REIA Express* workbook specifically in the macro-enabled workbook format (.xlsm). In particular, you **MUST NOT** use file type Excel Workbook (*.xlsx), because this file type causes Excel to remove all of *REIA Express*'s essential macro code.

Macintosh

The screen captures in this user guide illustrate *REIA Express* and Excel on Windows. Users of *REIA Express* on a Mac computer will have a nearly identical experience. The calculations, reports and functions of the program are the same. Only a small portion of the macro code differs to accommodate the differences in the two operating systems.

License Information

Please read the license agreement at <http://www.realdata.com/p/license.shtml>. By installing the software, you accept the terms of the license. This software is not returnable once you have completed its purchase online. It is also not returnable once you have received it on compact disc, along with a serial number or password. Please note that you may make backup copies as you need for your own use.

Additional Disclaimers

In addition to other disclaimers contained in our license agreement and this User's Guide, be aware that RealData, Inc. is not in the business of providing tax, legal, investment or professional advice of any kind. The program is not intended for the preparation of tax returns.

The user should also be aware that financial activities outside the investment being analyzed may interact with the subject investment to produce tax consequences not anticipated by this program.

The program does not take into account the impact of other investments, possible liability under the Alternative Minimum Tax, the At-Risk Rules, investment interest limitations or possible future-year indexing of tax brackets.

Files, Worksheets and Reports

Opening and Using Files and Worksheets

You may have chosen during the installation to place an icon on the desktop. If so, you can simply double-click that icon to start the program.

Alternatively, select **Start** from the Windows desktop, then **Programs** and then **RealData**. From there, select **REIA Express Edition**, or any other RealData program you may have installed.

NOTE

You may see an alert message when you start up *REIA Express Edition*. The message warns you that you are loading a workbook that contains macros and that malevolent individuals can embed viruses in such files to harm your computer. Excel displays this message when it loads *any* file that contains macros. It is not reacting to a security threat that it has found in our program. If you obtained your *REIA Express Edition* program directly from RealData or from an authorized dealer, or if you downloaded it from our secure web site, you have no cause for concern. You must enable macros for *REIA Express Edition* to function.

The procedure for enabling macros depends on which version of Excel you are using. In recent versions of Excel, you will see a dialog similar to this:

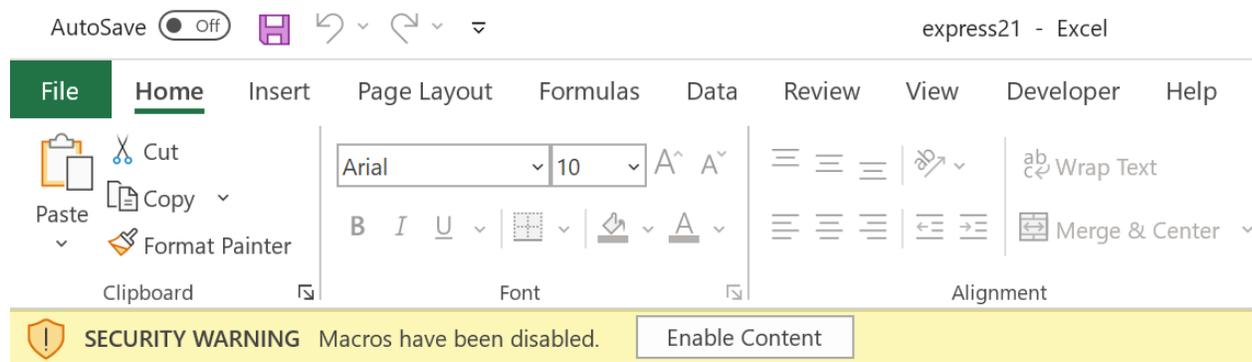


Figure 1-2 Excel Security Warning

Once you click the “Enable Content” button, thereafter Excel will automatically enable macros from RealData. Note that the correct macro security setting in Excel should be “Disable All Macros with Notification.” The macro settings can be found by clicking on **File** then **Options** then **Trust Center** from

the left menu. Now click the button for **Trust Center Settings**. Select **Macro Settings** from the left menu.

Once you have enabled macros, you will see the first page of an Excel workbook. The entire analysis resides in this one workbook file. The *workbook* is a collection of *worksheets* that have been bound together. Each sheet has a specific purpose and you “turn” the page to move from one part of the analysis to another.

While each sheet has a purpose, they are all also interconnected and share information. For example, the *Rent Roll* tells the *Annual Property Operating Data* about total rent income and the *APOD* sends summary income and expense data to the *Cash Flow and Resale Analysis*. The real advantage is that you don’t have to worry about keeping any of this straight; the program does it for you.

Moving from one page to another is very simple. Excel uses notebook tabs as a means of guiding you to the various sheets that make up a file. A generic Excel workbook has tabs that look like those shown in **Error! Reference source not found.:**



Figure 1-3 Excel Worksheet Tabs

The *Investment Analysis* tabs have meaningful names but they are a bit long, so you won’t be able to see more than four or five tabs at a time:



Figure 1-4 REIA Express Edition Worksheet Tabs

To move to a particular sheet, select its tab. You can also use the arrows to the left of the tabs to scroll through the rest of the tab names. These arrows will take you forward and back through all of the tabs.

RealData Menu

The **RealData Menu** (Error! Reference source not found.) is added to the Excel menu bar at the far right when you open an *REIA* spreadsheet. It provides quick access to many useful features.

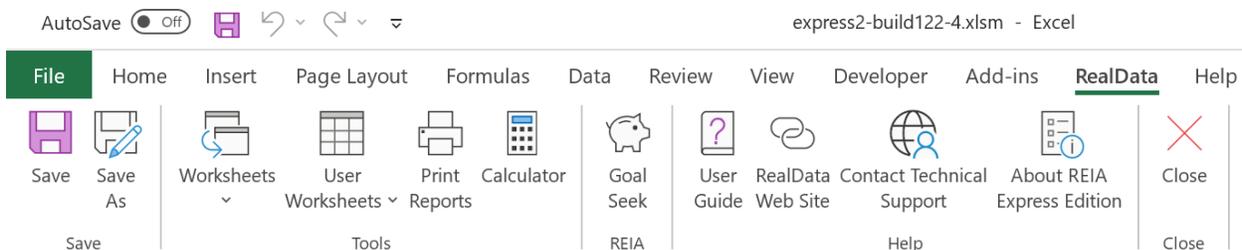


Figure 1-5 Excel Menu Bar with RealData Menu

The first item on the **RealData** menu is **Save**. After you have given the template a new name (e.g., “54 Main Street”), use this to save your file as you work on it. Next is the **Save As...** choice. We recommend that you immediately use this command to save the template with a new name whenever you

begin a new analysis. Doing so will preserve the original blank template of the program. Should you accidentally overwrite the template, you must reinstall the software.

The **Worksheets** sub-menu displays convenient links to any section of the software. A second sub-menu, **User Worksheets**, provides functions which can add/delete/rename new, blank worksheets to your analysis for your additional calculations. Below that is **Print Reports**, which allows you to print any of 13 pre-formatted reports immediately, regardless of which sheet is currently displayed on the screen (for more information, see Printing Reports below). Finally, we offer a quick link to the Windows **Calculator** to help you make simple mathematical computations outside of REIA.

With the next item you can access our **Goal Seek** tool. This tool will help you find the purchase price that is necessary to achieve a particular income, selling price or rate of return. You will find a discussion of this tool in Goal Seek beginning on page 59.

The next section gives you easy access to some valuable tools. The first is the **User Guide**, which you are reading right now. It requires Adobe Acrobat® or another PDF viewing application to open. You can obtain the Acrobat Reader free from Adobe's website. The two items that follow allow you to seek web-based help from us (provided you are connected to the Internet). The first, **RealData Web Site**, will connect you to www.realdata.com, where you can check our Knowledge Base and Support section for information that might help you solve a particular problem. **Contact Technical Support** makes it easy to communicate with us if you have a specific question. **About REIA Express Edition** displays a window containing the program version and build, as well as user registration information.

Finally, you have the option to **Close** the program. While **Close** needs no explanation, be assured that you will be prompted to save your work if you choose this option.

Printing Reports

To print one or more reports, you can pull down the **RealData Menu** and select **Print Reports**. You'll see the Print Dialog Box, which lets you choose the reports to be printed along with the options for printing.

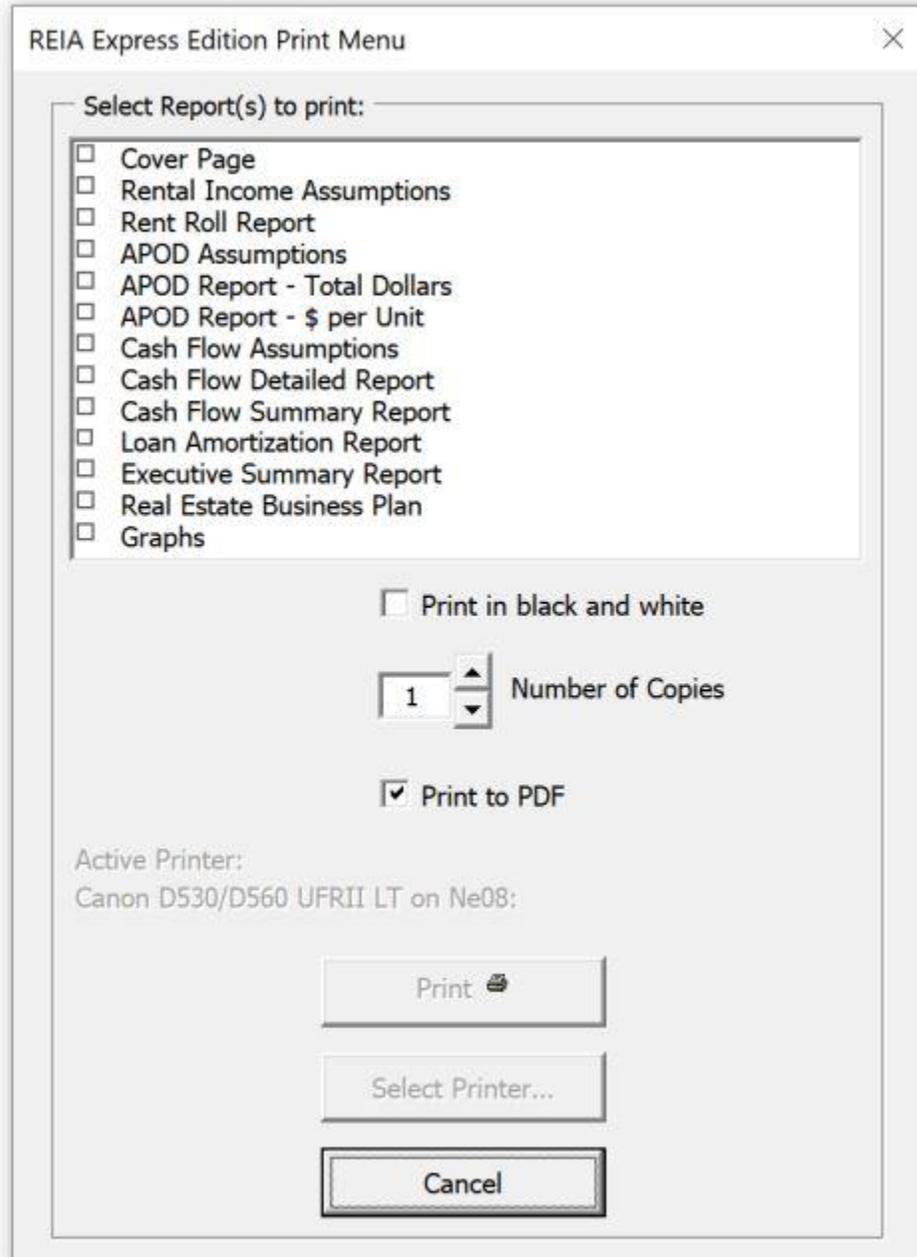


Figure 1-6 Reports Menu

You can also print parts of any visible worksheet by pulling down the Excel **File** menu and choosing **Print**. You will probably use this method only if you want to print a particular range or to select printing options that are not part of the standard report formats. Be aware that if you use the Excel **Print** menu, you will not have any of the built-in *REIA Express Edition* reporting options or layouts available.

Note *REIA Express Edition* gives you optionally the ability to create a PDF (portable document file) when printing from the **RealData Menu**. See below for more information.

The print dialog box gives you a number of options when you are creating reports. It allows you to choose which device to print to, the number of copies to print and whether the output should be in color or black and white.

Printing to the RealData PDF Printer

REIA Express Edition lets you print reports to a PDF file. PDF is a popular document file format, and the Adobe Acrobat Reader software, available free from <http://www.adobe.com>, can be used to view and print a PDF file. With one command you can now print several *REIA* reports to a single PDF file, and email that file to a colleague. Please keep in mind that you may *not* send your colleague a copy of the Excel *REIA* workbook. That Excel file is in fact the program, which is licensed only for use by you, the user.

Before you can print reports to a PDF file, the RealData PDF Print Driver must be installed. This driver is installed automatically as part of *REIA Express Edition* installation. Please note that the RealData PDF Print Driver will work only with those RealData software products that have been enabled for this purpose.

To print reports to a PDF file (after the driver has been installed as described above):

1. From the Print Dialog Box used to initiate printing, mark the “Print to PDF” checkbox.
2. Set the black and white option in the dialog box the way you want it. Note that you can logically create only one copy of a file at a time, so “number of copies” has no effect here.
3. Click **Print**. The program will then begin creating the file.
4. You will be prompted to name the file and select its location. The default is the name of the Excel workbook with a .pdf extension instead of an .xslm extension; you will probably want to name it something more useful, like *TranquilManorBusPlan.pdf* or *MainStreetCashFlow.pdf*. This file can be saved anywhere on your computer, as well as portable storage media. Once saved, these files can be easily attached to email.
5. To view your printout, you need the Adobe Acrobat Reader, available at no charge at www.adobe.com (the exact link was <http://www.adobe.com/products/acrobat/readstep2.html> when this guide was published). Once this software is installed, just double-click on the PDF file and Acrobat will open the file automatically.

Entering Data

Each worksheet, except for those designed as report-only, has areas that you will use to enter data. Much of the rest of this *User’s Guide* is devoted to discussing the information that you will enter. Depending upon the property you are analyzing, you’ll use some but probably not all of the data fields.

Most of the fields in *REIA Express Edition* — thousands of them, in fact — are spreadsheet cells containing formulas and formatting that you would certainly not want to erase accidentally. On the visible worksheets, we’ve displayed these cells in black, locked them and protected the worksheets with a password to prevent you from changing any formulas or code. The passwords that protect these formulas and code are not available to users.

Throughout the worksheets we have provided quick reminders of important information in ‘cell notes.’ You will know that there is a cell note available if you see a little red triangle in the upper right corner of the cell. If you hover your cursor over the cell note indicator, a comment will appear that will provide more information about entering data into that cell. Often the cell note will be at the left end of a row, in the cell where the label for that row is located and it will pertain to the entire row.

To make entering information easier, we have also color coded the data-entry cells. Cells that appear blue or purple are generally available for input, as follows:

- The blue cells are empty or contain 0. They are used for common items such as the purchase price or a mortgage amount.
- The purple cells each contain an erasable formula. Usually the formula means, “Use whatever value is in the cell to my left.” These erasable formulas serve as a typing shortcut and can be found in areas where you are likely to want to enter the same information for each year.

For example, the interest rate for the first mortgage has a blue data-entry cell in the first year (Cell **D29** in the *Cash Flow and Resale Analysis* worksheet), but purple thereafter. That means you can enter an amount in the first year and it will automatically duplicate itself in each subsequent year without your having to type it in. If you want to change the rate in the second year, however, you can simply type over the formula in that year and enter a new rate—remember we said the formula was “erasable.” You do not have to enter a rate for each year, but only when a change occurs. This new rate will be used for each subsequent year until you make another entry in the row.

Keep in mind that you are erasing the unprotected formula whenever you make an entry in a purple cell. If you want to restore the formula, it is very easy. Looking again at “**First Mortgage**” on the *Cash Flow and Resale Analysis* worksheet, if you entered 10.00% in year 2, you would be making that entry in cell **E29**. Before you made your entry, the cell had a formula that said, “This cell equals the cell immediately to the left.” Since the cell to the left is **D29**, the formula you erased was simply **=D29**. Type this in; the cell will once again equal whatever rate is used for the previous year.

In addition to the blue and purple cells, you’ll find radio buttons and check boxes like the ones shown below:

Estimate Selling Price by... (enter rate below)	
<input checked="" type="radio"/> Capitalization of Net Operating Income	11.00%
<input type="radio"/> Appreciation Rate	4.00%
<input type="radio"/> Gross Rent Multiplier	7.00
Term of Loan, in Months	0
Interest Only? For How Many Months?	<input type="checkbox"/> 0
Monthly Payment to Override Calculation	0.00

Figure 1-7 Radio Buttons & Check Boxes

NOTE

When entering numeric data into the program; always enter numbers only. Do not type dollar signs, commas or letters along with numbers, or you will see the error message, “#Value!” in the current or dependent cells. Excel will not recognize such entries as numbers and will alert you with this error message, which often cascades to cells throughout the program.

Chapter 2. Welcome, Quick Start and General Worksheets

The Welcome Worksheet

The workbook begins with a *Welcome* page that displays Internet links for software licensing, technical support, and the user guide. You will also find a **Check for Updates** button on this page to see whether an update of *REIA Express Edition* is available.

The Quick Start Worksheet

The workbook also includes a *Quick Start* page that provides introductory information for new users. It covers the basics of entering data, viewing cell notes and printing reports. This material is also covered in Chapter 1 of this User Guide.

The General Worksheet

The analysis begins with the next sheet, which is called *General*. On this page you will enter information that is used throughout the analysis and on most reports.

Entering Data in the General Worksheet

Property Information

The first data field on the *General* worksheet is “**Property Name.**” Your entry here will be used in the heading or cover page of each of the reports. Notice the placeholder text, “Property Name Here.” Be sure to type something meaningful in this cell or the placeholder will appear on all of your reports. This field is used only as a label for reports and does not affect the calculations of the program.



Figure 2-1 Property Name

The second field is a pull-down that allows you to specify the property type. Again, this information will appear in various reports but will have no effect on any calculations. The pull-down displays these choices (Figure 2-2):

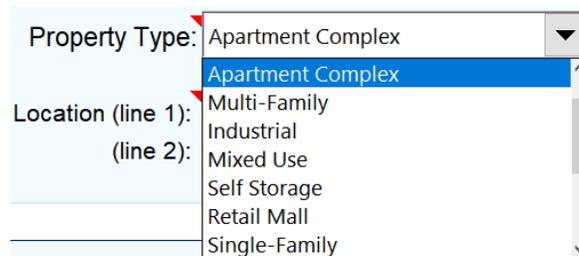


Figure 2-2 Property Type

Please note that the property type is for informational purposes only and does not affect the structure, function, or calculations of the program.

The last field of property information is “**Property Location.**” This is two lines indicating the address of the property. Again, this field does not affect the calculations of the program.

Month and Year Analysis Begins, Date of Report

In the next two fields you will enter the month and the year that the analysis will begin. You can type directly into the fields, or you can use the “spinners” to raise or lower the numbers. Your entries will pass through to the other worksheets that use this information to perform calculations.

Your entry for “**Year Analysis Begins**” defines the starting point for a 10-year analysis (or a 24-month analysis in short-term mode).

REIA can handle a partial first year. For example, if you are expecting to acquire a property in August of the first year enter 8 in the “**Month Analysis Begins**” field. Wherever appropriate, the program will prorate calculations to be five-twelfths of their annual amounts. (Yes, August through December is 5 months.)

The next entry, “**Date of this Report,**” has no effect on calculations. It is strictly a label that will appear on various reports. Please note that unlike the other data-entry items on this page, this one appears in purple instead of blue. Purple fields contain formulas that we have purposely left unprotected so that you can erase them. In this case, the field has a formula that reads your computer’s clock and inserts today’s date. If you do not want to use the current date, just type what you want into the cell.

Investor and Report Prepared For and By

The next several items—“**Investor,**” “**Report Prepared For**” and “**Report Prepared By**”—are again labels that the software will display on various reports. Be sure to type over or delete any of the placeholder text you see in these fields, otherwise that text will appear on your reports.

Logo

You can specify a logo that will appear in the upper right corner of all reports. The logo can come from any image file. The largest image size allowed is 2” x 0.5” (192 x 48 pixels), but the program will automatically scale your image to fit this limit, retaining the original aspect ratio.

By default, the message “Created with REIA Express Edition” will appear at the bottom right of all reports. However, if you prefer to omit this message, you can uncheck this checkbox.

Analysis Mode

REIA Express Edition offers three different analysis modes. You’ll need to choose one of the three, and your choice affects which worksheets are visible after this one (the *General* worksheet).

Short-Term Analysis is suitable for an investment where you plan to buy, renovate and resell a property within two years. You enter month-by-month estimates of capital improvements, along with any rental income and operating expenses. Seven reports are available in this mode.

Quick Long-Term Analysis is intended for a rough preliminary estimate of whether a project is feasible. In this mode, there’s only one data entry worksheet after General called Quick Analysis followed by a single Report worksheet.

Detailed Long-Term Analysis is a full regular analysis, with a holding period of up to 10 years. You enter year-by-year estimates of rental income and operating expenses. You can have up to 3 mortgages, plus a refinance.

Note that the three modes are entirely separate from each other and do not share data.

Currency, Length and Area Settings

By default, currency will be denominated in US dollars, length will be expressed in feet and area will be measured in square feet. However, if you click the “Edit Settings...” button, you can change the currency and the units of length and area.

These settings will be used in data entry areas and in reports.

Miscellaneous Settings

Your next entry is for the “**Discount rate**” to be used in the Present Value (PV) calculations in the *Cash Flow and Resale Analysis*. These calculations determine the Present Value of each year’s Net Operating Income (NOI), as well as that of the final reversion value (i.e., resale less costs of sale) of the property; it then sums these Present Values to equal the PV of the entire income stream.

By using the Net Operating Income (NOI) and the reversion amount, PV ignores the effects of both financing and taxation. This is an approach typically employed by commercial appraisers.

The rate that you enter here is the annual rate at which an amount in hand today would have to grow to be equal to the given NOI or reversion amount when it occurs. For example, a NOI of \$10,000 at the end of one year would have a PV of \$9,259.26 at 8 percent. In other words, you would have to put \$9,259.26 away at 8 percent today for it to be worth \$10,000 next year.

The purpose of the PV calculation is to estimate the present worth of the future income stream. The rate that you choose is your way of accounting for the fact that money to be received in the future is less valuable than money received today. Therefore, future income must be “discounted” so that you can accurately apprehend its present worth. Because you will hold this property over a period of time, you will receive its income spread over this period of time. You compute the discounted Present Value of each “chunk” of income and when you add up all of these Present Values you have the PV of the entire income stream. A good choice is to use the capitalization rate that is currently being achieved by similar properties.

You can learn a great deal about Discounted Cash Flow analysis and other financial concepts that are critical to successful investing in income property by taking one of our video courses, which are available at realdata.com.

You can check the “Use Canadian Amortization” checkbox to use Canadian amortization for all loans. This means that interest is compounded every 6 months instead of every month.

In the box labeled “When Calculating Equity and PV of NOI+Reversion,” you can choose whether to ignore or deduct costs of sale when calculating Present Value of Net Operating Income plus reversion, and when calculating equity. If you choose "Ignore Costs of Sale", the program will use these definitions:

$$\text{Reversion} = \text{Estimated Selling Price}$$

$$\text{Equity} = \text{Estimated Selling Price} - \text{Mortgage Payoffs}$$

If you choose "Deduct Costs of Sale", the program will use these definitions:

$$\text{Reversion} = \text{Estimated Selling Price} - \text{Costs of Sale}$$

$$\text{Equity} = \text{Estimated Selling Price} - \text{Costs of Sale} - \text{Mortgage Payoffs}$$

The completed *General* worksheet will look something like this:

Property Property Name: Tranquil Manor Property Type: Apartment Complex Property Location (line 1): 100 Raucous Causeway (line 2): South Haven, CT 06999	Analysis Mode <input type="radio"/> Short-Term Analysis <input type="radio"/> Quick Long-Term Analysis <input checked="" type="radio"/> Detailed Long-Term Analysis												
Reports Month Analysis Begins: 1 (all first-year calculations will be pro-rated based on starting month) Year Analysis Begins: 2020 Date of this Report: 01/28/20 Investor: Lester Q. Investor Report Prepared For: Last Foreclosure S&L " " " 100 Lois Lane " " " South Haven, CT 06999 Report Prepared By: RealData, Inc. " " " PO Box 691 " " " Southport, CT 06890 Logo:  Set/Change Logo... Clear Logo <input checked="" type="checkbox"/> Show "Created with REIA Express Edition" on reports	Currency, Length and Area Settings <table><thead><tr><th></th><th>Text</th><th>Symbol</th></tr></thead><tbody><tr><td>Currency:</td><td>Dollars</td><td>\$</td></tr><tr><td>Length:</td><td>Feet</td><td>f</td></tr><tr><td>Area:</td><td>Square Feet</td><td>SF</td></tr></tbody></table> <input type="button" value="Edit Settings..."/>		Text	Symbol	Currency:	Dollars	\$	Length:	Feet	f	Area:	Square Feet	SF
	Text	Symbol											
Currency:	Dollars	\$											
Length:	Feet	f											
Area:	Square Feet	SF											
	Miscellaneous Settings % Discount Rate for Present Value Calculations: 10.00% <input type="checkbox"/> Use Canadian Amortization When Calculating Equity and PV of NOI+Reversion, <input type="radio"/> Ignore Costs of Sale <input checked="" type="radio"/> Deduct Costs of Sale												

Figure 2-3 Completed General Worksheet

Chapter 3. Short-Term Rent Roll

What the Short-Term Rent Roll Does

The Short-Term Analysis is comprised of a series of related worksheets, the first of which is *Short-Term Rent Roll*. Return to the *General* worksheet to select **Short-Term Analysis**. In a typical short-term scenario, you plan to purchase a property, do some renovations, and then resell within two years. You may or may not have rental income during the holding period. If you do, you can enter your rental assumptions here.

The *Short-Term Rent Roll* worksheet produces monthly income estimates for up to 25 groups of rental units.

Entering Data in the Short-Term Rent Roll Worksheet

Data entry in the *Short-Term Rent Roll* worksheet is very straightforward. Enter the total combined square footage of all units at the top, in cell C6. All your other entries will be in rows 11 through 35.

Before you begin, collect the data about the units of the property you are analyzing. Specifically, you will want square footage, current monthly rent amounts and any scheduled rent changes. It is also useful to collect numbers of bedrooms and bathrooms, although this is not required.

You should group the rental units in a way that is meaningful to you. Typically, all of the units in a group would have the same or similar square footage and rent, the same number of bedrooms, and the same number of bathrooms. You can leave the numbers of bedrooms and bathrooms as 0 if you are not concerned with these figures or if the property is not residential.

Some sample group descriptions appear in rows 11 through 13, column B. You can use any of these that are applicable to this property, or you can edit them to suit your needs. You can also enter new group descriptions in rows 14 through 35, column B.

In columns C through F, enter the number of square feet per unit, the number of units in the group, the number of bedrooms per unit and the number of bathrooms per unit.

In column G, specify how you will enter the rent, as \$ / Month, \$ / SF / Month, \$ / SF / Year or \$ / Year. Then enter the average rent per unit for the first month in column I.

Typically, you would want to specify the average rent in the same way for all 25 groups. For example, if you will be using \$ / SF / Month for one group, you would probably want to use it for all the other groups also. There is a button labeled **Set All** at the top of the worksheet to accomplish this quickly. Use the dropdown menu below this button to select how the rent will be specified. Then click **Set All** to copy this value into column G for all 25 groups.

If you do nothing further, the program will copy the same rent across the row and use it for every month. Notice that the cells in months 2 through 24 appear in purple. These cells contain unprotected (i.e., erasable) formulas that each say, "Use the value in the cell to my left."

However, you may want to estimate that the rent will increase in the future. In months 2 through 24 for each group, you can make two kinds of entries in the purple cells:

1. An entry greater than one (1) signifies the actual dollar amount for the new average rent in that year.
2. An entry between one (1.00) and negative one (-1.00) signifies a percentage change over the full-year dollar amount from the previous year. For example, an entry of 0.1 in month three would yield an amount 10% higher than that of month two; -0.1 would yield 10% lower than

month two; and 0 would signify 0% change, and thus give you the same amount you had in month two.

Keep in mind that this feature of entries that repeat automatically across a row is provided simply as a saver of keystrokes. These cells are all unprotected and therefore open for keyboard input. Remember, too, that these cells can be identified by their light purple color. Once you overwrite the formula in one of these cells, it is gone. If you really want it back, put the cursor on that cell, type an equal sign (=), then type the reference of the cell to the immediate left (e.g., if you are in cell J13, type in =I13).

The left portion of the worksheet will look something like this once you have filled it in:

Unit		# of	Bed-					
Description	SF	Units	rooms	Baths	Rate as...	01-2020	02-2020	03-2020
studio apartment	520	10	1	1.	\$ / Month	700.00	0.03	0.03
1-bedroom	700	30	1	1.	\$ / Month	950.00	0.03	0.03
2-bedroom	850	8	2	1.	\$ / Month	1,150.00	0.03	0.03

Figure 3-1 Short-Term Rent Roll - Unit Information

Chapter 4. Short-Term Operating Data

What the Short-Term Operating Data Worksheet Does

The *Short-Term Operating Data* worksheet becomes visible when you select Short-Term Analysis mode on the *General* worksheet. It allows you to produce an operating statement for the subject property. This report is very similar to an income statement or a profit-and-loss statement for a business.

How to Use the Short-Term Operating Data Worksheet

When you use this worksheet, you will enter your assumptions about income, vacancy and operating expenses in the top portion of the sheet, rows 10 to 44. You can then view or print the results of your assumptions; these results will appear in the sections below the data-input area.

Entering Data in the Short-Term Operating Data Worksheet

The worksheet is divided into two similar sections. The top section is where you enter your assumptions. The bottom section is where the program translates your assumptions into dollar amounts.

The data input section of the analysis, rows 10 to 44, allows you to do the following:

- Enter any miscellaneous income, such as from parking or laundry.
- Enter your estimated loss due to unoccupied space and uncollected rent.
- Enter any line-item expenses.
- Make assumptions as to how the expenses may change monthly. The program takes these assumptions and creates a month-by-month matrix of the projected dollar amounts.

Assumptions

The *Assumptions* section is divided into three subsections: *Income*, *Vacancy & Credit Allowance* and *Expenses*.

Income

The *Income* subsection is shown in Figure 4-1:

Assumptions		01-2023	02-2023	03-2023	04-2023
INCOME					
Gross Scheduled Rent Income	▼	44,700	44,700	44,700	44,700
Other Income	▼	0	0	0	0

Figure 4-1 Short-Term Operating Data Assumptions - Income

Gross Scheduled Rent Income is automatically copied from the *Short-Term Rent Roll* worksheet. These cells are in black font, because they are not input cells here. If you wish to change these values, you'll need to go back to the *Short-Term Rent Roll* worksheet.

Other Income refers to miscellaneous income, such as from parking or laundry. It tends to be irregular, so the value you enter for month 1 does not repeat itself automatically across the row. You must actually make an entry in every month that you want to project such income.

Vacancy & Credit Allowance

In the row labeled “**Vacancy & Credit Allowance**,” if your entry is between 0 and 1, it represents a percentage of the Total Gross Income. If it is greater than 1, it represents a dollar amount, as entered.

VACANCY & CREDIT ALLOWANCE	0.02	0.02	0.02	0.02
---------------------------------------	------	------	------	------

Figure 4-2 Short-Term Operating Data Assumptions - Vacancy & Credit Allowance

Expenses

Although expenses tend to be recurring, they are not necessarily paid monthly. Many expenses are paid quarterly, semi-annually or annually. For this reason, expenses in short-term mode do not repeat automatically across each row. You must actually make an entry in every month that you want to project an expense.

EXPENSES				
Accounting	1,250	0	0	0
Advertising	0	0	0	0
Insurance (fire and liab.)	14,650	0	0	0
Janitorial Service	0	0	0	0
Lawn/Snow	1,850	0	0	1,850
Legal	3,100	0	0	0
Licenses	0	0	0	0
Miscellaneous	800	0	0	800
Property Management	3,200	3,200	3,200	3,200
Repairs and Maintenance	29,300	0	0	0
Resident Superintendent	0	0	0	0
Supplies	1,850	0	0	1,850
Taxes				
Real Estate	21,300	0	0	0
Personal Property	0	0	0	0
Payroll	0	0	0	0
Other	0	0	0	0
Trash Removal	4,650	0	0	4,650
Utilities				
Electricity	1,017	1,017	1,017	1,017
Fuel Oil	0	0	0	0
Gas	0	0	0	0
Sewer and Water	7,375	0	0	7,375
Telephone	67	67	67	67
Other	0	0	0	0

Figure 4-3 Short-Term Operating Data Assumptions - Expenses

Altering Titles in the Assumptions Section

You should be aware that you can rename most of the line items in the *Short-Term Operating Data* module. You can type over any of the expense items whose names appear in blue in the data-entry section. A name change in the data input section of the worksheet will cause the name to change automatically in the bottom report section as well.

Short-Term Operating Data Results

Once you have finished making all your inputs into the *Short-Term Operating Data* worksheet, you are ready to view the results.

Projected Income and Expenses

You saw what the data input looks like for our example. Now if you scroll down to row 56, you can see the output. Shown below is the completed *Short-Term Operating Data* report expressed in total dollars.

	01-2023	02-2023	03-2023	04-2023
INCOME				
Gross Scheduled Rent Income	44,700	44,700	44,700	44,700
Other Income	0	0	0	0
TOTAL GROSS INCOME	44,700	44,700	44,700	44,700
VACANCY & CREDIT ALLOWANCE	894	894	894	894
GROSS OPERATING INCOME	43,806	43,806	43,806	43,806
EXPENSES				
Accounting	1,250	0	0	0
Advertising	0	0	0	0
Insurance (fire and liab.)	14,650	0	0	0
Janitorial Service	0	0	0	0
Lawn/Snow	1,850	0	0	1,850
Legal	3,100	0	0	0
Licenses	0	0	0	0
Miscellaneous	800	0	0	800
Property Management	3,200	3,200	3,200	3,200
Repairs and Maintenance	29,300	0	0	0
Resident Superintendent	0	0	0	0
Supplies	1,850	0	0	1,850
Taxes				
Real Estate	21,300	0	0	0
Personal Property	0	0	0	0
Payroll	0	0	0	0
Other	0	0	0	0
Trash Removal	4,650	0	0	4,650
Utilities				
Electricity	1,017	1,017	1,017	1,017
Fuel Oil	0	0	0	0
Gas	0	0	0	0
Sewer and Water	7,375	0	0	7,375
Telephone	67	67	67	67
Other	0	0	0	0
TOTAL EXPENSES	90,409	4,284	4,284	20,809
NET OPERATING INCOME	(46,603)	39,522	39,522	22,997

Figure 4-4 Short-Term Operating Data, Projected Income & Expenses

You can print this report by choosing **Reports** from the **RealData** menu. Note that you can choose a printer, print multiple copies and restrict the printout to black and white from this dialog box. These options are available for all reports.

NOTE

When you print the Short-Term Operating Data report, the program will automatically remove any expense line items that have zero values for all months.

Chapter 5. Short-Term Cash Flow and Resale

What Short-Term Cash Flow and Resale Does

The *Short-Term Cash Flow and Resale* worksheet becomes visible when you select Short-Term Analysis mode on the *General* worksheet. It is a 24-month pro-forma that allows you to project the before-tax consequences of ownership and resale. You can use it to evaluate how different mortgage terms and assumptions about capital improvements interact to affect the quality of your investment.

How to use Short-Term Cash Flow and Resale

At the top of the worksheet, enter pertinent information under four headings:

1. **Purchase**
2. **Financing**
3. **Resale**
4. **Capital Improvements**

Detailed instructions for entering data into these sections follow. When you have completed your data entry, you can view your results. If you are satisfied with the results, you can print any of several reports; if not, you can change some or all of your assumptions to analyze the project further.

When you complete your entries in this worksheet, you will have a complete summary of cash flows and proceeds of resale. If you want to analyze “What if?.....” scenarios, you can alter any one or more of the assumptions directly on your screen and recalculate the entire model in just seconds. *Short-Term Cash Flow and Resale* makes it easy for you to answer questions such as:

- When will you see a positive cash flow?
- How will your cash flows be affected if the rate increases on your adjustable mortgage?
- How many months should you hold the property to maximize your return on investment?

Entering Data in Short-Term Cash Flow and Resale

The *Short-Term Cash Flow and Resale* model reads several pieces of information from previous worksheets and automatically transfers them to the *Short-Term Cash Flow and Resale* model, including:

- The name and type of the property
- The month and year that the analysis begins
- The monthly gross income
- Any vacancy and/or credit losses
- The monthly operating expenses.

Any changes to this information must be made on those previous worksheets.

The Four Assumptions

The following sections provide detailed instructions on the “Four Assumptions,” listed below:

- i. Purchase
- ii. Financing
- iii. Resale
- iv. Capital Improvements

Assumption One: Purchase

Begin your data entry with the section headed “**Purchase**.” Throughout the worksheet, you should see certain cells appear as a distinctive blue or purple color with white background. These are the cells in which you may enter data. The first on the worksheet is “**Purchase Price, Real Property**.” Enter the dollar amount for land and buildings here.

Notice that the next line, “**Required Cash Investment**,” is not displayed in blue with a white background. You do not enter the cash required. It will be calculated for you and shown both here and in the **Short-Term Executive Summary** report.

The cash investment calculation is made as follows. At the beginning of your investment holding period, you will need funds to pay for the following items:

1. The purchase of the real estate
2. Closing costs
3. Loan points
4. Funds for the operating account, to cover any negative cash flows during the holding period.

Your mortgage loan will pay for some, and probably most, of what is listed here. The rest is your required cash investment.

The next entry you can make is “**Closing Costs**.” Normally legal fees for the purchase of investment real estate are payable immediately but must be amortized over the useful life of the property.

When completed, the section “**Purchase**” should look something like Figure 5-1:

Purchase	
Purchase Price, Real Property	2,650,000
Required Cash Investment (Calculated)	905,211
Closing Costs	10,000

Figure 5-1 Short-Term Cash Flow and Resale, Purchase

Assumption Two: Financing

In the Short-Term Analysis, your financing is limited to a single mortgage. You enter information about the principal amount, the interest rate, the term, and the number of points. You

may also override the payment calculated by the program by manually entering a payment amount.

Data entry for financing is shown below.

Financing						
Principal Amount (\$ or % of purchase price)	0.80	2,120,000 = amount used				
Term of Loan, in Months	240					
Interest Only? For How Many Months? <input type="checkbox"/>	0					
Number of Points	2.00	amortized over 240 months				
Monthly Payment, Calculated (Starting)	16,436.34					
Monthly Payment to Override Calculation	0.00	240 = adjusted term in months				
		01-2023	02-2023	03-2023	04-2023	05-2023
Annual Interest Rate		7.00%	7.00%	7.00%	7.00%	7.00%
Monthly Payment		16,436.34	16,436.34	16,436.34	16,436.34	16,436.34
Loan Balance, End of Month		2,115,930	2,111,837	2,107,720	2,103,578	2,099,413

Figure 5-2 Short-Term Cash Flow and Resale, Financing

Mortgage: Principal Amount

Your entry for the beginning principal amount may be entered as:

- A number greater than one (1): If you enter a number greater than 1, the program will interpret it as the actual dollar amount of the mortgage.
- A number less than or equal to one (1.00): If your entry is a decimal amount that is less than or equal to 1, the program will take this to mean that the mortgage amount should be a percentage of the purchase price. For example, if you enter 0.75, the mortgage amount will be 75% of the purchase price.

Mortgage: Term of the Loan

Below the principal amount, enter the term of the loan in months. You can omit this entry if the loan is interest-only (see next paragraph).

Mortgage: Interest Only

The next line, “**Interest Only? For How Many Months?**” has a check box and an entry for the number of interest-only months. There are three possible scenarios:

1. The loan is a regular, amortized loan, not interest only. Leave the box unchecked.
2. The loan is purely interest-only for the entire length of the analysis. Mark the check box, and enter 0 for the number of interest-only months. Your entry for the term of the loan will be ignored.
3. The loan is interest-only for some number of months, and then amortized after that. Mark the check box; enter the term of the loan, which includes the combined interest-only and amortized periods; and enter the number of interest-only months, which must be less than the full term of the loan.

Mortgage: Loan Points

The next entry concerns loan points. A loan point is an interest premium charged by the lender at the inception of the loan. It is equal to 1 percent of the face amount of the loan. You enter the number of points; the program translates your entry into a dollar amount.

Typically, points must be amortized over the term of the loan. The field “**Number of Months to Amortize Points**” will default to the adjusted term of the loan. However, if the loan specifies that a balloon payment is due at the end of a certain number of months, then you should enter that number here. You do so because the loan points can be written off over the period until the balloon and not over the longer period on which the amortization may be based. Be sure that you refinance the loan no later than the balloon date.

Mortgage: Payment to Override Calculation

The next entry is titled, “**Monthly Payment to Override Calculation.**” This feature is not one that you will use in every transaction because it is intended to accommodate two rather specific situations:

Situation 1: The Actual Monthly Mortgage Payment is Different from the Calculated Amount

REIA accommodates the situation where the actual monthly mortgage payment to be used is slightly different from the calculated amount. For example, suppose that the seller agrees to take back a \$100,000 second mortgage at 10.5 percent for 5 years. To retire the loan requires 60 monthly payments of \$2,149.39. The seller, however, prefers round numbers because they make his checkbook easier to balance. The seller insists on a monthly payment of \$2,200.00. The extra \$50.61 each month represents additional money paid toward the principal and so accelerates the payoff of the loan. Instead of 60 payments, you need to make only 59 payments to retire the mortgage.

If you use this override, then all of the calculations in the worksheet that are related to the mortgage will treat this as a loan at 10.5 percent for 59 months, with a payment of \$2,200 per month. By overriding the payment amount, you have redefined the length of the loan.

Situation 2: You Have an Assumed Mortgage

The second situation where you might choose to override the calculated payment is in the case of an assumed mortgage. If you enter the current principal balance of the mortgage you are assuming, the interest rate being charged and your actual monthly payment (in the “override” cell), then the program will make all of the correct calculations for that assumed loan. The program will calculate the adjusted term, which is the number of remaining months needed to retire the loan with the specified monthly payment.

Mortgage: Interest Rate

In the row labeled “**Annual Interest Rate**”, enter the interest rate for the loan. The cell for the first month’s interest rate contains a zero. You enter the beginning rate here.

If your loan has a fixed rate, then you will not make any interest-rate entries after the first month. If your loan has an adjustable rate, however, you can make assumptions as to how its rate will change.

After the first cell, every cell in the interest-rate row has an erasable formula that makes it equal to the previous month’s interest rate. If you make an entry in the first month only, the amount in the first month will copy itself across the row and every month will show the same interest rate.

If you make another entry somewhere in the row, your entry will erase the formula for that cell. When the model recalculates, the interest rate will change for the month of your entry and for every month that follows.

You do not have to enter a rate for each month, but only when a change occurs. This new rate will be used for each subsequent month until you make another entry in the row.

Keep in mind that you are erasing the unprotected formula whenever you make an entry in months 2 through 24 in this row. If you want to replace the formula, it is very easy. For example, if you changed the interest rate in month 2, you replaced the formula in cell **E23**. Go back to cell **E23**. The cell used to have a formula that said; “**This cell equals the cell immediately to the left.**” Since the cell to the left is **D23**, the formula you erased was simply **=D23**. Type this in; the cell will once again equal whatever rate is used for the previous month.

Assumption Three: Resale

In the row labeled “**Sale Expected at End of Month...**,” you can either select a month from the pull-down list or key in a month directly in the form mm-yyyy. The *Short-Term Executive Summary* worksheet will use this piece of information and tailor itself to show only the data that is relevant to the holding period you specify.

The next entry is “**Estimated Selling Price.**” In Short-Term Analysis, you’ll need to estimate in your own way what the selling price will be. Methods such as capitalization rate that would be suitable for a long-term investment are not necessarily applicable here.

The final entry in this section is for the cost of sale as a percentage of the selling price. Fees paid to a real estate broker and to an attorney are generally considered costs of sale. Your entry here represents the combined costs. If you expect to pay 6 percent to a broker and 1 percent to an attorney, then enter 7.00% here.

Assumption Four: Capital Improvements

The final section for data entry is called *Capital Improvements*. It is shown in Figure 5-3:

Capital Improvements				
	01-2023	02-2023	03-2023	04-2023
Site preparation, Demolition	0	0	0	0
Sewer laterals / Septic	0	0	0	0
Well / Water	0	0	0	0
Concrete / Foundation	0	0	0	0
Framing	0	0	0	0
Electric - rough in	0	0	0	0
Electric - finish and fixtures	2,090	2,930	3,350	3,770
Plumbing - rough in	0	0	0	0
Plumbing - finish and fixtures	460	640	740	830
Heating / Air Conditioning	6,370	8,920	10,190	11,470
Siding	0	0	0	0
Roofing	0	0	0	0
Masonry / Chimney / Fireplaces	0	0	0	0
Windows / Doors	3,830	5,360	6,120	6,890
Sheetrock and Taping	0	0	0	0
Interior Trim and Floors	2,120	2,970	3,390	3,820
Deck	0	0	0	0
Painting, Interior	0	0	0	0
Painting, Exterior	0	0	0	0
Kitchen Cabinets and Appliances	0	0	0	0
Carpeting	820	1,150	1,310	1,480
Security / Alarm System	2,350	3,290	3,760	4,230
Paving	0	0	0	0
Landscaping	0	0	0	0
Elevators	0	0	0	0
Miscellaneous	0	0	0	0
Other	0	0	0	0
Other	0	0	0	0
Total	18,040	25,260	28,860	32,490

Figure 5-3 Short-Term Cash Flow and Resale, Capital Improvements

For each month, enter your estimated costs of capital improvements by category.

Your entries do not repeat automatically across the row. You must actually make an entry in each month that you expect costs in a particular category.

Notice that the category names in column C are in blue font. You can change the name of any cost category. Simply type the new category name over the old one.

The program automatically calculates how much money you'll need to put into your operating account initially to meet the costs of capital improvements and any other negative cash flows. It includes this when figuring your required cash investment (cell D10).

The Completed Worksheet

When the worksheet recalculates after each entry, some items, as we have seen, will fill in on the “**Assumptions**” pages. The program is designed this way to help you catch obvious errors as you enter information. For example, *Short-Term Cash Flow and Resale* calculates and displays the amount of the mortgage payment when you enter the terms. If the payment is a tremendous surprise, then you have probably entered an erroneous interest rate or term.

More important, however, are the sections below the “**Assumptions.**” The first of these, in rows 77-93, provides a month-by-month breakdown of the operating cash flows.

	01-2023	02-2023	03-2023
GROSS INCOME	44,700	44,700	44,700
- Vacancy & Credit Allowance	894	894	894
- Operating Expenses	90,409	4,284	4,284
NET OPERATING INCOME	(46,603)	39,522	39,522
- Debt Service	16,436	16,436	16,436
- Capital Improvements	18,040	25,260	28,860
CASH FLOW BEFORE TAXES	(81,079)	(2,174)	(5,774)
Cumulative Cash Flow Before Taxes	(81,079)	(83,254)	(89,028)
ANALYSIS OF OPERATING ACCOUNT			
Account Balance, Beginning of Month	322,811	241,732	239,558
+ Cash Flow Before Taxes	(81,079)	(2,174)	(5,774)
Account Balance before Distributions	241,732	239,558	233,783
- Distributions	0	0	0
Account Balance, End of Month	241,732	239,558	233,783

Figure 5-4 Short-Term Cash Flow and Resale, Analysis of Operating Cash Flows

The second section, in rows 99-113, titled “**Analysis of Resale,**” computes the before-tax sale proceeds. In addition, the IRR calculation appears here.

These two sections can be printed by pulling down the **RealData** menu, choosing **Reports** and selecting **Cash Flow Report**.

12-2024	
PROJECTED SELLING PRICE	3,300,000
- Costs of Sale	231,000
- Mortgage Payoff	2,015,487
BEFORE-TAX SALE PROCEEDS	1,053,513
+ Final Operating Account Balance	0
+ Cumulative Distributions	164,067
- Initial Cash Investment	905,211
BEFORE-TAX CUMULATIVE CASH PROFIT	312,369
Cumulative Return on Investment (Before Tax)	34.51%
Internal Rate of Return (Before Tax)	16.47%

Figure 5-5 Short-Term Cash Flow and Resale, Analysis of Resale

Goal Seek

When evaluating an income property, you may have a particular investment objective in mind: a minimum acceptable IRR, for example.

You typically ask yourself a question such as, “What purchase price will allow me to meet my goal?” It is now easy to answer a question like this without endless manual trial and error.

For example, let’s assume that in the analysis on which you’ve been working, you decide that you want at least a 17 percent IRR before taxes. You scroll down to the row that displays the “**Internal Rate of Return (Before Tax)**” (row 112) and see that the current value is 16.47 percent. There are several factors that could improve the IRR, but you choose the most obvious and ask, “What purchase price will give me a 17 percent IRR?”

While you could answer that question using Excel’s internal goal seek feature, we have made this process much easier for you in *REIA*. Simply select **Goal Seek** from the **RealData Menu**. You’ll see the **REIA Goal Seek** dialog box:

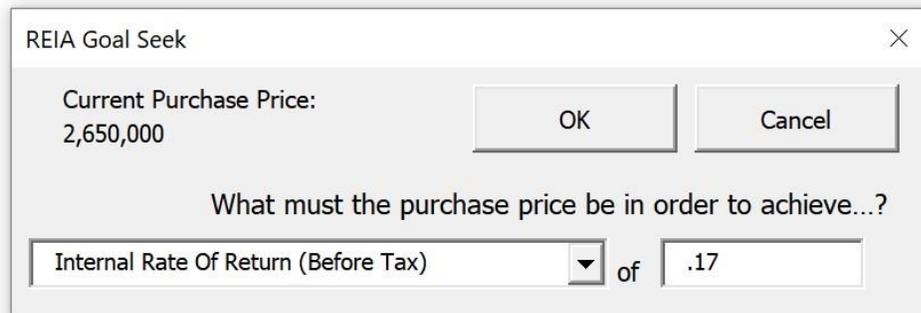


Figure 5-6 Short-Term Cash Flow and Resale, Goal Seek Dialog Box

In the upper left corner is the purchase price currently entered in the **Purchase** section of the *Short-Term Cash Flow and Resale* worksheet. Below that are 2 boxes in which you will enter data to pose your question. Selecting the arrow to the right of the first box gives you a list of 3

different items to solve for. In the above example, you would choose the last item visible, **Internal Rate of Return (Before Tax)**.

In the second box, you enter the percent return (or dollar amount, if appropriate) you would like to achieve, in this case 17 percent. Please note that for percentages, you should enter 0 . xxxx (e.g., enter 15.25 percent as 0 . 1525). For dollar amounts, omit commas and dollar signs (enter \$50,000 as 50000). You will receive an error message if your entry is not in the correct format. Please be aware, however, that if you put in an amount when you are seeking a percentage, the program will calculate the result you have specified; e.g., if you put in 50 as percentage, the program will attempt to calculate what is required to produce a return of 5000 percent.

After you have verified that both entries are as you intend them to be, select **OK**. The program will begin to seek a value for the purchase price that will yield an IRR at or very close to 19 percent, as you specified. The amount of time required will depend on the speed of your computer, but it can take several minutes.

If a valid result cannot be found, you will receive a message:

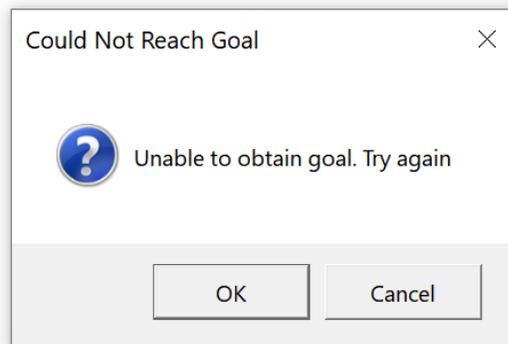


Figure 5-7 Short-Term Cash Flow and Resale, Goal Unobtainable Dialog Box

This will happen if Excel is unable to calculate a result with the conditions you have specified.

Note also that the *REIA* **Goal Seek** can sometimes fail to identify a valid result even though such a result may exist. In such a case, you want to retry with a slightly modified goal.

If the program can find a result, you will see that result displayed beneath your entries (see Figure 5-8). There are three values whose titles appear in bold type.

The first, “**Set Value**,” indicates the goal you set, as entered in the middle box (Figure 5-6), i.e., the rate or amount you are seeking.

The second “**Current Value Found by Goal Seek**,” shows the rate or amount **Goal Seek** identified. This should be close or equal to the first value. In this example, your goal of 17 percent shows as .17 and the *Current Value* found by **Goal Seek** is 17.01 percent. The value may not always be exact, but it should be reasonably close.

The final value, “**New Purchase Price**,” is the answer you are interested in. You can now see that to achieve an IRR of 17 percent, you must purchase the property for \$2,641,104.

REIA Goal Seek

Current Purchase Price:
2,650,000

OK Cancel

What must the purchase price be in order to achieve...?

Internal Rate Of Return (Before Tax) of .17

Goal Seek found a value.

Set Value:	.17	Cancel
Current Value found by Goal Seek:	17.01%	Accept Change
New Purchase Price:	2,641,104	Try Again

If you click "Accept Change," Goal Seek will replace the Purchase Price in your model with the amount shown here as the "Current Value." If you click "Cancel," Goal Seek will close without making any changes to your model.

Note: Goal Seek may not always be able to find a value that exactly achieves the specified objective, but may show a "Current Value" that is close enough to be acceptable.

Figure 5-8 Short-Term Cash Flow and Resale, Goal Seek Results

Now use one of the three options on the right to specify how you will proceed.

If you choose **Try Again**, you can enter new values (e.g., choose Before-Tax Cumulative Cash Profit as the variable or change the rate to 20 percent) and have **Goal Seek** look for a new purchase price.

If you choose **Cancel**, you exit **Goal Seek** and your workbook remains as it was before you began this process.

If you choose **Accept Change**, **Goal Seek** will replace your original scenario with the one it has computed.

NOTE

When you choose Accept Change, Goal Seek replaces the previous Purchase Price with the amount shown here. The Excel Undo function will not restore the previous purchase price. Be sure you prefer the new scenario—or at least make note of the previous price—before you select OK.

Goal Seek has been set up to allow you to search for a purchase price based on Before-Tax Cumulative Cash Profit, Cumulative Return on Investment (Before Tax) or Internal Rate of Return (Before Tax).

Keep in mind that you can use Excel's built-in goal seek procedure with other data elements. To access it:

1. Select the cell whose value you want to change.
2. Select **Goal Seek** on the **Data** menu under **What-if Analysis**. You will see a dialog box:

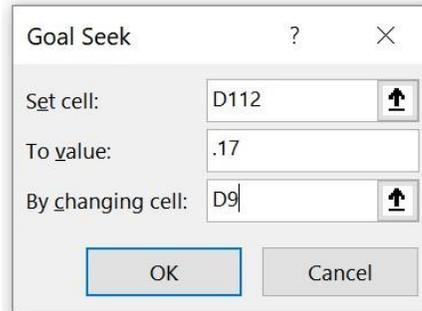


Figure 5-9 Short-Term Cash Flow and Resale, Excel's Built-in Goal Seek

3. Because you are already on the cell containing the value you want to change (your goal), the first field is filled in for you.
4. Enter the value you want to achieve in the field, "**To value.**"
5. Finally, select the field, "**By changing cell**", go to *Short-Term Cash Flow and Resale* and find the cell that contains the purchase price or some other user-input item that is directly related to the goal.
6. Select the desired field and the program will fill in the cell address for you. (Note: The dollar signs that may appear in these addresses are a spreadsheet convention indicating what is called an "absolute reference." These signs have no real significance here.)

Keep in mind that you can use this goal seek procedure with other data elements. The rules are simple:

- Your goal (the "**Set cell**" field) must be a calculated item. In other words, the cell must have a formula in it.
- The variable (the "**By changing cell**" field) must be a user input item. In other words, it must *not* contain a formula.
- The value of the goal must depend, directly or indirectly, on the value of the variable. In our example here, the IRR does depend on the purchase price. The amount of the NOI or the annual property tax expense, on the other hand, would *not* depend on the purchase price.

Chapter 6. Short-Term Executive Summary

The *Short-Term Executive Summary* worksheet becomes visible when you select Short-Term Analysis mode on the *General* worksheet. There is no data entry required here. This sheet is intended to be used strictly as a report.

The *Short-Term Executive Summary* gives you a quick snapshot of the key financial measures for your project. It covers cash flow over the holding period, as well as proceeds from the resale.

In the *Short-Term Executive Summary*, certain cells may be highlighted in yellow, indicating a possible problem with this investment. For example, before-tax cumulative cash profit that is negative or internal rate of return that is negative would be highlighted in yellow.

Simply select **Reports** from the **RealData Menu**, and choose **Executive Summary Report**. At the dialog box shown there you can change the printer, choose to print multiple copies and restrict the output to black and white. Yellow highlighting does not appear in the printed form of the report.

Property Information

Type	Apartment Complex
Number of Units	48
Square Footage	33,000

Sources of Funds

Cash Investment	905,211	29.92%
Mortgage (20 year term, 7.00% rate)	2,120,000	70.08%
Total:	3,025,211	

Income and Cash Flow over 24 Months

Gross Income	1,072,800
Vacancy & Credit Allowance	21,456
Gross Operating Income	1,051,344
Operating Expenses	454,816
Net Operating Income	596,528
Debt Service	394,472
Capital Improvements	360,800
Cash Flow Before Taxes	(158,744)

Uses of Funds

Purchase Price, Real Property (80.30 per square foot)	2,650,000	87.60%
Closing Costs	10,000	0.33%
Points	42,400	1.40%
Seed Money for Operating Account	322,811	10.67%
Total:	3,025,211	

Resale in December 2014

Projected Selling Price	3,300,000
Costs of Sale	231,000
Mortgage Payoff	2,015,487
Before-Tax Sale Proceeds	1,053,513
Final Operating Account Balance	0
Cumulative Distributions	164,067
Before-Tax Cumulative Cash Profit	312,369

Financial Measures

Cumulative Return on Investment	34.51%
Internal Rate of Return	16.47%

24-Month Projected Cash Flow Before Taxes

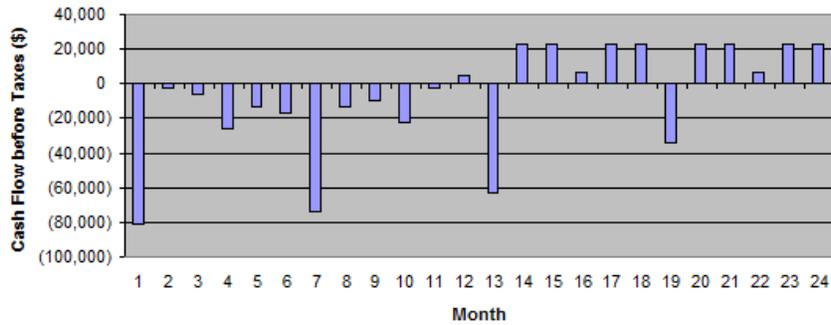


Figure 6-1 Short-Term Executive Summary

Chapter 7. Quick Analysis

What the Quick Analysis Worksheet Does

The *Quick Analysis* worksheet becomes visible when you select Quick Long-Term Analysis mode on the *General* worksheet. It allows you to perform a preliminary analysis of a property, based on the simplified data inputs on this one worksheet. Keep in mind that if you later switch to Short-Term Analysis mode or Detailed Long-Term Analysis mode, your entries here will not carry over.

Quick Analysis has the following limitations:

- A partial first year is not allowed, so the Month Analysis Begins from the *General* worksheet is ignored.
- You can only enter a single loan, with interest rate either fixed or increasing uniformly. No refinance is allowed.
- You enter just the total value for Gross Scheduled Income, which is either fixed or increasing uniformly.
- You are limited to 3 categories of operating expenses, each one either fixed or increasing uniformly.

Entering Data in the Quick Analysis Worksheet

Purchase Information

The first data field on the *Quick Analysis* worksheet is “**Purchase Price, Real Property.**” Enter the dollar amount for land and buildings here.

Notice that the next line, “**Required Cash Investment, Calculated,**” is not displayed in blue. You do not have to enter the cash required. It will be calculated for you and shown both here and in the Quick Analysis report.

The cash investment calculation is made as follows. At the beginning of your investment holding period, you will need funds to pay for the following items:

1. The purchase of the real estate
2. Closing costs
3. Loan points
4. Capital improvements to be made during the first year of the analysis.

Your mortgage loan will pay for some, and probably most, of what is listed here. The rest is your required cash investment.

The next entry is “**Closing Costs, Capitalized.**” Normally, legal fees for the purchase of investment real estate are payable immediately but must be amortized over the useful life of the property.

The final item in this section asks how many rentable square feet the property has. The Quick Analysis report will display total income and operating expenses in dollars per rentable square foot. If you enter 0, then those items will display as “n/a”.

When completed, the **Purchase** section should look something like Figure 7-1:

Purchase			
Purchase Price, Real Property	2,650,000	Closing Costs, Capitalized	10,000
Required Cash Investment, Calculated	582,400	Rentable Square Feet	33,000

Figure 7-1 Quick Analysis, Purchase Information

Financing Information

The *Quick Analysis* assumes that you will finance your investment with a single loan. When entering the “**Principal Amount**,” you have two choices. If you enter a number greater than 1, the program will interpret it as the actual dollar amount of the loan. If your entry is a decimal amount that is less than or equal to 1, the program will take this to mean that the loan amount should be a percentage of the purchase price. For example, if you enter 0.75, the loan amount will be 75% of the purchase price.

After the principal amount, enter the term of the loan in months. You can omit this entry if the loan is interest-only (see below).

The “**Annual Interest Rate**” must be fixed or increase uniformly. Begin by entering the interest rate for the first year. Then if the rate is increasing uniformly, enter the amount and frequency of the increase. For example, if you say the interest rate is 8.00% increasing by 0.25 percent every year, that means it’s 8.00% the first year, 8.25% the second year, 8.50% the third year, and so on. When you click on the cell for frequency (shown as “year” by default), note that it becomes a pull-down from which you can make your choice.

The next line, “**Interest Only? For How Many Months?**” has a check box and an entry for the number of interest-only months. There are three cases:

1. The loan is a regular, amortized loan. Leave the box unchecked.
2. The loan is interest-only. Mark the check box, and enter 0 for the number of interest-only months. Your entry for the term of the loan will be ignored.
3. The loan is interest-only for some number of months, and then amortized after that. Mark the check box, and enter the number of interest-only months, which must be less than the term of the loan.

Enter the “**Number of Points**” on the next line. A loan point is an interest premium charged by the lender at the inception of the loan. It is equal to 1 percent of the face amount of the loan. You enter the number of points; the program translates your entry into a dollar amount.

Typically, points must be amortized over the term of the loan. The field “**amortized over ... months**” will default to the adjusted term of the loan. However, if the loan specifies that a balloon payment is due at the end of a certain number of months, then you should enter that number here. You do so because the loan points can be written off over the period until the balloon and not over the longer period on which the amortization may be based.

The next entry is titled, “**Monthly Payment to Override Calculation.**” This feature is not one that you will use in every transaction because it is intended to accommodate two rather specific situations:

Situation 1: The Actual Monthly Mortgage Payment is Different from the Calculated Amount

REIA accommodates the situation where the actual monthly mortgage payment to be used is slightly different from the calculated amount. For example, suppose that the seller agrees to take back a \$100,000 second mortgage at 10.5 percent for 5 years. To retire the loan requires 60 monthly payments of \$2,149.39. The seller, however, prefers round numbers because they make his checkbook easier to balance. The seller insists on a monthly payment of \$2,200.00. The extra \$50.61 each month represents

additional money paid toward the principal and so accelerates the payoff of the loan. Instead of 60 payments, you need to make only 59 payments to retire the mortgage.

If you use this override, then all of the calculations in the worksheet that are related to the mortgage will treat this as a loan at 10.5 percent for 59 months, with a payment of \$2,200 per month. By overriding the payment amount, you have redefined the length of the loan.

Situation 2: You Have an Assumed Mortgage

The second situation where you might choose to override the calculated payment is in the case of an assumed mortgage. If you enter the current principal balance of the mortgage you are assuming, the interest rate being charged and your actual monthly payment (in the “override” cell), then the program will make all of the correct calculations for that assumed loan. The program will calculate the adjusted term, which is the number of remaining months needed to retire the loan with the specified monthly payment.

When completed, the **Financing** section should look something like Figure 7-2:

Financing		
Principal Amount (\$ or % of purchase price)	0.80	2,120,000 = amount used
Term of Loan, in Months	240	
Annual Interest Rate	7.00%	increasing by 0.00% every year
Interest Only? For How Many Months? <input type="checkbox"/>	0	
Number of Points	2.00	amortized over 240 months
Monthly Payment, Calculated (Starting)	16,436.34	
Monthly Payment to Override Calculation	0.00	240 = adjusted term in months
Loan Balance (Year of Sale)	1,415,601	

Figure 7-2 Quick Analysis, Financing Information

Annual Property Operating Data

“**Gross Scheduled Income**” is the annual income of the property if all rentable space were in fact rented and all rent collected, i.e., the total potential income. The *Quick Analysis* assumes that this income is fixed or increases uniformly. Begin by entering the amount for the first year. Then if it is increasing uniformly, enter the rate and frequency of the increase. For example, if you say Gross Scheduled Income is 100,000 increasing by 2.00% every year, that means it is 100,000 the first year, 102,000 the second year, 104,040 the third year, and so on.

Enter the “**Vacancy & Credit Allowance**” on the next line. This is a percentage of Gross Scheduled Income you expect to lose due to unoccupied space and uncollected rent.

You may enter up to three categories of “**Operating Expenses**.” Like Gross Scheduled Income, each category of Operating Expenses must be fixed or increase uniformly. *Quick Analysis* provides three category names by default, “Insurance,” “Taxes” and “Other Operating Expenses.” However, the category names are in blue cells, so you can overwrite them as needed.

The program will automatically calculate your “**Total Operating Expenses**.” It will also calculate “**Net Operating Income**,” which is equal to Gross Scheduled Income less Vacancy & Credit Allowance, less Total Operating Expenses.

When completed, the **Annual Property Operating Data** section should look something like Figure 7-3:

Annual Property Operating Data					
Gross Scheduled Income	536,400	increasing by	2.00%	every	year
Vacancy & Credit Allowance	2.00%				
Operating Expenses					
Insurance	29,300	increasing by	3.00%	every	year
Taxes	42,600	increasing by	4.00%	every	year
Other Operating Expenses	155,500	increasing by	3.00%	every	year
Total Operating Expenses	227,400	= first year value			
Net Operating Income	298,272	= first year value			

Figure 7-3 Quick Analysis, Annual Property Operating Data

Resale Information

In the row labeled “**Sale Expected at End of Year...**,” you can either select a year from the pull-down list or key in a year directly.

The next entry is for the cost of sale as a percentage of the selling price. Fees paid to a real estate broker and to an attorney would be considered costs of sale. Your entry here represents the combined costs. If you expect to pay 6 percent to a broker and 1 percent to an attorney, then enter 7.00% here.

Next is a choice of method for projecting the resale price. If you select the first option, then the program will capitalize the NOI; if you select the second, the program will take the purchase price plus capital improvements and subject them to a rate of appreciation; if you select the third, a gross rent multiplier will be used.

Whichever option you select, you must also specify an accompanying rate. The program will ignore rates entered alongside the choices you did not select.

For capitalization and appreciation, the rate is a percentage. For gross rent multiplier, it is the number of times you wish to multiply the gross rent. Only the entry that corresponds to the method you chose above will be used; the program will ignore the other two. So, for example, if you elect to use capitalization rate as a method of projecting resale value, then your entries for appreciation rate and rent multiplier will have no effect.

The program will calculate the resale price in the expected year of sale using the method you have selected, and display it as “**Selling Price, Calculated.**” You can instruct the program to ignore this value by entering an override price in the next line, “**Selling Price to Override Calculation.**” If you make an entry here, that entry will take precedence over any other method of calculating the resale value of the property.

When completed, the **Resale** section should look something like Figure 7-4:

Resale	
Sale Expected at End of Year...	2032
Cost of Sale as a % of Selling Price	7.00%
Selling Price, Calculated	2,967,900
Selling Price to Override Calculation	0
Estimate Selling Price by... (enter rate below)	
<input checked="" type="radio"/> Capitalization of Net Operating Income	11.00%
<input type="radio"/> Appreciation Rate	4.00%
<input type="radio"/> Gross Rent Multiplier	7.00

Figure 7-4 Quick Analysis, Resale Information

Capital Improvements

You may specify up to 5 different years in which you plan to make capital improvements (also called capital additions). The years do not have to be consecutive. For example, you might be planning capital improvements in 2022, 2023, 2025, 2027 and 2029.

Underneath each year, enter the dollar amount of capital improvements to be made that year. If you make an entry for the first year of the analysis, it will affect the cash required at closing, and will not affect the first-year cash flow. Improvements after the first year will be paid for out of cash flow.

A capital improvement is one that has a useful life of more than one year or is likely to prolong the life of the property. A capital improvement is different from a repair, which maintains rather than increases the life of the property. Keep in mind that improvements and additions are capital costs, not operating expenses, and will be written off over the useful life of the building.

When completed, the **Capital Improvements** section should look something like Figure 7-5:

Capital Improvements			
Year	2024	none	none
Capital Improvements	5,000	0	0

Figure 7-5 Quick Analysis, Capital Improvements

Quick Analysis Report

The *Quick Analysis Report* displays its results in a form suitable for printing. It lists Capitalization Rate, Internal Rate of Return and several other financial measures to help you gauge the feasibility of the investment.

In the *Quick Analysis Report*, certain cells may be highlighted in yellow, indicating a possible problem with this investment. For example, cash flow before taxes that is negative or selling price less than purchase price would be highlighted in yellow.

To print this report, you can pull down the **RealData Menu** and select **Print Reports**. You'll see the Quick Analysis Report Print Dialog Box, which lets you choose the options for printing. Yellow highlighting does not appear in the printed form of the report.

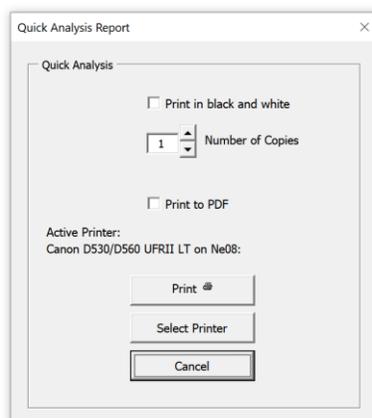


Figure 7-6 Quick Analysis Report Print Dialog Box

Chapter 8. Rent Roll

What the Rent Roll Does

The Detailed Long-Term Analysis is comprised of a series of related worksheets, the first of which is *Rent Roll*. Return to the *General* worksheet to select **Detailed Long-Term Analysis**.

The *Rent Roll* worksheet produces income estimates for up to 25 groups of rental units.

Entering Data in the Rent Roll Worksheet

Data entry in the *Rent Roll* worksheet is very straightforward. Enter the total combined square footage of all units at the top, in cell C6. All your other entries will be in rows 12 through 36.

Before you begin, collect the data about the units of the property you are analyzing. Specifically, you will want square footage, current monthly rent amounts and any scheduled rent changes. It is also useful to collect numbers of bedrooms and bathrooms, although this is not required.

You should group the rental units in a way that is meaningful to you. Typically, all of the units in a group would have the same or similar square footage and rent, the same number of bedrooms, and the same number of bathrooms. You can leave the numbers of bedrooms and bathrooms as 0 if you are not concerned with these figures or if the property is not residential.

Some sample group descriptions appear in rows 12 through 14, column B. You can use any of these that are applicable to this property, or you can edit them to suit your needs. You can also enter new group descriptions in rows 15 through 36, column B. See rows 47 through 71 for the dollar amount of the calculated gross rent for each of the unit groups.

In columns C and D, enter the number of square feet per unit and the number of units in the group, respectively.

In columns E and F, you can optionally enter a year that a renovation will take place along with a number of months where the unit or units will be vacant for renovation work. This will deduct the appropriate amount from the annual rent for the selected year.

In column G, specify how you will enter the rent, as \$ / Month, \$ / SF / Month, \$ / SF / Year or \$ / Year. Then enter the average rent per unit for the first year in column I.

Typically, you would want to specify the average rent in the same way for all 25 groups. For example, if you will be using \$ / SF / Month for one group, you would probably want to use it for all the other groups also. There is a button labeled **Set All** at the top of the worksheet to accomplish this quickly. Use the dropdown menu below this button to select how the rent will be specified. Then click **Set All** to copy this value into column G for all 25 groups.

If you do nothing further, the program will copy the same rent across the row and use it for every year. Notice that the cells in years 2 through 10 appear in purple. These cells contain unprotected (i.e., erasable) formulas that each say, "Use the value in the cell to my left."

However, you may want to estimate that the rent will increase in the future. In years 2 through 10 for each group, you can make two kinds of entries in the purple cells:

3. An entry greater than one (1) signifies the actual dollar amount for the new average rent in that year.
4. An entry between one (1.00) and negative one (-1.00) signifies a percentage change over the full-year dollar amount from the previous year. For example, an entry of 0.1 in year three would yield an amount 10% higher than that of year two; -0.1 would yield 10% lower than

year two; and 0 would signify 0% change, and thus give you the same amount you had in year two.

Keep in mind that this feature of entries that repeat automatically across a row is provided simply as a saver of keystrokes. These cells are all unprotected and therefore open for keyboard input. Remember, too, that these cells can be identified by their light purple color. Once you overwrite the formula in one of these cells, it is gone. If you really want it back, put the cursor on that cell, type an equal sign (=), then type the reference of the cell to the immediate left (e.g., if you are in cell J13, type in =I13).

The left portion of the worksheet will look something like this once you have filled it in:

Analysis Begins January, 2023									
Unit		# of	Renovation	Month	Vacancy	New	\$ / Month		
Description	SF	Units	Year	Begins	Months	Rate	Rate as...	2023	2024
studio apartment	520	10					\$ / Month	700	0.02
1-bedroom	700	23					\$ / Month	950	0.02
2-bedroom	850	8					\$ / Month	1,150	0.02

Figure 8-1 Rent Roll - Unit Information

In column S, you indicate whether the unit is owner occupied. You can either select Yes from the drop-down menu or enter Yes directly in the cell. If column D (# of Units) is more than one, all of the units for this row are considered to be owner occupied.

Rent from owner occupied units is excluded from calculations of taxable income and cash flow. However, if you use capitalization rate or gross rent multiplier to estimate the selling price of the property, that calculation includes rent from owner occupied units.

Chapter 9. Annual Property Operating Data (APOD)

What the APOD Worksheet Does

The *Annual Property Operating Data* worksheet, which is also commonly called an *APOD* form, allows you to produce an operating statement for the subject property. This report is very similar to an income statement or a profit-and-loss statement for a business.

How to Use the APOD Worksheet

When you use this worksheet, you will enter your assumptions about income, vacancy and operating expenses in the top portion of the sheet, rows 10 to 44. You can then view or print the results of your assumptions; these results will appear in the sections below the data-input area.

Entering Data in the Annual Property Operating Data Worksheet

The worksheet is divided into three similar sections. The top section is where you enter your assumptions. The bottom two sections are where the program translates your assumptions into dollar amounts and into dollars per unit.

The data input section of the analysis, rows 10 to 45, allows you to do the following:

- Enter any miscellaneous income, such as from parking or laundry.
- Enter your estimated loss due to unoccupied space and uncollected rent.
- Enter any line-item expenses.
- Make assumptions as to how the expenses may change annually. The program takes these assumptions and creates a year-by-year matrix of the projected dollar amounts.

Note

Enter data only in rows 15 through 45. The amounts you enter should be annualized amounts, even if the first year of your analysis is a partial year. The calculated dollar values for each year begin on row 58. In the first year, these calculated values are prorated to reflect partial-year amounts if necessary.

Assumptions

The *Assumptions* section is divided into three subsections: *Income*, *Vacancy & Credit Allowance* and *Expenses*.

Income

The *Income* subsection is shown in Figure 9-1:

Assumptions	2023	2024	2025
INCOME			
Gross Scheduled Rent Income	456,600	465,732	475,047
Other Income	0.00	0.00	0.00
Other Income	0.00	0.00	0.00
VACANCY & CREDIT ALLOWANCE	0.02	0.02	0.02

Figure 9-1 APOD Assumptions - Income

Gross Scheduled Rent Income is automatically copied from the *Rent Roll* worksheet, with the value for the first year annualized. These cells are in black font, because they are not input cells here. If you wish to change these values, you’ll need to go back to the *Rent Roll* worksheet.

Other Income refers to miscellaneous income, such as from parking or laundry. It tends to be irregular, so the value you enter for year 1 does not repeat itself automatically across the row. You must actually make an entry in every year that you want to project such income.

Vacancy & Credit Allowance

In the row labeled “**Vacancy & Credit Allowance**,” if your entry is between 0 and 1, it represents a percentage of the Total Gross Income. If it is greater than 1, it represents a dollar amount, as entered.

VACANCY & CREDIT ALLOWANCE	0.05	0.02	0.02	0.02
---------------------------------------	------	------	------	------

Figure 9-2 APOD Assumptions - Vacancy & Credit Allowance

Expenses

You can make two kinds of entries in the *Expenses* subsection:

1. An entry greater than one (1) signifies an actual dollar amount for that item in that year.
2. An entry between one (1.00) and negative one (-1.00) signifies a percentage change over the full-year dollar amount from the previous year. For example, an entry of 0 . 1 in year 3 will yield an amount 10 percent higher than that of year 2; -0 . 1 will yield 10 percent lower than year 2; 0 will signify 0 percent change, thus giving you the same amount you had in year 2.

EXPENSES		Global increase for all expenses for all years 3.00%					Increase
Accounting	2,500.00	0.03	0.03	0.03	0.03	0.03	0.03
Advertising	0.00	0.03	0.03	0.03	0.03	0.03	0.03
Insurance (fire and liab.)	29,300.00	0.03	0.03	0.03	0.03	0.03	0.03
Janitorial Service	0.00	0.03	0.03	0.03	0.03	0.03	0.03
Lawn/Snow	7,400.00	0.03	0.03	0.03	0.03	0.03	0.03
Legal	6,200.00	0.03	0.03	0.03	0.03	0.03	0.03
Licenses	0.00	0.03	0.03	0.03	0.03	0.03	0.03
Miscellaneous	3,200.00	0.03	0.03	0.03	0.03	0.03	0.03
Property Management	38,400.00	0.03	0.03	0.03	0.03	0.03	0.03
Repairs and Maintenance	29,300.00	0.03	0.03	0.03	0.03	0.03	0.03
Resident Superintendent	0.00	0.03	0.03	0.03	0.03	0.03	0.03
Supplies	7,400.00	0.03	0.03	0.03	0.03	0.03	0.03
Taxes							
Real Estate	42,600.00	0.04	0.04	0.04	0.04	0.04	0.04
Personal Property	0.00	0.03	0.03	0.03	0.03	0.03	0.03
Payroll	0.00	0.03	0.03	0.03	0.03	0.03	0.03
Other	0.00	0.03	0.03	0.03	0.03	0.03	0.03
Trash Removal	18,600.00	0.03	0.03	0.03	0.03	0.03	0.03
Utilities							
Electricity	12,200.00	0.03	0.03	0.03	0.03	0.03	0.03
Fuel Oil	0.00	0.03	0.03	0.03	0.03	0.03	0.03
Gas	0.00	0.03	0.03	0.03	0.03	0.03	0.03
Sewer and Water	29,500.00	0.03	0.03	0.03	0.03	0.03	0.03
Telephone	800.00	0.03	0.03	0.03	0.03	0.03	0.03
Other	0.00	0.03	0.03	0.03	0.03	0.03	0.03

Figure 9-3 APOD Assumptions - Expenses

Each line item represents a dollar amount (if greater than 1.00) or a percentage change (if between 1.00 and -1.00). Even if you are using a partial first year, enter the full, or “annualized,” amount for the first year for each expense. The program will translate the entry into the correct dollar amount for the partial year. Also, keep in mind that a percentage increase for the second year will be applied to the fully annualized amount of the first year. For example, let’s say that year 1 begins in July. You enter an annualized expense amount of 150. The actual expense for year 1 will be \$75, because you are dealing with one-half year. For year 2, you enter .10 to indicate a 10 percent increase. Year 2, however, is a full year, so the program looks at what year 1 would have been as a full year and increases *that* amount by 10 percent. The correct estimate for year 2 is \$165 (\$75 for 6 months = \$150 for 12 months; increasing that amount by 10 percent yields \$165).

NOTE

When entering information, you don’t necessarily have to make an entry in every column going across, except for Other Income. The first year for each item expects an entry, but each subsequent cell to the right contains an unprotected formula that says, “Use the same value as in the cell for last year.”

If you make an entry in the first year only, every year thereafter will show the same amount. If you make another entry somewhere in the row, your new entry will erase the formula in that cell. Now the amount changes in the cell where you made your entry and for every year that follows.

Keep in mind that this feature of entries that repeat automatically across a row is provided simply as a saver of keystrokes. These cells are all unprotected and therefore open for keyboard input. Remember, too, that these cells can be identified by their purple color. Once you overwrite the formula in one of these cells, it is gone. If you really want it back, put the cursor on that cell, type an equal sign (=), then type the reference of the cell to the immediate left (e.g., if you are in cell E35, type in =D35).

Global Increase for All Expenses for All Years

Near the top of the *Expenses* subsection is the “**Global increase for all expenses for all years**” box, shown below:

The image shows a software interface element. It consists of a rectangular input field with a blue border. Inside the field, the text "Global increase for all expenses for all years" is displayed in a small, grey font. To the right of this text, the value "3.00%" is entered in a larger, blue font. To the right of the input field is a grey button with the word "Increase" written on it in a small, black font.

Figure 9-4 Global Increase for All Expenses for All Years

This box provides a shortcut for data entry on the *APOD* worksheet. If you enter a percentage here and then click **Increase**, the program executes a procedure that automatically fills in the expense rows in years 2-10 below with that percentage increase. When it does so, it also erases any other entries you may have had in the expense rows for years 2 through 10—so don’t press this button if you’re not sure that you want to replace your existing entries.

The purpose of this feature is to save you the necessity of making repetitive entries. You can use this feature to fill in the entire grid (except for the first-year expenses) with a single rate of increase (the rate you feel will apply to most expenses in most years). After you populate the grid by selecting **Increase**, you can still fine-tune your assumptions by manually changing any individual items. In other words, you can manually overwrite any of the entries that were made by using **Increase**.

The consequences of these entries are visible in the output sections located at rows 58 and below. There you will find that each first-year expense increases annually by the percentage you specified.

Altering Titles in the Assumptions Section

You should be aware that you can rename most of the line items in the *APOD* module. You can type over any of the expense items whose names appear in blue in the data-entry section. A name change in the data input section of the worksheet will cause the name to change automatically in the bottom report sections as well.

APOD Results

Once you have finished making all your inputs into the *APOD* you are ready to view the results. These appear in two separate tables: total dollars and dollars per unit. The following sections describe these results in more detail.

Projected Income and Expenses

You saw what the data input looks like for our example. Now if you scroll down to row 58, you can see the output. Shown below is the completed *APOD* report expressed in total dollars.

	2023	2024	2025	2026
INCOME				
Gross Scheduled Rent Income	456,600	465,732	475,047	484,548
Other Income	0	0	0	0
Other Income	0	0	0	0
TOTAL GROSS INCOME	456,600	465,732	475,047	484,548
VACANCY & CREDIT ALLOWANCE	9,132	9,315	9,501	9,691
GROSS OPERATING INCOME	447,468	456,417	465,546	474,857
EXPENSES				
Accounting	2,500	2,575	2,652	2,732
Advertising	0	0	0	0
Insurance (fire and liab.)	29,300	30,179	31,084	32,017
Janitorial Service	0	0	0	0
Lawn/Snow	7,400	7,622	7,851	8,086
Legal	6,200	6,386	6,578	6,775
Licenses	0	0	0	0
Miscellaneous	3,200	3,296	3,395	3,497
Property Management	38,400	39,552	40,739	41,961
Repairs and Maintenance	29,300	30,179	31,084	32,017
Resident Superintendent	0	0	0	0
Supplies	7,400	7,622	7,851	8,086
Taxes				
Real Estate	42,600	44,304	46,076	47,919
Personal Property	0	0	0	0
Payroll	0	0	0	0
Other	0	0	0	0
Trash Removal	18,600	19,158	19,733	20,325
Utilities				
Electricity	12,200	12,566	12,943	13,331
Fuel Oil	0	0	0	0
Gas	0	0	0	0
Sewer and Water	29,500	30,385	31,297	32,235
Telephone	800	824	849	874
Other	0	0	0	0
TOTAL EXPENSES	227,400	234,648	242,130	249,855
NET OPERATING INCOME	220,068	221,769	223,415	225,001

Figure 9-5 Projected Income & Expenses, Total Dollars

In the report above, the results are expressed in total dollars. If you continue scrolling down to row 104, you will see the second version of the output (Figure 9-6) from this *APOD* model, where all of the values are expressed in terms of dollars per unit.

	2023	2024	2025	2026
INCOME				
Gross Scheduled Rent Income	11,137	11,359	11,587	11,818
Other Income	0	0	0	0
Other Income	0	0	0	0
TOTAL GROSS INCOME	11,137	11,359	11,587	11,818
VACANCY & CREDIT ALLOWANCE	223	227	232	236
GROSS OPERATING INCOME	10,914	11,132	11,355	11,582
EXPENSES				
Accounting	61	63	65	67
Advertising	0	0	0	0
Insurance (fire and liab.)	715	736	758	781
Janitorial Service	0	0	0	0
Lawn/Snow	180	186	191	197
Legal	151	156	160	165
Licenses	0	0	0	0
Miscellaneous	78	80	83	85
Property Management	937	965	994	1,023
Repairs and Maintenance	715	736	758	781
Resident Superintendent	0	0	0	0
Supplies	180	186	191	197
Taxes				
Real Estate	1,039	1,081	1,124	1,169
Personal Property	0	0	0	0
Payroll	0	0	0	0
Other	0	0	0	0
Trash Removal	454	467	481	496
Utilities				
Electricity	298	306	316	325
Fuel Oil	0	0	0	0
Gas	0	0	0	0
Sewer and Water	720	741	763	786
Telephone	20	20	21	21
Other	0	0	0	0
TOTAL EXPENSES	5,546	5,723	5,906	6,094
NET OPERATING INCOME	5,368	5,409	5,449	5,488

Figure 9-6 Projected Income & Expenses, Dollars per Unit

You can print either of these reports by choosing **Reports** from the **RealData** menu. Note that you can choose a printer, print multiple copies and restrict the printout to black and white from this dialog box. These options are available for all reports.

NOTE

When you print the APOD report, the program will automatically remove any expense line items that have zero values for all years.

Chapter 10. Cash Flow and Resale Analysis

What Cash Flow and Resale Analysis Does

The *Cash Flow and Resale Analysis* is the heart of *REIA Express Edition*. It is a ten-year proforma that allows you to project the before-tax and after-tax consequences of ownership and resale. You can use it to evaluate how different mortgage terms and assumptions about income, expenses and improvements interact to affect the quality of your investment.

How to use Cash Flow and Resale Analysis

At the top of the worksheet, enter pertinent information under five headings:

1. **Purchase**
2. **Financing**
3. **Resale**
4. **Taxes**
5. **Overrides and Capital Improvements**

Detailed instructions for entering data into these sections follow. When you have completed your data entry, you can view your results. If you are satisfied with the results, you can print any of several reports; if not, you can change some or all of your assumptions to analyze the project further.

For a relatively simple transaction, you may need to enter only a few facts about the purchase price, financing and depreciation. For a more involved project, you may choose to enter additional information about capital improvements, multiple mortgages or a refinance. If you need to analyze projects that are significantly more complex than what you can handle with *Express Edition*, please see information about the Professional Edition of *Real Estate Investment Analysis* at <http://www.realdata.com/p/reia>.

When you complete your entries in this worksheet, you will have a complete summary of taxable income, cash flows and proceeds of resale. If you want to analyze “What if?.....” scenarios, you can alter any one or more of the assumptions directly on your screen and recalculate the entire model in just seconds. *Cash Flow and Resale Analysis* makes it easy for you to answer questions such as:

- When will you see a positive cash flow?
- How will your cash flows be affected if the rate increases on your adjustable mortgage?
- How many years should you hold the property to maximize your return on investment?

Entering Data in Cash Flow and Resale Analysis

The *Cash Flow and Resale* model reads several pieces of information from previous worksheets and automatically transfers them to the *Cash Flow and Resale* model, including:

- The name and type of the property
- The month and year that the analysis begins

- The annual gross income
- Any vacancy and/or credit losses
- The annual operating expenses.

Any changes to the month, year or name and type of the property must be made on the *General* worksheet. However, on the *Cash Flow and Resale Analysis* worksheet you can override the gross income, vacancy or operating expense figures that came from prior sheets. You do not have to use the *Rent Roll* or *APOD* worksheets as your source of gross income or expense data. You can manually enter this information (as total annual amounts) directly onto *Cash Flow and Resale Analysis*, as described below in **Overrides and Capital Improvements**.

The Five Assumptions

The following sections provide detailed instructions on the “Five Assumptions,” listed below:

Assumption 1: Purchase

Assumption 2: Financing

Assumption 3: Resale

Assumption 4: Taxes

Assumption 5: Overrides and Capital Improvements

Assumption One: Purchase

Begin your data entry with the section headed “**Purchase**.” Throughout the worksheet, you should see certain cells appear as a distinctive blue or purple color with white background. These are the cells in which you may enter data. The first on the worksheet is “**Purchase Price, Real Property**.” Enter the dollar amount for land and buildings here.

Notice that the next line, “**Required Cash Investment**,” is not displayed in blue with a white background. You do not enter the cash required. It will be calculated for you and shown both here and in the **Business Plan** report.

The cash investment calculation is made as follows. At the beginning of your investment holding period, you will need funds to pay for the following items:

5. The purchase of the real estate
6. Closing costs
7. Loan points for those loans that are put in place at the same time the analysis begins (always the first loan and optionally the second and third)
8. Capital improvements to be made during the first year of the analysis.

Your mortgage loans (those that are put in place at the same time the analysis begins) will pay for some, and probably most, of what is listed here. The rest is your required cash investment.

The next entry you can make is “**Closing Costs, Capitalized**.” Normally legal fees for the purchase of investment real estate are payable immediately but must be amortized over the useful life of the property. The program will add your closing costs to the depreciable basis of the building for the purpose of this calculation.

When completed, the section “*Purchase*” should look something like Figure 10-1:

Purchase	
Purchase Price, Real Property	3,706,326
Required Cash Investment (Calculated)	873,786
Closing Costs, Capitalized	10,000

Figure 10-1 Purchase

Assumption Two: Financing

The **Financing** section allows you to specify up to three mortgages, plus a balloon and refinance.

Financing: Mortgages

Your financing may include up to three mortgages. For each one, you enter information about the principal amount, the interest rate, the term, and the number of points. You may also override the payment calculated by the program by manually entering a payment amount.

Data entry for the mortgages is split into two parts. In the first part, each mortgage occupies a column. So you enter information about the first, second and third mortgage in columns E, H and K, respectively.

Financing	First Mortgage	Second Mortgage	Third Mortgage
Year this Loan Begins	2023	2023	2023
Month this Loan Begins	1	1	1
Principal Amount (\$ or % of purchase price)	0.70	300,000	0
Term of Loan, in Months	240	120	0
Interest Only? For How Many Months?	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0
Monthly Payment to Override Calculation	0.00	0.00	0.00
Number of Points	2.00	0.00	0.00
Number of Months to Amortize Points	240	120	0
Dollar Value of Points	26,266	0	0

Figure 10-2 Mortgages, First Part

In the second part, each mortgage occupies five rows. This is where you can enter a different interest rate for each year. Also, you can override the names of the mortgages; the names you enter will appear throughout the program’s various reports.

			2023	2024	2025
First Mortgage	\$ 1,313,287 for 20 years	Annual Rate:	4.00%	4.00%	4.00%
		Monthly Payment	7,958.27	7,958.27	7,958.27
		Loan Balance, End of Year	1,269,523	1,223,976	1,176,573
Second Mortgage	\$ 300,000 for 10 years	Annual Rate:	5.50%	5.50%	5.50%
		Monthly Payment	3,255.79	3,255.79	3,255.79
		Loan Balance, End of Year	276,853	252,400	226,568
Third Mortgage		Annual Rate:	0.00%	0.00%	0.00%
		Monthly Payment	0.00	0.00	0.00
		Loan Balance, End of Year	0	0	0

Figure 10-3 Mortgages, Second Part

Mortgages: Year and Month the Loan Begins

Here you indicate when each mortgage begins. The first mortgage must begin at the same time the analysis begins, so the fields in column E are for display only, not for data entry.

Each of the other two mortgages (second and third) may begin later than the start of the analysis. In such a case, the following will occur:

- The mortgage will not reduce your required cash investment on day 1.
- The proceeds of the loan, less points, will add to the cash flow in the year the loan begins.
- Amortization of points will occur as of the month and year the loan is put in place.

Note: The second or third mortgage must not begin after a refinance or at the same time as a refinance.

Mortgages: Principal Amount

For each mortgage, your entry for the beginning principal amount may be entered as:

- A number greater than one (1): If you enter a number greater than 1, the program will interpret it as the actual dollar amount of the mortgage.
- A number less than or equal to one (1.00): If your entry is a decimal amount that is less than or equal to 1, the program will take this to mean that the mortgage amount should be a percentage of the purchase price. For example, if you enter 0.75, the mortgage amount will be 75% of the purchase price.

Mortgages: Term of the Loan

Below the principal amount, enter the term of the loan in months. You can omit this entry if the loan is interest-only (see next paragraph).

Mortgages: Interest Only

The next line, “**Interest Only? For How Many Months?**” has a check box and an entry for the number of interest-only months. There are three possible scenarios:

4. The loan is a regular, amortized loan, not interest only. Leave the box unchecked.

5. The loan is purely interest-only for the entire length of the analysis. Mark the check box, and enter 0 for the number of interest-only months. Your entry for the term of the loan will be ignored.
6. The loan is interest-only for some number of months, and then amortized after that. Mark the check box; enter the term of the loan, which includes the combined interest-only and amortized periods; and enter the number of interest-only months, which must be less than the full term of the loan.

Mortgages: Payment to Override Calculation

The next entry is titled, “**Monthly Payment to Override Calculation.**” This feature is not one that you will use in every transaction because it is intended to accommodate two rather specific situations:

Situation 1: The Actual Monthly Mortgage Payment is Different from the Calculated Amount

REIA accommodates the situation where the actual monthly mortgage payment to be used is slightly different from the calculated amount. For example, suppose that the seller agrees to take back a \$100,000 second mortgage at 10.5 percent for 5 years. To retire the loan requires 60 monthly payments of \$2,149.39. The seller, however, prefers round numbers because they make his checkbook easier to balance. The seller insists on a monthly payment of \$2,200.00. The extra \$50.61 each month represents additional money paid toward the principal and so accelerates the payoff of the loan. Instead of 60 payments, you need to make only 59 payments to retire the mortgage.

If you use this override, then all of the calculations in the worksheet that are related to the mortgage will treat this as a loan at 10.5 percent for 59 months, with a payment of \$2,200 per month. By overriding the payment amount, you have redefined the length of the loan.

Situation 2: You Have an Assumed Mortgage

The second situation where you might choose to override the calculated payment is in the case of an assumed mortgage. If you enter the current principal balance of the mortgage you are assuming, the interest rate being charged and your actual monthly payment (in the “override” cell), then the program will make all of the correct calculations for that assumed loan. The program will calculate the adjusted term, which is the number of remaining months needed to retire the loan with the specified monthly payment.

Mortgages: Loan Points

The final entries for each mortgage concern loan points. A loan point is an interest premium charged by the lender at the inception of the loan. It is equal to 1 percent of the face amount of the loan. You enter the number of points; the program translates your entry into a dollar amount.

Number of Points	2.00	0.00	0.00
Number of Months to Amortize Points	240	120	0
Dollar Value of Points	51,889	0	0

Figure 10-4 Mortgage Points

Typically, points must be amortized over the term of the loan. The field “**Number of Months to Amortize Points**” will default to the adjusted term of the loan. However, if the loan specifies

that a balloon payment is due at the end of a certain number of months, then you should enter that number here. You do so because the loan points can be written off over the period until the balloon and not over the longer period on which the amortization may be based. Be sure that you refinance the loan no later than the balloon date.

Mortgages: Interest Rate

In the second part of the mortgages data entry area, there are five rows for each mortgage. In the row labeled “**Annual Rate:**”, enter the interest rate for the loan. The cell for the first year’s interest rate contains a zero. You enter the beginning rate here.

If your loan has a fixed rate, then you will not make any interest-rate entries after the first year. If your loan has an adjustable rate, however, you can make assumptions as to how its rate will change.

After the first cell, every cell in the interest-rate row has an erasable formula that makes it equal to the previous year’s interest rate. These are among the few unprotected formulas in the worksheet and they are shown in purple. If you make an entry in the first year only, the amount in the first year will copy itself across the row and every year will show the same interest rate.

If you make another entry somewhere in the row, your entry will erase the formula for that cell. When the model recalculates, the interest rate will change for the year of your entry and for every year that follows.

For example, assume that your loan begins at 5.5 percent. You project that it will change to 5.75 percent in the second year and to 6 percent in the third year and thereafter. Enter 5.5% in the column for the first year, 5.75% in year 2 and 6% in year 3. You will see...

First Mortgage			2023	2024	2025
	\$ 1,313,287 for 20 years	Annual Rate:	5.50%	5.75%	6.00%
Monthly Payment			9,033.94	9,212.93	9,386.17
Loan Balance, End of Year			1,276,185	1,238,015	1,198,589

Figure 10-5 Entering a Variable Mortgage Rate

You do not have to enter a rate for each year, but only when a change occurs. This new rate will be used for each subsequent year until you make another entry in the row.

Keep in mind that you are erasing the unprotected formula whenever you make an entry in years 2 through 10 in this row. If you want to replace the formula, it is very easy. When you entered 7 percent in year 2 in the example above, you were making that entry in cell **E29**. Go back to cell **E29**. The cell used to have a formula that said; “**This cell equals the cell immediately to the left.**” Since the cell to the left is **D29**, the formula you erased was simply **=D29**. Type this in; the cell will once again equal whatever rate is used for the previous year.

Whenever you specify an interest rate change, that change will go into effect at the beginning of the year and will apply to the entire year. If you expect the change to occur some time in mid-year, then use an average rate for the year. Using an average rate will usually yield debt service and interest calculations very close to actual.

Financing: Balloon Existing Loans and Refinance

Here you can elect one time to pay off all existing loans at the start of any month and replace them with one new loan:

Balloon Existing Loans, and Refinance						
Refinance in Year	2026	month	3			
Refinance Amount	0	or	55.00% of market value	or	<input type="checkbox"/> sum of existing loan balance	
Term of New Loan, in Months	0					
Number of Points	0.00	number of months to amortize points		0		
	2023	2024	2025	2026	2027	2028
Sum of Loan Balances, End of Year	1,546,376	1,476,376	1,403,140	1,326,517	1,246,344	1,162,453
Annual Interest Rate of New Loan	0.00%	0.00%	0.00%	5.00%	5.00%	5.00%
Monthly Payment	0.00	0.00	0.00	0.00	0.00	0.00

Figure 10-6 Balloon Existing Loans and Refinance

In the first row below the heading, you can select the year and month at the start of which all of the loans should be “ballooned” (i.e., paid off before completion of the full term). If you select 2025 month 3 here, for example, the program will continue the debt service and interest for the first, second and third mortgages through the second month of year 2025. These will then be replaced by the debt service and interest for the new loan.

You may specify the refinance amount in one of three ways:

1. As a fixed dollar amount in cell D45,
2. As a fixed percentage (in cell F45) of the estimated selling price based on the nearest December, or
3. As the sum of existing loan balances.

The actual refinance amount will be displayed to the right.

If the entry you make results in a loan that is more than the total outstanding indebtedness, then the excess will be added to your cash flow under the heading, “**Proceeds of Refinance**” (in row 141 of *Cash Flow and Resale Analysis*). If it is less, the shortfall will show up as a negative number under “**Proceeds of Refinance**”.

In our example, it is in 2025 that the “**Proceeds of Refinance**”, whether positive or negative, will appear and affect the cash flow.

The next two entries are straightforward. The first is the term of the loan, expressed in months. The other entry is the number of points.

The refinance may have a fixed interest rate or an adjustable interest rate. You enter the rate or rates in the same way as described earlier for a mortgage: enter the rate for the first year, then in each subsequent year where the rate changes, enter the new rate. Cells for years prior to the refinance year have a gray background, as a visual clue that you probably do not want to enter rates for these years, unless you are planning to vary the refinance year.

Assumption Three: Resale

In the row labeled “**Sale Expected at End of Year...**,” you can either select a year from the pull-down list or key in a year directly. The *Business Plan* and *Graphs* worksheets will use this piece of information and tailor themselves to show only the data that is relevant to the holding period you specify.

The next entry is for the cost of sale as a percentage of the selling price. Fees paid to a real estate broker and to an attorney are generally considered costs of sale. Your entry here represents the combined costs. If you expect to pay 6 percent to a broker and 1 percent to an attorney, then enter 7.00% here.

Next is a choice of method for projecting the resale price. Select the option you want:

Estimate Selling Price by...	(enter rate below)
<input checked="" type="radio"/> Capitalization of Net Operating Income	8.00%
<input type="radio"/> Appreciation Rate	3.00%
<input type="radio"/> Gross Rent Multiplier	5.00

Figure 10-7 Estimate Selling Price

If you select the first option, then the program will capitalize the NOI. If you select the second, the program will take the purchase price plus capital improvements and subject them to a rate of appreciation. If you select the third, a gross rent multiplier will be used.

Whichever option you select, you must also specify an accompanying rate. The program will ignore rates entered alongside the choices you did not select.

For capitalization and appreciation, the rate is a percentage. For gross rent multiplier, it is the number of times you wish to multiply the gross rent. Only the entry that corresponds to the method you chose above will be used; the program will ignore the other two. So, for example, if you elect to use capitalization rate as a method of projecting resale value, then your entries for appreciation rate and rent multiplier will have no effect.

Users often call RealData for advice in choosing a method of projection or for an explanation of income capitalization. Although it is beyond the scope of this manual and of our product support line to provide detailed instruction in these topics, we can offer some basic guidance:

The gross rent multiplier is certainly the simplest of the three options. It was more common to use this technique when in-depth methods of analysis were available only through long hours of manual calculation or with access to large computers. However, there are still situations where it is effective. The best time to use it, of course, is when it works. If you have a group of properties that are very similar, such as commercial or industrial condominium units, then their relative values may be in direct proportion to their gross incomes. If you can identify such a relationship among comparable properties, then it may be appropriate to use this method in analyzing your subject property.

The use of appreciation as a predictor of future value is generally most appropriate when the desirability of the subject property is based on something other than its stream of rental income. For example, consider a single-user property such as a small retail building on a main thoroughfare. The owner of a business operating as a tenant in such a location is probably willing to spend more for the building than an investor would pay. In general, rate of appreciation as a measure of future value may be appropriate when comparable sales work well as a measure of present value (i.e., “Commercial buildings on Main Street are selling for \$200 per square foot; by next year they will be up to \$225.”).

Capitalization of income is probably the method preferred for most situations. It assumes that an investment property’s value bears a direct relationship to the property’s ability to throw off net income. To use capitalization rate, in short, is to subscribe to this logic: “I am buying this property with the expectation that its income will represent a return on my investment. It is reasonable to assume that whoever buys the property from me in the future will have a similar expectation. The amount that he or she might be willing to pay is the price that permits the property to yield the new investor’s desired capitalization rate.”

The investment, then, is not so much the tangible real estate, but rather the expected income stream. Mathematically, a property’s simple capitalization rate is as follows:

$$\text{Capitalization Rate} = \text{Net Operating Income} / \text{Value}$$

NOI is the gross scheduled income less vacancy and credit loss and less operating expenses. Mortgage payments are not considered to be operating expenses, so the NOI is the net income that you would realize if you bought the property for all cash. If you purchase a property for \$100,000 and have a NOI of \$10,000, your simple capitalization rate is 10 percent.

To use capitalization to estimate value requires just a transposition of the formula:

$$\text{Value} = \text{Net Operating Income} / \text{Capitalization Rate}$$

The projected value in any given year is equal to the expected NOI for that year divided by the investor’s required capitalization rate. If you project that the property will yield a NOI of \$27,000 in year 10 and that a new buyer will require a 9 percent rate of return (capitalization rate), then *Cashflow* will estimate a resale price of \$300,000.

Our review here has been limited to simple capitalization rates and has not dealt with the effects of financing or the time value of money. For a more complete discussion of these topics, see our e-course, *Understanding Real Estate Investments*, at realdata.com.

Row 66 allows you to force a resale value into any or all of the 10 years. If you make an entry in this row (shown below), that entry will take precedence over any other method of calculating the resale value of the property for the year of your entry.

	2023	2024	2025
Selling Price, Calculated	2,750,900	2,772,100	2,792,700
Selling Price to Override Calculation	0	0	0

Figure 10-8 Override Calculated Resale Price

Assumption Four: Taxes

The first entry under Taxes is the depreciable value of the real estate. Remember that buildings may be depreciated but land may not, so your entry here reflects the value of the buildings (called “improvements”) but not the value of the land. There are two methods you may use when making your entry here. If you enter 1.00 or less, the program will calculate the depreciable amount as a percentage of the purchase price. Then, if you experiment with different purchase prices, the value of the depreciable improvement will then change proportionately.

For example, if the “**Purchase Price, Real Property**” at the top of the worksheet is \$100,000 and you enter 0.75 as the depreciable amount, then the program will use \$75,000. If you change the purchase price to \$90,000, then the depreciable amount will change to 75 percent of \$90,000, or \$67,500.

Depreciable Amount (\$ Amount or % of Purchase Price)	0.75
Depreciable Amount Used	2,787,244

Figure 10-9 Depreciable Basis

If your entry is a number greater than 1.00, then the program assumes that you are specifying a fixed dollar amount instead of a percentage. Enter 700,000 here, and that 700,000 will remain even if you choose a different purchase price.

You should keep in mind that the same percentage of closing costs related to the purchase of an investment property must be written off over the useful life of the building. In the example above, if you enter 0.75 as the depreciable amount, and the purchase price is \$2,650,000 and the closing costs are \$10,000, then the depreciable amount actually used will be 75% of (\$2,650,000 + \$10,000), or \$1,995,000.

With your next entry, you will choose the method of depreciation to be used.

Figure 10-10 Depreciation Type

Residential real estate placed in service since 1987 must be depreciated as 27.5-year property. As of 1994, non-residential property must be depreciated over 39 years. All real estate now uses straight-line only, with the half-month convention (i.e., the property is assumed to be placed in service in the middle of its first month, disposed of in the middle of its last month and depreciated accordingly). Accelerated depreciation is no longer allowed.

The last choice, “**Other Straight Line**,” allows you to specify the number of years to be applied as the useful life. We do not mean to suggest that you are at liberty to invent your own definition (although there is a 40-year option available for certain circumstances). However, whenever the depreciation rules have changed in the past, users have called us to ask if there might be any “quick fix” they could make while they awaited our next program revision. The purpose of the third option here is to give you the opportunity to choose an alternate length of time should the rules for depreciable life of real estate change again soon. Obviously, we cannot offer you any assurance that this simple straight-line calculation (with half-month convention) will be consistent with some future regulation, but it may very well satisfy your need for a temporary adjustment if that need should arise.

The tax calculations in *REIA Express Edition Version 2* assume that you participate actively in your real estate investment, and that you do not qualify as a real estate professional as defined by the Revenue Reconciliation Act of 1993.

Your entry for filing status is used only to decide whether yellow highlighting will appear in your entries for Marginal Tax Bracket and Effective Capital Tax Rate. The program does not use the filing status in the actual tax calculations.

The next item is the investor’s “**Marginal Tax Bracket**.” The marginal tax bracket is the rate at which the investor’s next dollar of income will be taxed. Enter the appropriate percentage for each year in the following input row. From the second year on, each cell contains an unprotected formula that assumes you wish to use the same entry as the previous year. You can overwrite any of these cell formulas with a keyboard entry.

Likewise, “**Effective Capital Gain Tax Rate**” is the rate at which long-term capital gain is taxed. For both “**Marginal Tax Bracket**” and “**Effective Capital Gain Tax Rate**,” you’ll need to add 3.8% for the NIIT (Net Investment Income Tax) if your modified adjusted gross income is above the applicable threshold (currently \$200,000 if single, \$250,000 if married filing jointly). See <http://www.irs.gov/uac/Newsroom/Net-Investment-Income-Tax-FAQs> for more information.

Filing Status	Single		
	2023	2024	2025
Marginal Tax Bracket (include 3.8% NIIT if appropriate)	24.00%	24.00%	24.00%
Effective Capital Gain Tax Rate (include 3.8% NIIT if appropriate)	15.00%	15.00%	15.00%
Estimate of Investor’s Modified Adjusted Gross Income	150,000	150,000	150,000

Figure 10-11 Marginal Tax Bracket, Capital Gain Tax Rate and MAGI

The next entry is your estimated MAGI (Modified Adjusted Gross Income) for each year. See IRS Form 8582, line 7, for an explanation of Modified Adjusted Gross Income.

This row of entries is used to determine whether your income makes you ineligible for part or all of the \$25,000 passive loss allowance. If your income is below \$100,000, you are eligible for the entire allowance. Therefore, any entry you make between \$0 and \$100,000 is equivalent to any other.

Likewise, if your MAGI is above \$150,000, you are eligible for none of the allowance. Again, any entry over \$150,000 will produce the same effect as any other — in this case, to disqualify your use of the allowance.

If your MAGI is between \$100,000 and \$150,000, the allowance is phased out at the rate of \$1 for every \$2 of MAGI. Therefore, you will need to be concerned about the accuracy of your estimated MAGI only if it falls between \$100,000 and \$150,000.

Assumption Five: Overrides and Capital Improvements

Income, Expenses, Improvements

The final section for data entry is called *Overrides and Capital Improvements*. It is shown in Figure 10-12:

Overrides and Capital Improvements			
	2023	2024	2025
Gross Income, from APOD, or Gross Income (override APOD)	536,400 0	547,128 0	558,071 0
Vacancy & Credit Allowance in \$, from APOD Vacancy & Credit Allowance (override APOD)	10,728 0.00%	10,943 0.00%	11,161 0.00%
Operating Expenses, from APOD, or Operating Expenses (override APOD)	227,400 0	234,648 0	242,130 0
Capital Improvements	0	0	0

Figure 10-12 Overrides and Capital Improvements

The annual gross income, vacancy & credit allowance and total operating expenses will be imported from the *Annual Property Operating Data* worksheet and placed into rows as shown above.

Each of these rows has another below it where you can override the information that has been imported. For example, “**Gross Income (override APOD)**” permits you to enter any annual total rent you want. For any year in which you have made an entry on this line, your entry “overrides” the amount from the *APOD* worksheet and is used in its place. If you do not care to use the *APOD* analysis at all, you can simply enter your annual gross income for each year here and ignore the previous line.

For the “**Vacancy and Credit Allowance**,” you must enter your override as a percentage of the gross income.

NOTE

As with the mortgage interest rates in the financing section discussed earlier, you do not necessarily have to make entries after the first year; each subsequent cell to the right has an unprotected formula that says, “Use the same amount as last year.”

If you make an entry in the first year only, every year will display the same amount when the worksheet recalculates. If you make an entry somewhere else in the row, your entry will erase the formula for that cell. The amount will change for the year of your entry and for every year that follows.

The “**Operating Expenses**” row functions in the same way as the “**Gross Income**” line, importing the dollar amount from the *APOD* and allowing you to override that value with your own dollar amount.

The next entry in this section concerns “**Capital Improvements**.” You may make additions or improvements to the property in any or all of the ten years. Your entries here do *not* repeat automatically across the row.

The program treats improvements made in the first year as part of the original capital outlay. The cost of these first-year improvements does not enter into the calculation of the first year’s cash flow but rather into the computation of uses of capital at acquisition.

The Completed Worksheet

When the worksheet recalculates after each entry, some items, as we have seen, will fill in on the “**Assumptions**” pages. The program is designed this way to help you catch obvious errors as you enter information. For example, *Express Edition* calculates and displays the amount of a mortgage payment when you enter the terms. If the payment is a tremendous surprise, then you have probably entered an erroneous interest rate or term.

More important, however, are the sections below the “**Assumptions**.” The first of these, in rows 108-126, provides a year-by-year analysis of the taxable income or loss.

	2023	2024	2025
GROSS INCOME	536,400	547,128	558,071
- Vacancy & Credit Allowance	10,728	10,943	11,161
- Operating Expenses	227,400	234,648	242,130
NET OPERATING INCOME	298,272	301,537	304,779
Capitalization Rate	10.47%	10.58%	10.69%
Debt Coverage Ratio	1.62	1.64	1.66
- Interest, First Mortgage	78,590	75,881	73,062
- Interest, Second Mortgage	15,922	14,617	13,237
- Interest, Third Mortgage	0	0	0
- Interest, Refinance	0	0	0
- Depreciation, Real Property	74,750	78,000	78,000
- Depreciation, Capital Additions	0	0	0
- Amortization of Points, First Mortgage	1,995	1,995	1,995
- Amortization of Points, Second Mortgage	0	0	0
- Amortization of Points, Third Mortgage	0	0	0
- Amortization of Points, Refinance	0	0	0
TAXABLE INCOME OR (LOSS)	127,015	131,044	138,484

Figure 10-13 Analysis of Taxable Income or Loss

The second, in rows 132-147, shows the breakdown of the operating cash flows.

	2023	2024	2025
NET OPERATING INCOME	298,272	301,537	304,779
- Debt Service, First Mortgage	145,072	145,072	145,072
- Debt Service, Second Mortgage	39,069	39,069	39,069
- Debt Service, Third Mortgage	0	0	0
- Debt Service, Refinance	0	0	0
+ Proceeds of Second Mortgage, Less Points	0	0	0
+ Proceeds of Third Mortgage, Less Points	0	0	0
+ Proceeds of Refinance, Less Points	0	0	0
- Capital Additions*	0	0	0
CASH FLOW BEFORE TAXES	114,131	117,396	120,637
Cash on Cash Return (CFBT/Investment)	18.87%	19.41%	19.94%
- Estimated Income Tax Attributable to Property	30,484	31,451	33,236
CASH FLOW AFTER TAXES	83,647	85,946	87,401
Cumulative Cash Flow After Taxes	83,647	169,593	256,994

Figure 10-14 Analysis of Operating Cash Flows

The third section, in rows 153-196, titled “**Analysis of Resale,**” projects the resale price for each year and computes the before- and after-tax sale proceeds. In addition, the IRR and PV calculations appear here.

In all three sections, certain cells may be highlighted in yellow, indicating a possible problem with this investment. For example, cash flow before taxes that is negative or before-tax sale proceeds less than your cash investment would be highlighted in yellow. If such values in the “**Analysis of Resale**” section are for years other than the year of sale you have selected, then you can probably ignore them.

These three sections can be printed by pulling down the **RealData** menu, choosing **Reports** and selecting **Cash Flow Detailed Report**. Yellow highlighting does not appear in the printed form of the report.

	2023	2024	2025	2026
PROJECTED SELLING PRICE	2,982,700	3,015,400	3,047,800	3,079,900
Selling Price Based on Capitalization Rate of 10.00%				
ORIGINAL BASIS, Purchase Price	2,850,000	2,850,000	2,850,000	2,850,000
+ Closing Costs, Amortized	10,000	10,000	10,000	10,000
+ Cumulative Capital Additions	0	0	0	0
+ Costs of Sale	208,789	211,078	213,346	215,593
- Adjusted Cumulative Depr., Real Estate	71,500	149,500	227,500	305,500
- Adjusted Cumulative Depr., Capital Additions	0	0	0	0
ADJUSTED BASIS AT SALE	2,997,289	2,921,578	2,845,846	2,770,093
TAXABLE GAIN OR (LOSS) ON SALE	(14,589)	93,822	201,954	309,807
DEDUCTIONS AT SALE				
Suspended Losses Utilized upon Sale	0	0	0	0
Unamortized Loan Points	(37,905)	(35,910)	(33,915)	(31,920)
TOTAL DEDUCTIONS AT SALE	(37,905)	(35,910)	(33,915)	(31,920)
Effect of Deductions at Sale + Depreciation Adjustment	(8,317)	(7,838)	(7,360)	(6,881)
Estimated Tax on Depreciation Recapture	0	22,517	48,469	73,320
Estimated Tax on Gain	(720)	0	0	646
ESTIMATED TOTAL FEDERAL TAX ON SALE	(9,037)	14,679	41,109	67,085
PROJECTED SELLING PRICE	2,982,700	3,015,400	3,047,800	3,079,900
- Costs of Sale	208,789	211,078	213,346	215,593
- First Mortgage Payoff	1,928,518	1,859,328	1,787,319	1,712,376
- Second Mortgage Payoff	276,853	252,400	226,568	199,278
- Third Mortgage Payoff	0	0	0	0
- Refinance Payoff	0	0	0	0
BEFORE-TAX SALE PROCEEDS	568,540	692,594	820,568	952,653
- Estimated Total Federal Tax on Sale	(9,037)	14,679	41,109	67,085
AFTER-TAX SALE PROCEEDS	577,577	677,915	779,458	885,568
Internal Rate of Return, Before Tax	12.86%	25.54%	28.38%	28.94%
Internal Rate of Return, After Tax	9.31%	19.50%	21.91%	22.55%
PV, NOI & Selling Price less Costs of Sale	2,792,894	2,837,982	2,878,913	2,916,069
PV, CFAT and Sale Proceeds After Taxes	601,113	707,333	798,357	878,238
EQUITY (deducting Costs of Sale)	568,540	692,594	820,568	952,653
Equity Multiple (total cash distributions / initial equity)	1.13	1.53	1.94	2.36
RETURN ON EQUITY (CFAT/Equity)	14.71%	12.41%	10.65%	9.32%

Figure 10-15 Analysis of Resale

A more concise version of this same data is the *Summary Cash Flow and Resale Analysis*, which is found in rows 211-244. This simpler format can help you focus on the most important data without being distracted by the full complement of supporting detail.

You can print this data by pulling down the **RealData** menu, choosing **Reports** and selecting **Cash Flow Summary Report**. As before, yellow highlighting does not appear in the printed form of the report.

	2023	2024	2025	2026
GROSS INCOME	536,400	547,128	558,071	569,232
- Vacancy & Credit Allowance	10,728	10,943	11,161	11,385
- Operating Expenses	227,400	234,648	242,130	249,855
NET OPERATING INCOME	298,272	301,537	304,779	307,992
- Interest, All Loans	94,512	90,498	86,300	81,909
- Depreciation and Amortization	76,745	79,995	79,995	79,995
TAXABLE INCOME OR (LOSS)	127,015	131,044	138,484	146,088
NET OPERATING INCOME	298,272	301,537	304,779	307,992
- Debt Service, All Mortgages	184,141	184,141	184,141	184,141
+ Proceeds of Mortgages, Less Points	0	0	0	0
- Capital Additions*	0	0	0	0
CASH FLOW BEFORE TAXES	114,131	117,396	120,637	123,851
- Estimated Income Tax Attributable to Property	30,484	31,451	33,236	35,061
CASH FLOW AFTER TAXES	83,647	85,946	87,401	88,790
GAIN OR (LOSS) ON SALE	(14,589)	93,822	201,954	309,807
PROJECTED SELLING PRICE 	2,982,700	3,015,400	3,047,800	3,079,900
- Costs of Sale	208,789	211,078	213,346	215,593
- Mortgage Payoffs	2,205,371	2,111,728	2,013,886	1,911,654
BEFORE-TAX SALE PROCEEDS	568,540	692,594	820,568	952,653
- Estimated Total Federal Tax on Sale	(9,037)	14,679	41,109	67,085
AFTER-TAX SALE PROCEEDS	577,577	677,915	779,458	885,568
Internal Rate of Return, Before Tax	12.86%	25.54%	28.38%	28.94%
Internal Rate of Return, After Tax	9.31%	19.50%	21.91%	22.55%
PV, NOI & Selling Price less Costs of Sale	2,792,894	2,837,982	2,878,913	2,916,069
PV, CFAT and Sale Proceeds After Taxes	601,113	707,333	798,357	878,238
EQUITY (deducting Costs of Sale)	568,540	692,594	820,568	952,653
Equity Multiple (total cash distributions / initial equity)	1.13	1.53	1.94	2.36
RETURN ON EQUITY (CFAT/Equity)	14.71%	12.41%	10.65%	9.32%

Figure 10-16 Summary Cash Flow and Resale Analysis

Goal Seek

When evaluating an income property, you may have a particular investment objective in mind: a minimum acceptable cash-on-cash return or IRR, for example.

You typically ask yourself a question such as, “What purchase price will allow me to meet my goal?” It is now easy to answer a question like this without endless manual trial and error.

For example, let’s assume that in the analysis on which you’ve been working, you decide that you do not want to hold the property beyond the end of the sixth year and that you want at least a 15 percent IRR after taxes. You scroll down to the row that displays the “**Internal Rate of Return, After Tax**” (row 191) and see that the the IRR is a lower percentage. There are several factors that could improve the IRR, but you choose the most obvious and ask, “What purchase price will give me a 15 percent IRR after taxes at the end of year 6?”

While you could answer that question using Excel’s internal goal seek feature, we have made this process much easier for you in *REIA*. Simply select **Goal Seek** from the **RealData Menu**. You’ll see the **REIA Goal Seek** dialog box:

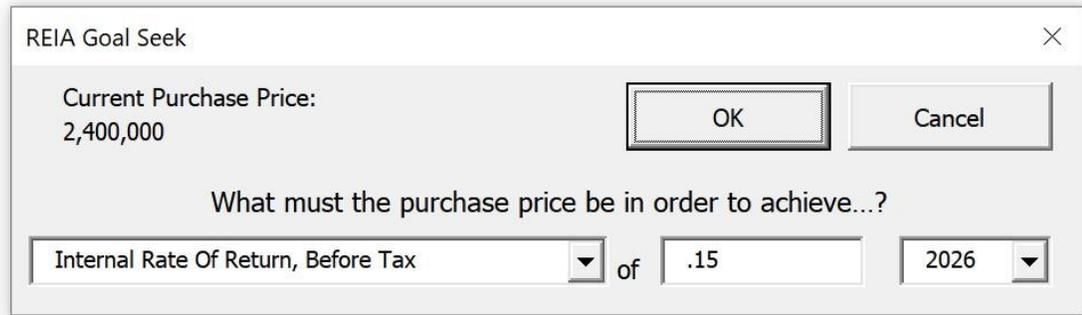


Figure 10-17 Goal Seek Dialog Box

In the upper left corner is the purchase price currently entered in the **Purchase** section of the *Cash Flow and Resale Analysis* worksheet. Below that are 3 boxes in which you will enter data to pose your question. Selecting the arrow to the right of the first box gives you a list of 13 different items to solve for. In the above example, you would choose the seventh item visible, **Internal Rate of Return, After Tax**.

In the second box, you enter the percent return (or dollar amount, if appropriate) you would like to achieve, in this case 15 percent. Please note that for percentages, you should enter 0 . xxxx (e.g., enter 15.25 percent as 0 . 1525). For dollar amounts, omit commas and dollar signs (enter \$50,000 as 50000). You will receive an error message if your entry is not in the correct format. Please be aware, however, that if you put in an amount when you are seeking a percentage, the program will calculate the result you have specified; e.g., if you put in 50 as percentage, the program will attempt to calculate what is required to produce a return of 5000 percent.

The third box identifies the year that you would like to achieve the specified return. In the above example, you would select **2020**.

After you have verified that all three entries are as you intend them to be, select **OK**. The program will begin to seek a value for the purchase price that will yield an IRR at or very close to 15 percent in 2020, as you specified. The amount of time required will depend on the speed of your computer, but it can take several minutes.

If a valid result cannot be found, you will receive a message:

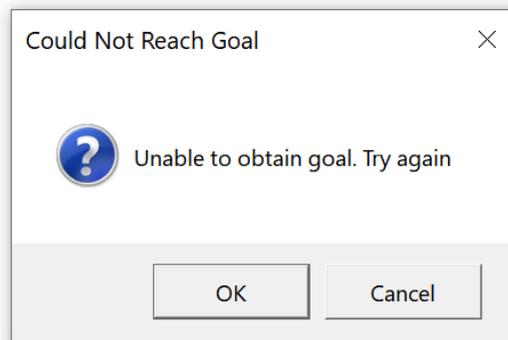


Figure 10-18 Goal Unobtainable Dialog Box

This will happen if Excel is unable to calculate a result with the conditions you have specified.

Note also that the *REIA Goal Seek* can sometimes fail to identify a valid result even though such a result may exist. In such a case, you want to retry with a slightly modified goal.

If the program can find a result, you will see that result displayed beneath your entries (see Figure 10-19). There are three values whose titles appear in bold type.

The first, “**Set Value**,” indicates the goal you set, as entered in the middle box (Figure 10-17), i.e., the rate or amount you are seeking.

The second “**Current Value Found by Goal Seek**,” shows the rate or amount **Goal Seek** identified. This should be close or equal to the first value. In this example, your goal of 15 percent shows as .15 and the *Current Value* found by **Goal Seek** is 15.00 percent. The value may not always be exact, but it should be reasonably close.

The final value, “**New Purchase Price**,” is the answer you are interested in. You can now see that to achieve an IRR after taxes of 20 percent at the end of 2020, you must purchase the property for \$3,706,326, instead of the amount originally entered.

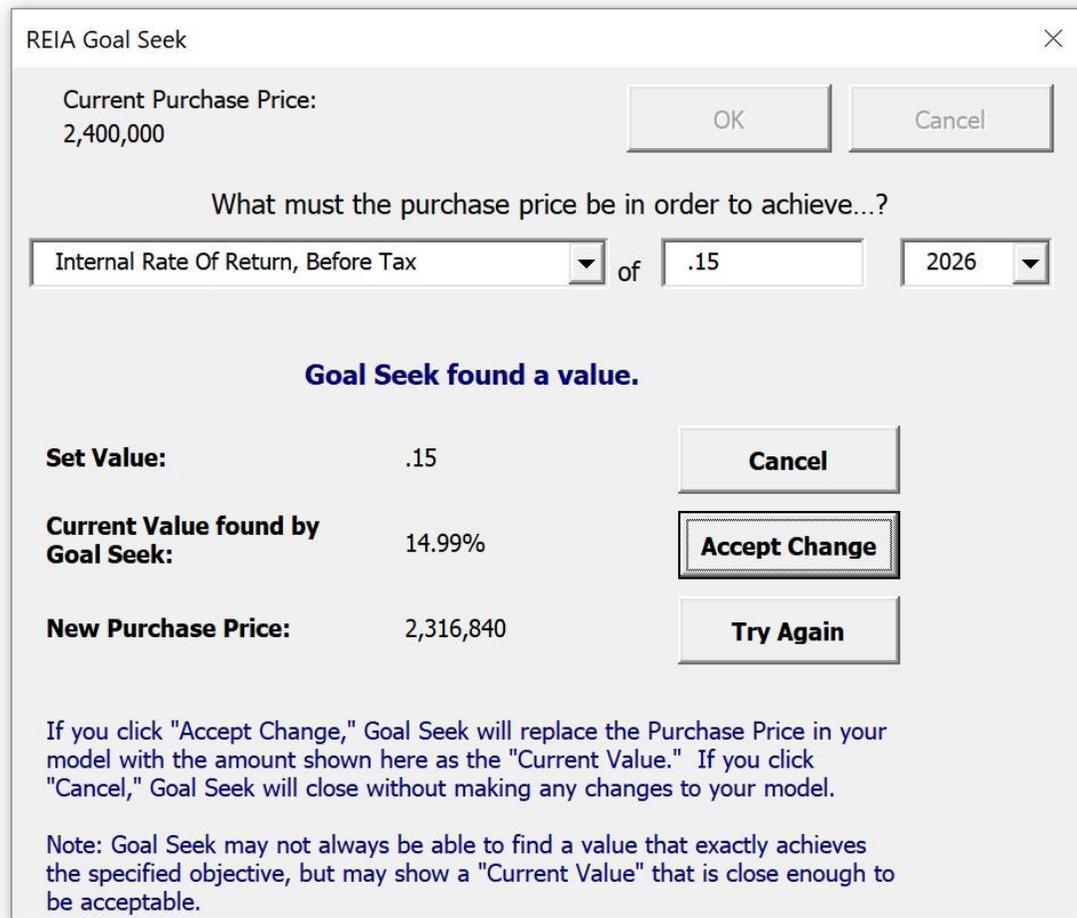


Figure 10-19 Goal Seek Results

Now use one of the three options on the right to specify how you will proceed.

If you choose **Try Again**, you can enter new values (e.g., choose Before-Tax Sale Proceeds as the variable, change the rate to 20 percent or examine a four-year scenario) and have **Goal Seek** look for a new purchase price.

If you choose **Cancel**, you exit **Goal Seek** and your workbook remains as it was before you began this process.

If you choose **Accept Change**, **Goal Seek** will replace your original scenario with the one it has computed.

NOTE

When you choose **Accept Change, **Goal Seek** replaces the previous **Purchase Price** with the amount shown here. The Excel **Undo** function will not restore the previous purchase price. Be sure you prefer the new scenario—or at least make note of the previous price—before you select **OK**.**

Goal Seek has been set up to allow you to search for a purchase price based on variables such as Cap Rate, Cash Flow, Cash on Cash Return, Equity, Return on Equity, Income, IRR, Selling Price and Sale Proceeds.

Keep in mind that you can use Excel's built-in goal seek procedure with other data elements. To access it:

7. Select the cell whose value you want to change.
8. Select **Goal Seek** on the **Tools** menu. You will see a dialog box:

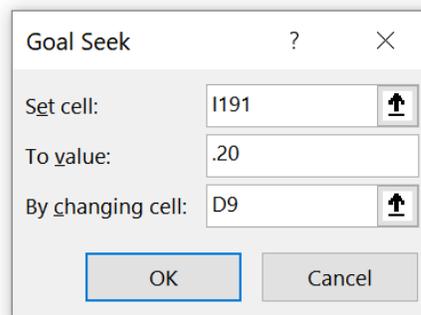


Figure 10-20 Excel's Built-in Goal Seek

9. Because you are already on the cell containing the value you want to change (your goal), the first field is filled in for you.
10. Enter the value you want to achieve in the field, "**To value.**"
11. Finally, select the field, "**By changing cell**", go to *Cash Flow and Resale Analysis* and find the cell that contains the purchase price or some other user-input item that is directly related to the goal.
12. Select the desired field and the program will fill in the cell address for you. (Note: The dollar signs that may appear in these addresses are a spreadsheet convention indicating what is called an "absolute reference." These signs have no real significance here.)

Keep in mind that you can use this goal seek procedure with other data elements. The rules are simple:

- Your goal (the "**Set cell**" field) must be a calculated item. In other words, the cell must have a formula in it.

- The variable (the “**By changing cell**” field) must be a user input item. In other words, it must *not* contain a formula.
- The value of the goal must depend, directly or indirectly, on the value of the variable. In our example here, the IRR does depend on the purchase price. The amount of the NOI or the annual property tax expense, on the other hand, would *not* depend on the purchase price.

Chapter 11. Loan Amortization

The *Loan Amortization* worksheet does not require any data entry. It is a report showing the amortization schedule for each of the three mortgages and the refinance. You can print this report no matter which worksheet you currently have open. Simply select **Reports** from the **RealData Menu**, and choose **Loan Amortization**.

The report tracks each loan from the time it is placed to the time it is paid off. For each month that a loan is active, the report shows the interest rate in effect (expressed as an annual rate), the amount of principal paid, the amount of interest paid and the loan balance after the payment. You can change some financing parameters on the *Cash Flow and Resale Analysis* worksheet, and then come back to the *Loan Amortization* worksheet to see the detailed effects of your changes.

A refinance automatically pays off any remaining balances on the three mortgages. Therefore, starting in the row for the month when the refinance is placed, blanks will appear in the columns for the three mortgages.

Chapter 12. Executive Summary

The *Executive Summary* is the next worksheet. There is no data entry required here. This sheet is intended to be used strictly as a report.

This report is a one-page summary of the analysis results. It lists some basic information about the property, shows income and expenses for the first year, and gives numerous financial measures in each of several years. Also included is a chart of Cash Flow after Taxes over the holding period.

Simply select **Reports** from the **RealData Menu**, and choose **Executive Summary Report**. At the dialog box shown there you can change the printer, choose to print multiple copies and restrict the output to black and white.

Executive Summary

Property Information

Type	Apartment Complex
Number of Units	50
Square Footage	33,000

Sources of Funds

Cash Investment	873,786	23.19%
First Mortgage (20 year term, 5.50% rate initially)	2,594,428	68.85%
Second Mortgage (10 year term, 5.50% rate)	300,000	7.96%

Annualized 1st Year Income & Expenses

Gross Income	553,200	Total:	3,768,214
Vacancy & Credit Allowance	27,660		
Gross Operating Income	525,540		
Operating Expenses	227,400		
Net Operating Income	298,140		

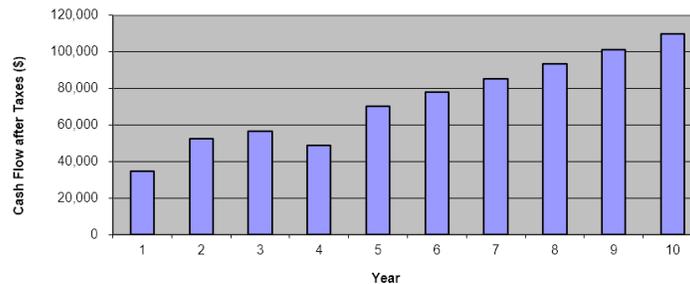
Assumptions

Discount Rate for PV	10.00%
Capitalization Rate for Resale	8.00%
Holding Period (Years)	10
Depreciable Basis	2,787,244
Depreciation Type	27.5-Year
1st Year Marginal Tax Rate	24.00%

Uses of Funds

Purchase Price, Real Property (112.31 per square foot)	3,706,326	98.36%
Closing Costs	10,000	0.27%
Points	51,889	1.38%
1st Year Capital Improvements	0	0.00%
Total:	3,768,214	

10-Year Projected Cash Flow After Taxes



Financial Measures

	Year 1	Year 5	Year 10		Year 1	Year 5	Year 10
Capitalization Rate	8.04%	9.67%	11.40%	Gross Income Multiplier	6.74	7.12	7.15
Debt Coverage Ratio	1.18	1.37	1.62	Gross Income/SF	16.76	19.05	22.40
Cash on Cash Return	5.14%	11.07%	18.43%	Operating Expense Ratio	43.27%	41.85%	41.66%
IRR before Taxes	-18.42%	21.38%	20.06%	Operating Expenses/SF	6.89	7.81	9.14
IRR after Taxes	-18.24%	17.74%	17.14%	PV, NOI+Reversion	3,421,876	3,824,417	4,058,530
Return on Equity	5.23%	3.92%	3.39%	PV, CFAT+Sale Proceeds	649,451	1,199,566	1,501,234

Figure 12-1 Executive Summary

Chapter 13. Business Plan

The next section is the *Real Estate Business Plan*. Like the *Executive Summary*, this sheet is intended as a report—a presentation that you can give to a partner, lender or client. There is no data entry here, but you can place a picture on the cover page.



Property: Tranquil Manor at Millbrook Falls West
1000 Raucous Causeway
South Haven, CT 06999

Prepared For: Last Foreclosure S & L
100 Lois Lane
South Haven, CT 06999

Prepared By: RealData Software
P. O. Box 691
Southport, CT 06890

Date: February 7, 2020

Figure 13-1 Business Plan Cover Page

If you click the “Set/Change Picture...” button, a dialog will appear where you can specify the name of an image file containing the picture. The largest image size allowed is 4.1” x 2.3” (390 x 221 pixels), but the program will automatically scale your image to fit this limit, retaining the original aspect ratio.

The page immediately following the cover page has room for up to 8 smaller pictures. Here, the largest image size allowed is 2.4” x 1.6” (234 x 153 pixels), but again the program will automatically scale each image to fit this limit, retaining the original aspect ratio.

You can print this report no matter which worksheet you currently have open. Simply select **Reports** from the **RealData Menu**, and choose **Real Estate Business Plan**. At the dialog box shown there you can change the printer, choose to print multiple copies and restrict the output to black and white. The “Set/Change Picture...” and “Clear Picture” buttons will not appear in the printed form of the report. Also, the picture page following the cover page will be omitted if you haven’t placed any pictures there.

Many users of this program find that the *Business Plan* is the best report to use as a presentation to a third party. Unlike most financial reports, it is relatively uncluttered and affords the reader an opportunity to gain a quick grasp of the project. In any presentation, it is important to provide enough information to be effective, but not so much that it discourages the recipient from actually reading the document. The *Business Plan* has proven itself to be successful in achieving that reasonable middle ground.

Even if you plan to give someone the *Business Plan* first, you should certainly print several of the more detailed reports and have them ready. When the client asks, “Where did you get this number?” you should have the *APOD* report, the *Cash Flow and Resale Analysis* (detailed or summary) and perhaps the *Rent Roll* ready to provide.

Chapter 14. Graphs

The *Graphs* sheet shows:

1. A chart of IRR after taxes against cash flow
2. The Gross Operating Income, Net Operating Income, and Cash Flow Before Taxes
3. A comparison of the projected selling price, total outstanding debt and equity
4. A line graph that tracks debt against equity
5. A line graph that tracks Gross Income against Total Operating Expenses.

You can print these graphs by selecting **Reports** from the **RealData Menu**, and choosing **Graphs**. You can choose your printer, the number of copies and whether the graphs will be in color or black and white. Each chart will print on a separate page, in landscape format.

You may want to print these graphs and attach some or all of them to your *Business Plan* report.

Chapter 15. Glossary

ABATEMENT - In a lease, the reduction or elimination of rent for a period of time. For example, as an inducement to a tenant to rent a particular space, the landlord may abate the rent for a period of months while the tenant remodels the space.

ACCELERATED DEPRECIATION - Depreciation methods that allow a taxpayer to take faster write-offs than with straight-line during the early part of an asset's useful life.

ACCUMULATED DEPRECIATION - The sum of annual depreciation deductions taken to date. Also, accrued depreciation.

ADJUSTABLE RATE MORTGAGE (ARM) - A mortgage loan in which the interest rate is not constant over the life of the loan, but is adjusted periodically according to a predetermined formula or index.

ADJUSTED BASIS - The original cost of an asset, such as real estate, plus capital improvements, less accumulated depreciation and costs of sale. The taxable gain at the time of sale is, in general, the selling price less the adjusted basis.

ADJUSTED GROSS INCOME (AGI) - Gross income less certain adjustments, including IRA, alimony and Keogh deductions. Used in *REIA* to determine the investor's passive loss allowance, which begins to phase out when the investor's AGI reaches \$100,000 and is completely eliminated at \$150,000.

ALTERNATIVE MINIMUM TAX (AMT) - A tax that may be triggered if certain tax benefits, such as passive losses and accelerated depreciation, reduce an individual's income tax liability. You must use Federal tax form 6251 to determine if you are subject to the Alternative Minimum Tax. *REIA* makes no provision for an investor's potential AMT liability.

AMORTIZATION - a) The process through which a loan is retired over time through periodic repayment of the principal. b) The process of taking a partial annual tax deduction for an item that cannot be expensed in a single year. For example, points paid to secure a loan must typically be deducted (amortized) over the life of that loan.

ANNUAL DEBT SERVICE (ADS) - The total of all payments on a mortgage loan, including both interest and principal, for a year.

ANNUAL PROPERTY OPERATING DATA (APOD) - A form that lists a property's gross income, individual operating expenses and net operating income. An APOD is similar to a business profit-and-loss statement.

APPRECIATION - The increase over time in the value of an asset due to economic factors rather than to improvements or additions.

ASSUMED MORTGAGE - A mortgage in which the purchaser of a property assumes liability for payment of an existing mortgage loan. Typically the purchaser takes over the existing balance, terms and payment schedule. Many mortgage loans contain a "due on sale" clause which prohibits assumption by requiring the original borrower to pay off the loan if he or she transfers title of the mortgaged property to a third party.

AT-RISK RULES - A provision in the tax code that limits deductions for losses to the amount “at risk,” i.e., to the cash invested plus the amount of notes for which the investor is personally liable. However, the tax code also provides for certain non-recourse real estate loans to be treated as if they were “at risk.” *Real Estate Investment Analysis* makes no provision for the possible impact of At-Risk rules.

BALLOON - A provision in a loan that requires the principal balance to be paid off in a lump sum before the loan would be retired through normal amortization. For example, a loan may be written with a fifteen-year amortization and a seven-year balloon. The periodic payment amount and the interest and principal portion of each payment are all calculated as if the loan were to run for fifteen years. However, the borrower would retire the loan at the end of seven years by paying the balance outstanding (the balloon) at that time. Also, Balloon Payment.

BALLOON EXISTING LOANS - In *REIA*, a section where the user can pay off the principal balances of the first, second and third mortgages and replace them all with a new (refinance) loan.

BASIS - The starting point for computing gain or loss on an investment; typically, the original purchase price. See also, Adjusted Basis.

BOOK VALUE - An asset’s original basis less accumulated depreciation.

CAPITAL ADDITION - An addition to a piece of real estate having a useful life of more than one year, or an improvement that is likely to prolong the life of the property. A capital addition is different from a repair, which maintains rather than increases the life of a property.

CAPITAL GAIN - Gain from the sale or disposition of a capital asset, such as real estate. May be long term or short term.

CAPITAL IMPROVEMENT - See Capital Addition.

CAPITALIZATION RATE - The ratio between a property’s Net Operating Income and the sum of its purchase price or value. It is a measure of return before consideration of taxes, financing or recovery of capital. If a property has a given NOI, then the higher the capitalization rate demanded by an investor, the lower the value of the property. Also called “cap rate.”

CASH DISTRIBUTION - As used in *REIA* Standard, the disbursement of a portion of property’s cash flow to a partner.

CASH FLOW AFTER TAXES (CFAT) - The cash flow before taxes, reduced by the tax liability that the property generates for the owner, or increased by the tax savings.

CASH FLOW BEFORE TAXES (CFBT) - During a given period, all of a property’s cash inflows less all of its cash outflows. Inflows are counted whether or not they must be included as taxable income and outflows are counted regardless of deductibility. For example, cash flow is affected by the entire amount of a mortgage payment, even though only the interest portion is deductible. Cash flow is not affected by a depreciation deduction, which is not a cash item. “Cash flow before taxes” ignores the property’s effects on the owner’s income tax liability.

CASH-ON-CASH RETURN - The rate of return on an investment measured as the ratio between the cash flow before taxes and the initial cash investment.

CLOSING COSTS - Costs paid, typically to an attorney, for documentation and representation in connection with the purchase or sale of a piece of real estate. Title insurance is usually considered a closing cost, but real estate commissions, loan fees, prepaid interest and fire or liability insurance are not considered closing costs.

COMMERCIAL PROPERTY - See Non-Residential Property.

COMMISSION - A fee paid, typically to a real estate agent or broker, for negotiating a loan, lease or sale.

COMPARABLES - For purposes of valuation, properties that are similar to the subject property and that have been recently sold or leased.

CONSUMER PRICE INDEX (CPI) - An index published by the U. S. Bureau of Labor Statistics and widely used as a measure of inflation. The index estimates the cost of buying a fixed group of goods and services and compares that cost to the base year (1982) that was assigned an index value of 100. The CPI is commonly used in escalation clauses of commercial real estate leases so that the rent generated by those leases will keep pace with inflation. Also, cost-of-living index.

COSTS OF SALE - Fees typically paid to a broker and/or attorney to effect the sale of a piece of real estate. These costs are not tax deductions as such. Rather, they are an adjustment to the basis of the property.

DEBT COVERAGE RATIO - The ratio between the annual net operating income and the annual debt service. Most lenders require a debt coverage ratio of at least 1.2. A property with a 1.2 debt coverage ratio has income before debt service that is 1.2 times as much as the debt service—in other words, the property generates 20 percent more net income than it needs to make its mortgage payments.

DEBT SERVICE - The total loan payment, including both interest and principal.

DEPRECIATION - In *REIA*, used interchangeably with “Depreciation Allowance.” Appraisers, however, typically use the term “depreciation” to represent the actual loss in value due to physical wear and tear and to functional and economic obsolescence.

DEPRECIATION ALLOWANCE - The amount of the tax deduction that a property owner may take each year until he or she has written off the entire depreciable asset. In real estate, the physical structures are considered depreciable assets, but the land is not. Therefore, there is no depreciation allowance for the value of the land. See also Useful Life.

DISCOUNT RATE – The compound interest rate used to reduce expected future cash flows to their estimated present value.

DISCOUNTED CASH FLOW ANALYSIS (DCF) - An income-property appraisal technique that estimates value by discounting all expected future cash flows to the present and summing the discounted amounts.

EFFECTIVE GROSS INCOME (EGI) - See Gross Operating Income.

ESCALATION – A clause in a real estate lease that provides for an adjustment to the rent, usually based on some external event, such as a rise in the Consumer Price Index (CPI).

EQUITY - The difference between a property's value and the balance of the debt against it. A property worth \$1,000,000 with loans totaling \$750,000 has equity of \$250,000.

EXPENSE STOP - A provision in a lease where the tenant agrees to pay the excess of certain operating expenses over a base amount. The landlord pays the expense up to the amount of the expense stop and the tenant pays or reimburses the landlord for the rest.

FAIR MARKET VALUE - The price at which a property would change hands from a willing seller to a willing buyer, where neither party is under a compulsion to sell or buy and where both have reasonable knowledge of all pertinent facts. Also, Market Value.

FIRST MORTGAGE - The first, or senior claim against an asset, as security for repayment of a debt.

FUNDED RESERVES - A sum of money put aside so that it will be available to handle an extraordinary expense or improvement. For example, an investor may anticipate the need for a new roof five years after acquisition of a property and place money into a reserve account in advance so that funds are available when needed.

GENERAL PARTNER (GP) - The person or entity in a limited partnership that bears unlimited liability and all of the management responsibility of that partnership.

GROSS OPERATING INCOME (GOI) - A property's annual Gross Scheduled Income, less allowances for vacancy and credit loss. Also, Effective Gross Income.

GROSS RENT MULTIPLIER (GRM) - A method of estimating or expressing a property's value as a multiple of its gross rental income. Also, Gross Income Multiplier.

GROSS SCHEDULED INCOME - The annual income of a property if all rentable space were in fact rented and all rent collected; the total potential income.

HALF-MONTH CONVENTION - A provision of the tax code as of this writing that allows only one-half month of depreciation in the month a property is acquired and one-half month in the month it is sold.

IMPROVEMENT - See Capital Addition.

INCOME PROPERTY - Real property leased to tenants and held for the purpose of generating ongoing rental income.

INFLATION - The loss of a currency's purchasing power over time.

INFLATION RATE - The annual rate at which a currency loses purchasing power.

INITIAL INVESTMENT - The amount of cash invested at the time a property is purchased.

INTEREST-ONLY MORTGAGE - A mortgage loan in which the borrower makes periodic payments of interest only and pays the full principal balance at the end of the loan term.

INTERNAL RATE OF RETURN (IRR) - The rate of return that discounts all anticipated future net cash flows (including the reversion) back to a present value that equals the initial investment.

LEASE - A contract granting possession of land or a specified part of a building for a specified time in exchange for rent.

LESSOR - An owner who leases property to a tenant; landlord.

LESSEE - A tenant who leases property from a landlord.

LIMITED PARTNER (LP) - An investor in a limited partnership who typically has none of the management responsibility and whose liability is limited to the amount of his or her investment.

LIMITED PARTNERSHIP - A partnership having a General Partner who manages the partnership's investments and bears unlimited liability and Limited Partners who have no management control and whose liability typically is limited to the amount of their investment.

LIMITED PARTNER'S RATIO - The ratio between the amount invested by a particular limited partner to the total amount invested by all of the limited partners.

LONG-TERM CAPITAL GAIN - The gain on an asset held more than 18 months (per the Taxpayer Relief Act of 1997).

MARGINAL TAX BRACKET - The rate at which the investor's next dollar of income will be taxed.

MARKET VALUE - See Fair Market Value.

MODIFIED FINANCIAL MANAGEMENT RATE OF RETURN (MFMRR) - See Modified Internal Rate of Return.

MODIFIED INTERNAL RATE OF RETURN (MIRR) – An alternative to conventional Internal Rate of Return (IRR). IRR will usually fail to yield a result in a situation where there are negative cash flows. The MIRR calculation takes any negative cash flows (after utilization of reserves), zeroes them out and discounts them at a safe rate back to day one of the investment period. The discounted amount is treated as additional capital needed on day one. MIRR also takes positive cash flows and compounds them forward to the sale year, using the reinvestment rate (also known as the risk rate).

MORTGAGE - A lien against a property that secures a mortgage loan or note.

MORTGAGEE - The lender in a mortgage agreement.

MORTGAGOR - The borrower in a mortgage agreement.

NET OPERATING INCOME (NOI) - A property's Gross Operating Income less the sum of all operating expenses. NOI represents a property's profitability before consideration of taxes, financing or recovery of capital.

NET PRESENT VALUE (NPV) - The discounted value of all of a property's future cash flows (including the reversion) less the initial cash investment.

NON-RESIDENTIAL PROPERTY - Real property that does not satisfy the definition of Residential Property; property not primarily intended for use as dwellings.

OPERATING EXPENSE - Expense necessary for the maintenance of a piece of real property and to insure its continued ability to produce income. Loan payments, depreciation and capital expenditures are not considered operating expenses.

OWNER-OCCUPANT - A property owner who occupies part or all of his or her property.

PASS THROUGH - An operating expense that is passed on, in whole or in part, to a tenant. For example, a lease may require that a particular tenant pay a pro-rata share of property taxes in excess of \$10,000. If the tax bill is \$50,000, and the tenant occupies 5 percent of the property's rentable area, then the tenant must pay 5 percent of \$40,000 (the amount of the tax bill over \$10,000), or \$2,000. The landlord treats this as an income item; often call a "recoverable expense."

PASSIVE ACTIVITY - A business or rental activity that the taxpayer does not materially participate in managing or running. See also, Passive Loss Allowance.

PASSIVE LOSS ALLOWANCE - The dollar amount of losses from passive-activity investments that an individual taxpayer may deduct against ordinary income. In general, losses from passive activities can only be used to offset income from other passive activities. An exception exists for owners of rental real estate, who may deduct up to \$25,000 of net losses from rental real estate investments in which they actively participate. This allowance is reduced for taxpayers with Adjusted Gross Income over \$100,000.

PERSONAL PROPERTY - Property that is movable, not permanently attached to the real estate. Appliances are personal property.

POINT(S) - A fee paid to a lender for the lender's service in making the loan. Typically a point is equal to one percent of the amount of the loan. Points are not deductible as an expense, but must be written off over the life of the loan.

PREFERRED RETURN - In the *Partnership Analysis* section of *REIA*, each limited partner may be entitled to an annual, non-compounded return on his or her investment before the general partner receives any return.

PRESENT VALUE (PV) - The discounted value of a series of future cash flows. The discount rate is chosen to compensate for the decrease in the value of money over time.

PRINCIPAL - The amount of a loan, exclusive of any interest.

PRO FORMA - A statement or report of projections about the possible future performance of an income property. A pro forma uses assumptions as to future revenues, expenses, interest rates, tax considerations, etc.

RECOVERABLE EXPENSE - See Pass Through.

REFINANCE - The process of retiring all existing loans against a property and replacing them with a new loan. In a cash-out refinance, the new loan is greater than the sum of the loans being retired and the borrower receives the difference in cash.

REHABILITATION TAX CREDIT - A credit that may be taken against one's total tax liability for improvements made to certain properties. Credits of up to 20 percent of the improvements made to historic properties and up to 10 percent of the improvements made to non-historic properties are available. A variety of conditions and limitations apply, including the dollar value of the improvements in relation to the property's basis, the amount of time allowed for the project, certification requirements, passive loss limitations, alternative minimum tax considerations and others.

REINVESTMENT RATE - In Modified Internal Rate of Return, the rate at which you believe you could reinvest the positive cash flows from your investment. Also, Risk Rate.

RENTABLE SQUARE FEET - The portion of a rental property that may be leased to tenants. For example, in a multi-tenant office building the office suites themselves contain rentable space, but hallways and stairways outside those suites typically are not included as part of the rentable area.

RESALE - See Reversion.

RESIDENTIAL PROPERTY - Real estate designed and intended as dwellings, including single- and multi-family homes, but not hotels or motels. A property that combines both residential and non-residential uses must derive at least 80 percent of its gross rental income from dwelling units to be considered residential for purposes of depreciation. If a mixed-use property is owner-occupied, then the fair-market rental value of the owner's unit must be taken into account when determining the residential or non-residential status of the property.

RETURN ON EQUITY - In *REIA*, the ratio between the Cash Flow before Taxes for a given year and the projected selling price less the sum of all mortgage balances for that year.

REVENUE RECONCILIATION ACT - Tax law passed in 1993, which changed the useful life for non-residential property, introduced the concept of "real estate professional," and limited the tax on capital gains to 28 percent; the capital gains provision was superseded by the Taxpayer Relief Act of 1997.

REVERSION - The value of an investment at the time of its resale.

RISK RATE - See Reinvestment Rate.

SAFE RATE - In Modified Internal Rate of Return, the interest rate at which you believe you can put the money aside, in a secure and reasonably liquid form, so that it will grow to meet the amount needed to cover future negative cash flows.

SENSITIVITY ANALYSIS - An analysis where one or more independent variables is altered to determine the effect on a particular dependent variable. For example, one might test how different rental rates affect the cash flow before taxes, or how different purchase prices affect the internal rate of return. Also, What-If Analysis.

SHORT-TERM CAPITAL GAIN - The gain on an asset held 18 months or less (per the Taxpayer Relief Act of 1997).

SOURCES OF FUNDS - In *REIA*, a listing of the cash and mortgages necessary to acquire the subject property. The total Sources of Funds always equals the total Uses of Funds.

STRAIGHT-LINE DEPRECIATION - A depreciation method that allows the owner to write off an asset's basis in equal amounts over its useful life. For example, if an asset were to have a 10-year useful life, the straight-line depreciation allowance each year would be 10 percent of the basis. Note that in the tax code as of this writing there exists a so-called half-month convention for real estate, where the taxpayer is allowed only one-half month depreciation in the month of acquisition and one-half month in the month of resale.

TAX REFORM ACT OF 1986 - A tax bill that substantially altered the treatment of capital gains, ending the 50 percent capital gain exclusion. The law also introduced the concept of passive activity investments and limited the losses from such activities that could be taken against ordinary income.

TAX SHELTER - An investment vehicle that can shield a part of an investor's ordinary income from taxation.

TAX-DEFERRED EXCHANGE - A provision of the tax code (sec. 1031) that permits property owners to exchange like-kind properties. If certain criteria are met, the parties can defer recognition of gain or loss and therefore also defer the tax that might have occurred in an outright sale.

TAXPAYER RELIEF ACT OF 1997 - A revision to the tax code that reduced the maximum tax rate on long-term capital gains from 28 percent to any of a variety of rates (25 percent, 20 percent, 18 percent, 10 percent, or 8 percent), depending upon the tax bracket of the taxpayer, the extent of prior depreciation, the acquisition date of the property and the length of time the property is held.

TENANT IMPROVEMENTS (TI) - Improvements made to a rental unit by a landlord for the benefit of a tenant. Such improvements are a capital expenditure, not a repair.

TERM - The number of periodic payments over which a loan will be amortized.

TREASURY BILL - A government obligation representing a virtually risk-free investment.

USEFUL LIFE - The length of time, as specified in the tax code, over which an asset may be depreciated. The useful life for tax purposes is not necessarily the same as the actual physical life expectancy of a particular asset.

USES OF FUNDS - In *REIA*, a listing of the amounts to be disbursed or set aside at the time of acquiring the subject property. The uses of funds includes the purchase price of the real estate, the purchase price of any personal property, the closing costs, all loan points, any other special amortizable fees, the cost of any capital additions to be made during the first year and any funds to be placed in reserve during the first year. The total uses of funds always equals the total Sources of Funds.

VACANCY AND COLLECTION ALLOWANCE - A deduction from the gross scheduled income for losses due to unoccupied space and uncollected rent.

WHAT-IF ANALYSIS - See Sensitivity Analysis.

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