



# Not All Cash Flows Are Created Equal

A basic guide to analyzing cash flow projections for TIC real-estate investments



## Not All Cash Flows Are Created Equal

The purpose of this document is to empower real-estate investors with the tools to evaluate the key points within a potential income-producing real estate investment opportunity. Understanding these points will enable a prospective investor to ask the right questions of any potential investment and therefore make an informed decision.

### Top 3 Points to Make an Informed Decision

- 1) **Know Your Stuff**
- 2) **Understand the numbers behind “The Numbers”**
- 3) **Ask the Right questions**

After studying this information, a prospective real-estate investor will:

- know the basic terms associated with commercial real estate;
- understand the relationship between a property’s CAP Rate and the cash-on-cash return;
- be able to perform a basic analysis of a property’s pro-forma financials and rent roll using simple calculations;
- realize how assumptions affect pro-forma cash-on-cash return projections; and
- be armed with the right questions.

Disclaimer: The information provided in this document reflects the views and opinions of the author. The document is intended to be used as basic guide to quickly assess the validity of cash flow assumptions and should not be the sole indicator as to the merits of any particular real estate investment. There are considerably more items that should be investigated before making an investment decision.



## SECTION 1: Know Your Stuff

Commercial real-estate has a lot of terms that are not common to the average person. Understanding the basic meaning behind these terms is vital to performing a basic analysis, asking the right questions, and making an informed decision.

The glossary starting on page 26 contains the basic definitions of the key terms related to each of the following categories:

- Property Valuation
- Leases
- Pro-forma Financials
- Assumptions

All definitions are explained with everyday words. As you read through this document, there will be many words or phrases that are highlighted in [blue](#), which means that a more full explanation can be found in the glossary.

All footnotes and references may be found on page 31.



## SECTION 2: Understand the numbers Behind “The Numbers”

As an investor in an income-producing property, one of the best indicators of the success of your investment is the annual cash-on-cash return, which is one of “The Numbers” critical to an investment decision. Like all investments, real estate involves a degree of risk. You might not receive the annual **cash-on-cash return** indicated in “The Numbers”, or could even lose a portion of your investment. For investments with higher risk, a higher return is expected. Generally, higher risk investments have a lower probability of receiving the projected returns, whereas lower risk investments have a higher probability of receiving the projected returns. Thus, risk can generally be described as the probability of receiving a projected return.

An informed investor needs to be able to evaluate how much risk is associated with an investment in order to make an informed decision. For example, would you rather invest in Property A that has 10% projected annual returns, or Property B which has the same 10% projected annual returns? Without any further information, the best method would be to flip a coin and keep your fingers crossed.

What if Property A had 10% projected returns and Property B had 8% projected returns? Without any further information, you might be inclined toward investing in Property A since it has higher projected returns. What if you were able to determine that Property A is high risk with only a 10% probability of achieving the projected 10% returns; whereas Property B is low risk with a 90% probability of achieving the 8% projected returns? Given this information, the answer is obvious. Unless you enjoy the thrill of high-risk investments, Property B is clearly a better investment.

As illustrated in this example, in order to make an informed decision on a real estate investment, an investor must be able to determine the risk or probability associated with receiving the projected returns. This will eliminate the inclination to make investment decisions based solely on “The Numbers”, but rather, on all the numbers behind “The Numbers”.

The following simple analysis will show you how to apply some simple analysis methods that will help you determine if the numbers behind the “The Numbers” really do add up.



## Simple Analysis

For the purpose of illustration, we will focus our analysis on a hypothetical investment offering for a suburban office building located in Capital City. Even though this example uses an office building, the fundamentals shown in this analysis can be applied to most property types including office, retail, flex, or industrial.

To perform a simple analysis, an investor will need the following information which should be found within the offering documents for any TIC real-estate investment:

- 1) Property and Offering Details
- 2) Pro-forma Cash Flow
- 3) Detailed Rent Roll

The simple analysis will first compare the [capitalization rate](#) (CAP Rate) to the projected cash-on-cash returns (“The Numbers”) and then breakdown the pro-forma cash flow to determine the reliability of its assumptions (the numbers behind “The Numbers”).

The following shows Property and Offering Details for our hypothetical investment offering:

|                                   |                                  |
|-----------------------------------|----------------------------------|
| Property Name                     | Lucrative Office Building        |
| Location                          | Capital City                     |
| Size                              | 100,000 net rentable square feet |
| Built                             | 2000                             |
| CAP Rate (pro-forma)              | 6.50%                            |
| First-year NOI                    | 1,820,000                        |
| Purchase Price                    | 28,000,000                       |
| Equity                            | 15,000,000                       |
| Occupancy                         | 90%                              |
| <b>1st Yr Cash-on-Cash Return</b> | <b>6.45%</b>                     |
| <b>Ave Annual Cash-on-Cash</b>    | <b>7.47%</b>                     |

## Cap Rates vs Cash-on-Cash Returns (“The Numbers”)

By definition, the CAP Rate is directly related to a property’s income ([net operating income](#) (NOI) divided by the [purchase price](#)); whereas the [cash-on-cash return](#) is the NOI, minus [debt service](#), [capital expenditures](#), and [leasing costs](#), all divided by the [equity amount](#) of the purchase price.

A lower CAP Rate means that the NOI is lower in relation to the purchase price; which in turn means there is less income that will be available to distribute as a cash-on-cash return. Therefore, a lower CAP Rate generates a lower cash-on-cash return. Generally, **a property purchased at a low CAP rate will have less ability to produce high cash-on-cash returns compared to a similar property purchased at a higher CAP rate.**

As a general rule, **it is unlikely to expect cash-on-cash returns to begin much higher than the CAP Rate**, especially if the debt service payments, as a percent of debt, are the same or higher than the CAP Rate.



### Determining the CAP Rate

Since the CAP Rate is the primary indicator of a property’s potential to produce a certain cash-on-cash return, it is important for an investor to determine:

- 1) whether the CAP Rate is based on a pro-forma (projected) NOI or an actual (in-place) NOI,
- 2) whether or not the CAP Rate shown in an investment offering uses a purchase price which includes all costs and fees, and
- 3) whether or not the pro-forma NOI (if applicable) is reasonable.

#### 1) Proforma vs. Actual NOI

There are two types of CAP Rates; an actual CAP Rate and a pro-forma CAP Rate. An actual CAP Rate is calculated from the actual NOI from the previous 12 months of operations, whereas a pro-forma CAP Rate uses the projected NOI for the first year of operations after the property is purchased. Since a pro-forma CAP Rate is based on many assumptions, it can be less reliable than an actual CAP Rate and should receive some scrutiny. **Most properties are sold using the pro-forma CAP Rate**, so it is important to find out which one is being shown.

In the Lucrative Office Building offering, the CAP Rate is shown as being 6.50%, based on a pro-forma NOI. To check this number, divide the first-year pro-forma NOI of \$1,820,000 by the purchase price of \$28,000,000.

$$\text{Pro-forma CAP Rate} = \frac{\text{Pro-forma NOI}}{\text{Purchase Price}} = \frac{\$1,820,000}{\$28,000,000} = 6.50\%$$

#### 2) Does the purchase price include all costs and fees?

In determining whether this 6.50% CAP Rate is inclusive of all costs and fees, we find the following details in the Lucrative Offering:

|                        |                  |
|------------------------|------------------|
| Acquisition Price      | 28,000,000       |
| Lender Reserves        | 300,000          |
| Fees and Closing Costs | <u>1,700,000</u> |
| Total Acquisition Cost | 30,000,000       |
| <br>                   |                  |
| Proposed Loan          | 15,000,000       |
| Equity                 | 15,000,000       |

This means that the actual [purchase price](#) an investor is paying for the property is not \$28,000,000 but \$30,000,000.<sup>1</sup>

$$\text{CAP Rate (including all costs and fees)} = \frac{\text{Pro-forma NOI}}{\text{Actual Purchase Price}} = \frac{\$1,820,000}{\$30,000,000} = 6.07\%$$

Apply this new price to the CAP Rate calculation (shown above), by dividing the first-year pro-forma NOI of \$1,820,000 by the actual price to the investor of \$30,000,000. The 6.07% represents the CAP Rate using the price at which an investor would be purchasing the property.

#### 3) Does the first-year pro-forma NOI look reasonable?

Since this CAP Rate is also based on a pro-forma NOI, an investor should determine whether that NOI appears reasonable. To determine whether a pro-forma NOI looks reasonable, check for items that do not closely resemble the current property performance level.



For example, Year 1 in the Lucrative Pro-forma Cash Flow (page 8) shows that there is a total of \$55,000 taken out for a **vacancy** allowance. The building is currently 10% vacant. Does a \$55,000 vacancy allowance appear sufficient to cover a 10% vacancy?

By using the **vacancy** calculation (shown below), we can answer this question by determining the vacancy allowance as a percentage of the **potential gross revenue**.

$$\text{First-Year Vacancy Rate} = \frac{\text{Absorption \& Turnover + General Vacancy}}{\text{Potential Gross Revenue}} = \frac{\$55,000}{\$2,750,000} = 2.00\%$$

This means that the first-year NOI is based on a 2% vacancy factor. Since the property is currently 10% vacant, in order to achieve the first-year pro-forma NOI the building needs to have 8% of the vacant space leased immediately (all else constant).

If the vacant space is not leased and the building remains at 90% occupancy throughout the year, then the vacancy allowance should be roughly 10% of the \$2,750,000 **potential gross revenue** or \$275,000. This vacancy allowance would decrease the first-year NOI by \$220,000 (\$275,000 less the current \$55,000 vacancy deduction). The new first-year NOI would be \$1,820,000 minus \$220,000, which equals 1,600,000.

$$\text{CAP Rate (with new NOI)} = \frac{\text{New Pro-forma NOI}}{\text{Actual Purchase Price}} = \frac{\$1,600,000}{\$30,000,000} = 5.33\%$$

Apply this new NOI in calculating the CAP Rate and you get 5.33%. **This is more than a full one percent less than the CAP Rate represented in the Property and Offering Details.** Since returns are directly related to the CAP Rate, with this CAP Rate, there is less probability that the 6.45% return can be generated from the property's operations for the first year and less probability of meeting the future years' projections.

## Pro-forma Cash Flow Assumptions (the numbers behind “The Numbers”)

A pro-forma cash flow is not a crystal ball. It is rarely accurate in predicting how a property will perform beyond the first few years of an investment and, most importantly, is only as reliable as the assumptions used in its creation. An informed investor needs to be able to determine whether the assumptions used in a particular cash flow represent a “best-case” scenario that has a low probability of occurring or whether they represent a “typical” scenario that has a high probability of occurring.

To do this we will:

- analyze 5 key areas of the Lucrative Office Building's pro-forma cash flow by using simple calculations to determine what kind of assumptions are being used;
- compare the assumptions with national trends, market information, and some common sense;
- show what effect changes in these assumptions would have on the cash-on-cash return projections; and
- ask informed questions regarding the assumptions used.

**The five key areas<sup>2</sup> for this analysis are:**

- 1) Vacancy
- 2) Rent Increases
- 3) Expenses
- 4) Leasing and Capital Costs
- 5) Reserves



The following pages contain both the 5-year Pro-forma Cash Flow and a detailed Rent Roll given with the Lucrative Building offering:

| <b>PRO-FORMA CASH FLOW</b>   |                    |                    |                    |                    |                    |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>In Inflated Dollars for the Fiscal Year Beginning January 1, 2006</b> |                    |                    |                    |                    |                    |
| For the Years Ending   | Year 1<br>Dec-2006 | Year 2<br>Dec-2007 | Year 3<br>Dec-2008 | Year 4<br>Dec-2009 | Year 5<br>Dec-2010 |
| <b>POTENTIAL GROSS REVENUE</b>   |                    |                    |                    |                    |                    |
| Base Rental Revenue  | \$2,000,000        | \$2,010,000        | \$2,200,000        | \$2,250,000        | \$2,400,000        |
| Absorption & Turnover Vacancy  |                    |                    | \$20,000           |                    |                    |
| Scheduled Base Rental Revenue  | \$2,000,000        | \$2,010,000        | \$2,180,000        | \$2,250,000        | \$2,400,000        |
| Expense Reimbursement Revenue  | \$750,000          | \$770,000          | \$790,000          | \$810,000          | \$830,000          |
| <b>TOTAL POTENTIAL GROSS REVENUE</b>                                     | <b>\$2,750,000</b> | <b>\$2,780,000</b> | <b>\$2,970,000</b> | <b>\$3,060,000</b> | <b>\$3,230,000</b> |
| General Vacancy  | \$55,000           | \$55,600           | \$39,400           | \$61,200           | \$64,600           |
| <b>EFFECTIVE GROSS REVENUE</b>   | <b>\$2,695,000</b> | <b>\$2,724,400</b> | <b>\$2,930,000</b> | <b>\$2,998,800</b> | <b>\$3,165,400</b> |
| <b>OPERATING EXPENSES</b>  |                    |                    |                    |                    |                    |
| Real Estate Taxes  | \$450,000          | \$457,500          | \$465,000          | \$472,500          | \$480,000          |
| Operating Expenses   | \$425,000          | \$432,500          | \$440,000          | \$447,500          | \$455,000          |
| <b>TOTAL OPERATING EXPENSES</b>  | <b>\$875,000</b>   | <b>\$890,000</b>   | <b>\$905,000</b>   | <b>\$920,000</b>   | <b>\$935,000</b>   |
| <b>NET OPERATING INCOME</b>  | <b>\$1,820,000</b> | <b>\$1,834,400</b> | <b>\$2,025,600</b> | <b>\$2,078,800</b> | <b>\$2,230,400</b> |
| <b>DEBT SERVICE</b>  |                    |                    |                    |                    |                    |
| Interest Payments  | \$825,000          | \$825,000          | \$825,000          | \$825,000          | \$825,000          |
| <b>LEASING &amp; CAPITAL COSTS</b>                                       |                    |                    |                    |                    |                    |
| Tenant Improvements  |                    |                    | \$75,000           |                    |                    |
| Leasing Commissions  |                    |                    | \$41,250           |                    |                    |
| Asset Mgmt Fee   | \$27,500           | \$28,500           | \$29,500           | \$30,500           | \$31,500           |
| <b>TOTAL LEASING &amp; CAPITAL COSTS</b>                                 | <b>\$27,500</b>    | <b>\$28,500</b>    | <b>\$145,750</b>   | <b>\$30,500</b>    | <b>\$31,500</b>    |
| <b>CASH FLOW AFTER DEBT SERVICE</b>                                      | <b>\$967,500</b>   | <b>\$980,900</b>   | <b>\$1,054,850</b> | <b>\$1,223,300</b> | <b>\$1,373,900</b> |
| <b>CASH ON CASH RETURN</b>   | <b>6.45%</b>       | <b>6.54%</b>       | <b>7.03%</b>       | <b>8.16%</b>       | <b>9.16%</b>       |
| <b>5 YR. AVG CASH ON CASH RETURN</b>                                     | <b>7.47%</b>       |                    |                    |                    |                    |



| PRESENTATION RENT ROLL & CURRENT TERM TENANT SUMMARY |            |               |          |               |         |
|--|------------|---------------|----------|---------------|---------|
| As of Jan-2006 for 100,000 Square Feet               |            |               |          |               |         |
| Tenant Name  |            |               |          |               |         |
| Lease Type   | SqFt       | Rate & Amount | Changes  | Rate & Amount | Renewal |
| Lease Dates & Term                                   | Bldg Share | per Year      | on       | per Year      | Options |
| 1 Big Bank   |            |               |          |               |         |
| NNN  | 50,000     | \$18.00       |          |               | Yes     |
| Aug-2003 to Aug-2013                                 | 50.00%     | \$900,000     |          |               |         |
| 10 Years   |            |               |          |               |         |
| 2 Smith Law Offices                                  |            |               |          |               |         |
| Gross Modified                                       | 20,000     | \$22.00       | Jan-2006 | \$23.00       | Yes     |
| Jan-2003 to Jan-2008                                 | 20.00%     | \$440,000     |          | \$460,000     |         |
| 5 Years  |            |               |          |               |         |
| 3 Diamond Enterprises                                |            |               |          |               |         |
| Gross Modified                                       | 10,000     | \$22.00       | Feb-2006 | \$23.00       | No      |
| Feb-2003 to Feb-2008                                 | 10.00%     | \$220,000     |          | \$230,000     |         |
| 5 Years  |            |               |          |               |         |
| 4 Jackson Corp.                                      |            |               |          |               |         |
| Gross Modified                                       | 10,000     | \$19.00       | Jan-2007 | \$20.00       | Yes     |
| Jul-2005 to Jul-2010                                 | 10.00%     | \$190,000     |          | \$200,000     |         |
| 5 Years  |            |               |          |               |         |
| 5 Vacant   |            |               |          |               |         |
| Gross Modified                                       | 10,000     | \$22.00       | Jan-2009 | \$23.00       | Yes     |
| Jan-2006 to Jan-2011                                 | 10.00%     | \$220,000     |          | \$230,000     |         |
| 5 Years  |            |               |          |               |         |
| Total Occupied SqFt                                  | 90,000     |               |          |               |         |
| Total Available SqFt                                 | 10,000     |               |          |               |         |
| Vacancy  | 10%        |               |          |               |         |

**Note:** You will need to refer back to both the Pro-forma Cash Flow and Rent Roll throughout the analysis.



## VACANCY

**Vacancy** is the most important factor in the success of a commercial real-estate property. While calculating the CAP Rate, we already determined that there could be a problem with the first-year vacancy. The Lucrative Building is currently 10% vacant and yet only a 2% vacancy assumption was used in the first year. Future vacancies are very difficult to predict, since a number of different factors can come into play. For the purposes of this analysis, there are two important factors for projecting vacancy that should always be considered.

- 1) Average Projected Vacancy vs. Market Vacancy
- 2) [Lease Roll](#)

### Average Projected Vacancy vs. Market Vacancy

An easy way to assess the reliability of vacancy assumptions is to compare the average projected vacancy to the market vacancy in the property's area. The average projected vacancy rate over the term of the pro-forma is found by adding all of the amounts for [absorption and turnover vacancy](#) (ATV) and [general vacancy](#) (GV) for all years of the analysis and dividing by the sum of the [potential gross revenue](#) (PGR) amounts for these same years. The following shows this calculation for the Lucrative Offering:

This means that the pro-forma cash flow assumes that the Lucrative Office Building will have a 2% average vacancy over the next five years.

|                      |   |   |   |                              |   |    |
|----------------------|---|---|---|------------------------------|---|----|
| Average Vacancy Rate | = | $\frac{\text{ATV} + \text{GV (for all years)}}{\text{PGR (for all years)}}$ | = | $\frac{295,800}{14,790,000}$ | = | 2% |
|----------------------|---|---|---|------------------------------|---|----|

To determine the validity of the 2% vacancy assumption, comparisons can be made using local and national market information. Many times information on the local market is included with the offering<sup>3</sup>. After reviewing this information, we find that the average vacancy in Capitol City for suburban office is 15%. This would be consistent with the national average considering the 2005 average suburban office vacancy for 51 of the largest U.S. cities was 15.25%<sup>4</sup>. Keep in mind that the 15% vacancy rate in the local market means that tenants will have many attractive alternatives to choose from when their current leases expire.

### Lease Roll

For every lease that expires, there is a chance that the tenant will vacate and a new tenant for the space will have to be found, during which time the space is vacant and not generating any revenue. Since it is not usually known which tenants will vacate the building at the end of their leases and which will renew their leases, **it is typical to assume a building's average vacancy will be higher if a large amount of its leased space expires and lower if very little of its leased space expires.**

For the Lucrative Building, assuming an average vacancy of 2% could be reasonable if very little space had leases expiring during the 5-year term of the pro-forma cash flow.

According to the Lucrative Building Rent Roll, Smith Law Offices and Diamond Enterprises, who together occupy 30% of the building, both have leases expiring at the beginning of 2008. If both of the tenants vacated the building and it took an average of 6 months to release both spaces, then for the 2008 year there would be an average of 15% vacancy (30% vacancy for 6 months). This scenario, alone, would make the 5-year average vacancy equal to 3% (15% divide by 5 years). Additionally, the lease for Jackson Corp, who occupies 10% of the building, expires in the middle of 2010. **Overall, 40% of the space expires over the next 5 years and 10% is not currently occupied.**



### Analysis Conclusions

Lucrative Office Building may be more desirable than the average office building and could beat the average market vacancy rates. However, given the fact that there is currently a 10% vacancy rate with 40% of the leased space expiring within the next 5 years and a 15% average vacancy rate in the market, **projecting an average vacancy of 2% would be a “best-case” scenario.**

### Effect on Cash-on-Cash Returns

The following shows the effect if an average vacancy rate of 5% were used instead of the 2% shown in the Lucrative Pro-forma Cash Flow:

|                                      | Year 1       | Year 2       | Year 3       | Year 4       | Year 5       |
|--------------------------------------|--------------|--------------|--------------|--------------|--------------|
| For the Years Ending                 | Dec-2006     | Dec-2007     | Dec-2008     | Dec-2009     | Dec-2010     |
| Absorption & Turnover Vacancy        |              |              | \$20,000     |              |              |
| General Vacancy                      | \$137,500    | \$139,000    | \$128,500    | \$153,000    | \$161,500    |
| <b>CASH ON CASH RETURN</b>           | <b>5.90%</b> | <b>5.98%</b> | <b>6.88%</b> | <b>7.54%</b> | <b>8.51%</b> |
| <b>5 YR. AVG CASH ON CASH RETURN</b> | <b>6.96%</b> |              |              |              |              |

By using a 5% average vacancy instead of a 2% average vacancy, the 5-year average cash-on-cash return would decrease from 7.47% to 6.96% (all else constant).

### Informed Questions

- 1) Why is there only a 2% vacancy rate shown in the first year when the building is currently 10% vacant?
- 2) Is there currently a tenant that has signed a lease for the vacant space?
- 3) What is the likelihood that the building will average only 2% vacancy rate with a 15% vacancy in the local market and 40% of the leased space expiring within the next 5 years?
- 4) Has the local market vacancy rate been increasing or decreasing over the past few years?



## BASE RENT INCREASES

Base rent increases also have a significant effect on the performance of a property. When analyzing base rent increases, the rent roll will be the most important tool. If the offering package does not include a rent roll showing **rental rates and terms**, make sure you get one, before proceeding. This analysis will focus on the following factors:

- 1) Contractual vs. Speculative Increases
- 2) Average Annual Rent Increases
- 3) Market Rent Trends

### Contractual vs. Speculative Increases

An increase in base rent is **contractual** if it is contained in a current lease. Any increase in base rent shown for a future new lease is **speculative**. For example, if none of the leases expire during the entire term of a pro-forma cash flow, then all increases in **base rental revenue** shown in the pro-forma cash flow should be contractual increases. If, on the other hand, all of the leases expired in year 3, then all increases shown after year 3 would be according to speculative leases. The speculative lease increases are less reliable since they use assumed **market rent**, assumed increases, and assumed **lease** terms.

In the Lucrative Pro-forma Cash Flow, there is a \$10,000 increase in base rental revenue for Year 2. By looking at the rent roll, you can determine that this increase is a contractual increase for Jackson Corp whose base rent changes in January 2007 from \$19 per square foot to \$20 per square foot. In looking at the other tenants, you see that Big Bank has no contractual increases, while Smith Law Offices and Diamond Enterprises already had their contractual increases in Year 1. Additionally, there are no leases that expire until Year 3, so speculative increases are also not a factor.

In Years 3-5, the Lucrative Pro-forma Cash Flow shows a total increase of \$390,000 in base rental revenue. Since there are no contractual increases for Jackson Corp or Big Bank, which will be the only original leases after the two leases for Smith Law Offices and Diamond Enterprises expire early in year 3, **all \$390,000 of increases shown in Years 3-5 are speculative increases.**

### Average Annual Rent Increases

If a property has a large amount of tenants, it would be very time consuming to calculate which increases are contractual and which are speculative. An easy way to see if the overall increases in base rental revenue are realistic is to calculate the simple average increase<sup>5</sup> over the term of the pro-forma cash flow and compare it to average market increases.

First, find the total percentage increase in rent over the term of the pro-forma cash flow by dividing the total increase (final-year base rental revenue minus first-year base rental revenue) by the first-year base rental revenue (shown below).

$$\text{Total Rent Increase Percentage} = \frac{\text{total increase}}{\text{first-year Base Rent}} = \frac{400,000}{2,000,000} = 20\%$$

The total rent increase percentage means that in the 4 years, beyond the first year, the base rental revenue is projected to increase by 20%. To find the average, divide the total increase percentage by one less than the total number of years in the analysis. Since the Lucrative Pro-forma Cash Flow shows projections for 5 years, divide by 4.



$$\text{Annual Rent Increase Percentage} = \frac{\text{total increase percentage}}{\text{number of years} - \text{one}} = \frac{20\%}{4} = 5\%$$

The annual rent increase percentage shows that the simple annual average increase in base rental revenue is projected to be about 5%.

### Market Rent Trends

From the rent roll it is sometimes possible to see market rent trends. For example, both leases for Smith Law Offices and Diamond Enterprises were signed in at the beginning of 2003 for base rent of \$22 per-square-foot (gross-modified). The most recent lease for Jackson Corp signed in July, 2005 was for only \$19 per-square-foot (gross modified<sup>o</sup>). This could be an indicator that market rents have actually decreased from 2003 to 2005 and could continue decreasing. **On average, suburban office rents for 51 of the largest U.S. cities grew at the rate of 2.35% during 2005<sup>4</sup>.**

The local market vacancy should also play a roll in base rent increase assumptions. **Market rents tend to decrease as vacancy increases.** This is due to the economic law of Supply and Demand, which shows that if supply increases and demand stays constant, prices will decrease. As vacancy (supply of available office spaces) increases, landlords must lower their rents (prices) in order to attract tenants.

If there is still a 15% vacancy rate in the local market as leases for the current tenants in the Lucrative Building expire, the tenants will most likely use this to their advantage and negotiate for rent reductions (or other concessions like [tenant improvements](#)) in order to renew their leases.

### Analysis Results

The majority of the base rent increases shown for the Lucrative Building are speculative and 50% of the building is leased the entire term at a flat rate (no contractual increases). Still, the pro-forma cash flow shows an average annual increase of 5% in base rent which would all have to be supported by only 50% of the leased space, which would mean that **50% of the space would have to increase an average of 10%**. Additionally, market rental rates appear to have decreased in the last few years according to the rent roll, and local market vacancy is 15%. Unless the market has extraordinarily high rent increases in the next 5 years, **5% average annual increases in base rental revenue would represent more than a “best-case” scenario.**



### Effects on Cash-on-Cash Returns

The following shows the effect if the base rental revenue were to increase an average of 3% a year for the 50% of the space which is speculative:

| For the Years Ending                 | Year 1<br>Dec-2006 | Year 2<br>Dec-2007 | Year 3<br>Dec-2008 | Year 4<br>Dec-2009 | Year 5<br>Dec-2010 |
|--------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Base Rental Revenue                  | \$2,000,000        | \$2,010,000        | \$2,050,000        | \$2,080,000        | \$2,120,000        |
| <b>CASH ON CASH RETURN</b>           | <b>6.45%</b>       | <b>6.54%</b>       | <b>6.05%</b>       | <b>7.04%</b>       | <b>7.33%</b>       |
| <b>5 YR. AVG CASH ON CASH RETURN</b> | <b>6.68%</b>       |                    |                    |                    |                    |

By using a 3% average increase in base rental revenue for 50% of the space instead of a 5% average increase for all of the space, the 5-year average cash-on-cash return would decrease from 7.47% to 6.68% (all else constant).

### Informed Questions

- 1) Have local market rents been increasing or decreasing over the past 3 years?
- 2) If they are increasing, at what rate?
- 3) If rates are increasing, why was the Jackson Corp lease signed at only \$19 per-square-foot base rent in 2005 when leases in 2003 were signed at \$22 per-square-foot?
- 4) Is the current average rental rate in the building considerably below market?
- 5) If not, how is it possible to show an average of 5% increases in rent?
- 6) How will base rents increase an average of 5% a year considering that 50% of the building is leased at a flat rate throughout the term of the pro-forma cash flow?
- 7) What is the estimated market rent that was used in the pro-forma cash flow?
- 8) Are the large increases in base rental revenue in years 3-5 due to contractual or speculative increases?
- 9) Was the market vacancy of 15% considered when assuming that rents would increase 5% annually?



## EXPENSES

**Operating Expenses** represent the projected annual cost of all expenses incurred to maintain and operate the property. Operating Expenses include costs associated with service contracts and maintenance agreements, as well as utilities, management fees, real estate taxes and insurance. This analysis will focus on four major factors in determining the reliability of projected expenses:

- 1) Previous Year Expenses
- 2) Real Estate Taxes
- 3) Average Annual Expense Increases
- 4) Market Trends

### Previous Year Expenses

Unless there were some extraordinary expenses in the previous year, expenses for the following year should be projected to be more than the previous year's to allow for inflation. If the offering does not show the operating expenses for the previous year, it is good idea to ask for them.

### Real Estate Taxes

Real estate (property) taxes are paid according to a property's assessed value, which is usually based on the property's market value as established by the local county assessor's office. Many times, however, the assessed value of a property might be significantly below the actual market value. This can occur if the property's area has seen substantial appreciation causing the property's market value to increase at a faster rate than its assessed value. The true market value of a property can never be accurately determined until the property is actually sold. As an investor, when you purchase the property, there could be a large gap between the price you paid for the property and the assessed value.

If the price paid by the investor is used by the local county assessor as an indication of the property's market value the next time the property is assessed, the property's assessed value could receive a substantial increase in the first or second year after the purchase. This increased assessment will increase the amount of taxes.

The Lucrative Pro-forma Cash Flow does not appear to account for this potential increase in taxes since each year the taxes increase by the same amount.

### Average Annual Expense Increases

Most pro-forma cash flows project future expenses by simply increasing each year by a certain rate to account for inflation. It is very common to use an inflation rate of 3%, unless local market information or other factors allow for a different rate to be used.

The average annual expense increase is found by applying the same method used to find the average annual rent increase<sup>5</sup> (shown previously). First, find the total percentage increase in expenses over the term of the pro-forma cash flow by dividing the total increase (final-year total expenses minus first-year total expenses) by the first-year total expenses.

|   |
|---|
| $\text{Total Expense Increase Percentage} = \frac{\text{total increase}}{\text{first-year total expenses}} = \frac{60,000}{875,000} = 6.85\%$ |
|---|



This means that in the 4 years, beyond the first year, the total expenses are increased by 6.85%. To find the average, divide the total increase percentage by one less than the total number of years in the analysis. Since the Lucrative Pro-forma Cash Flow shows projections for 5 years, divide by 4.

$$\text{Average Expense Increase Percentage} = \frac{\text{total increase percentage}}{\text{number of years} - \text{one}} = \frac{6.85\%}{4} = 1.71\%$$

The Lucrative Pro-forma Cash Flow assumes that expenses will increase an average of 1.71% each year.

### Market Trends

Market trends can also be a good reference to determine the validity of expense increase assumptions. Generally, expenses should be expected to increase in comparison to the Consumer Price Index (CPI) or other measure of inflation. In 2005, the U.S. city average CPI increase was 3.4%<sup>6</sup>. National market data collected for 51 of the largest U.S. cities shows that **in 2005, the average suburban office expenses grew at the rate of 2.87%**.

### Analysis Results

The Lucrative Pro-forma Cash Flow shows an average annual increase of 1.71% in total expenses. This could be possible depending on inflation in the local area. However, since both the CPI and the national average rates have been showing 3% average increases this is not likely. There is also no projection that the real estate taxes will increase when the property's assessment is adjusted. Given these factors, **projecting a 1.71% increase in expenses for the Lucrative Office Building could be considered a "best-case" scenario.**

### Effects on Cash-on-Cash Returns

The following shows the effect if the operating expenses are increased a simple average of 3% a year and real estate taxes receive a \$30,000 increase in Year 2:

| For the Years Ending                 | Year 1<br>Dec-2006 | Year 2<br>Dec-2007 | Year 3<br>Dec-2008 | Year 4<br>Dec-2009 | Year 5<br>Dec-2010 |
|--------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Real Estate Taxes                    | \$450,000          | \$480,000          | \$493,500          | \$507,000          | \$520,500          |
| Operating Expenses                   | \$425,000          | \$437,750          | \$450,500          | \$463,250          | \$476,000          |
| <b>TOTAL OPERATING EXPENSES</b>      | <b>\$875,000</b>   | <b>\$917,750</b>   | <b>\$944,000</b>   | <b>\$970,250</b>   | <b>\$996,500</b>   |
| <b>CASH ON CASH RETURN</b>           | <b>6.45%</b>       | <b>6.35%</b>       | <b>6.63%</b>       | <b>7.82%</b>       | <b>8.75%</b>       |
| <b>5 YR. AVG CASH ON CASH RETURN</b> | <b>7.20%</b>       |                    |                    |                    |                    |

By using a 3% simple annual average increase in operating expenses and a 3% increase in real estate taxes with a larger increase in year 2, the 5-year average cash-on-cash return would decrease from 7.47% to 7.20% (all else constant).



### Informed Questions

- 1) What factors in the local market support the assumption that expenses will only increase an average of 1.71% each year?
- 2) Was there any consideration given that property taxes could have a significant increase after property is purchased?
- 3) Is the property's assessed value significantly lower than the purchase price?
- 4) What were the total expenses for the last year?
- 5) At what rate have expenses been increasing in the past few years?

## LEASING AND CAPITAL COSTS

Leasing and Capital Costs are very significant costs associated with securing tenants and maintaining a property, yet many pro-forma cash flows either underestimate or do not even show any estimates for these costs. Reliable estimates for these costs are vital to an investor whose **cash-on-cash return** comes after these costs are subtracted from the NOI. This analysis will show you how to estimate these costs by focusing on the following:

- 1) [Lease Rolls](#)
- 2) [Lease Renewal Rate](#)
- 3) [Tenant Improvement](#) Costs
- 4) [Lease Commission](#) Costs
- 5) [Capital Expenditures](#)

### Lease Rolls

To calculate the amount needed for tenant improvements and lease commissions use the rent roll to determine the total square feet of leased space that expires in each year of the analysis. The lease rolls for the Lucrative Office Building are shown in the following schedule:

| Lease Roll Schedule   |        |        |        |        |        |        |
|-----------------------|--------|--------|--------|--------|--------|--------|
|                       | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total  |
| Square Feet to Expire | 10,000 | 0      | 30,000 | 0      | 10,000 | 50,000 |

Since the Lucrative Pro-forma assumes that the current vacant space will be leased up in the first year, the square footage of that space is also included in the lease roll schedule.

Upon expiration of these leases, the tenants will have three choices. They can exercise any **renewal options** contained in the previous lease, try to negotiate a new lease, or vacate the property. Each choice carries a different amount of leasing costs. Since it is not known for certain whether or not a tenant will renew its lease, projected leasing costs use an estimate called the lease renewal rate to obtain a weighted-average cost.

### Lease Renewal Rate

The lease renewal rate represents the percentage of tenants that are projected to renew leases upon the expiration of their current lease. If a tenant chooses to not renew its lease, then a new tenant must be found. The Leasing Renewal Rate is used as a weight in forecasting the average value of future **tenant improvement** and **lease commission** costs due to lease expiration. A higher lease renewal rate means that a higher percentage of tenants are projected to renew their leases; which in turn will lower the average projected leasing costs since renewed leases generally have less tenant improvement and lease commission costs compared to those for new tenants.



The Lucrative Offering states that a lease renewal rate of 75% is used in the pro-forma cash flow, lease commissions are estimated at 6% new and 3% renewal, and tenant improvements are estimated at \$15 new and \$5 renewal. It also states that it is assumed that all [lease renewal options](#) are exercised.

The following chart shows how the lease renewal rate determines the weighted-average leasing costs used for the Lucrative Pro-forma Cash Flow:

| Lease Renewal Rates Chart |                   |            |              |                     |             |              |
|---------------------------|-------------------|------------|--------------|---------------------|-------------|--------------|
| Renewal Rate              | Lease Commissions |            |              | Tenant Improvements |             |              |
|                           | 6% New            | 3% Renewal | Weighted Ave | \$15 New            | \$5 Renewal | Weighted Ave |
| 75%                       | 1.5%              | 2.25%      | 3.75%        | \$3.75              | \$3.75      | \$7.50       |

A Lease Renewal Chart showing the weighted averages for renewal rates ranging from 0% to 100% can be found in the glossary

The 3% rate for renewals is multiplied by the 75% renewal rate which equals 2.25%. This is added to the 1.5% for new leases, found by multiplying the 6% rate by 25% (100% minus the renewal rate). The result is a weighted average of 3.75%. The same method is also used to find the weighted average of \$7.50 for the tenant improvements.

### Tenant Improvement (TI) Costs

According to the Lease Renewal Rates Chart, the Lucrative Pro-forma Cash Flow should show projected TI costs at \$7.50 using the 75% renewal rate. The full \$15 new tenant rate should be used in Year 1 since the space is currently vacant and will have to be filled by a new tenant.

The Tenant Improvements Costs Schedule is developed by multiplying the expiring square feet from the Lease Roll Schedule by these TI costs. These costs, shown in this schedule, are very different from those shown in the Lucrative Pro-forma Cash Flow, which does not show any TI costs for year 1, only \$75,000 for TI costs in year 3, and no TI costs for year 5.

| Tenant Improvement Costs Schedule |           |        |           |        |          |             |
|-----------------------------------|-----------|--------|-----------|--------|----------|-------------|
|                                   | Year 1    | Year 2 | Year 3    | Year 4 | Year 5   | Total / Ave |
| Square Feet to Expire             | 10,000    | 0      | 30,000    | 0      | 10,000   | 50,000      |
| Weighted Ave TI Costs             | X \$15.00 | 0      | \$7.50    | 0      | \$7.50   | \$9.00      |
| Projected TI Costs                | \$150,000 | 0      | \$225,000 | 0      | \$75,000 | \$450,000   |

The explanation for this phenomenon is found in the assumption that all renewal options will be exercised. Lucrative Pro-forma Cash Flow must also assume that each renewal option that is exercised will not generate any leasing costs. Since Diamond Enterprises is the only tenant without any renewal options for their 10,000 SF which expires in Year 3, the Lucrative Pro-forma only shows \$75,000 for TI costs for this year (10,000 SF X \$7.50 = \$75,000). **By using the assumption that all renewal options will be exercised, the total projected TI costs are reduced by \$375,000 (\$450,000 minus \$75,000).**



### Lease Commission (LC) Costs

To develop a Lease Commission Costs Schedule, the Lease Roll Schedule is used again by multiplying the amount of expiring space by an estimated market rent and lease term. Since the rent roll uses an **estimated market rent** of \$22 for the speculative lease for the vacant space, this would be a good estimate to use. All expiring leases have 5-year terms, so future leases can be estimated to have the same 5-year terms. The full 6% new lease commission is also used for Year 1 since the space is currently vacant and will require a new tenant.

| Lease Commission Costs Schedule |             |        |             |        |             |             |
|---------------------------------|-------------|--------|-------------|--------|-------------|-------------|
|                                 | Year 1      | Year 2 | Year 3      | Year 4 | Year 5      | Total / Ave |
| Square Feet to Expire           | 10,000      | 0      | 30,000      | 0      | 10,000      | 50,000      |
| Est. Base Rent                  | X \$22      | 0      | \$22        | 0      | \$22        | \$22        |
| Lease Term (Yrs)                | X 5         | 0      | 5           | 0      | 5           | 5           |
| Total Base Rent                 | \$1,100,000 | 0      | \$3,300,000 | 0      | \$1,100,000 | \$5,500,000 |
| Weighted Ave LC Costs           | X 6.00%     | 0      | 3.75%       | 0      | 3.75%       | 4.20%       |
| Projected LC Costs              | \$66,000    | 0      | \$123,750   | 0      | \$41,250    | \$231,000   |

These LC costs, like the TI costs, are also very different from the LC costs projected in the Lucrative Pro-forma Cash Flow, which only shows LC costs of \$41,250 in Year 3. **This difference is also due to the assumption that all renewal options will be exercised, which reduces LC cost projections by \$189,750** (231,000 minus \$41,250).

### Capital Expenditures

The Lucrative Pro-forma Cash Flow does not show any accounting for **capital expenditures**. Even if there are no major capital expenditures planned for the 5 years covered in this pro-forma cash flow, an accounting for capital expenditures should be shown. Typically, older buildings will require higher **reserves** for capital expenditures since many of the building's systems are reaching their life expectancy and will need to be replaced. The average roof has a useful life of 20-25 years, HVAC systems generally require some repairs or replacements after 15-20 years, and parking lots should be sealed or recoated every 5 years.

In managing over 163 properties over the last 5 years, experience has shown that, on average, **annual reserves** for capital expenditures should be estimated within the following amounts<sup>7</sup>:

- \$0.15 – \$0.50 per square foot for buildings 1-10 years old
- \$0.50 – \$1.00 per square foot for buildings 11-20 years old
- \$1.00 or greater per square foot for buildings 20+ years in old

The Lucrative Building, built in 2000, is still fairly new and would fall into the 1-10 years old range. Assuming that the building is in good condition, you should at least use the minimum of \$0.15 per square foot for an annual capital expenditure reserve, which equals \$15,000 per year.

### Analysis Results

The Lucrative Pro-forma Cash Flow fails to show any leasing costs in Year 1 for the lease up of the vacant space. It also assumes that all renewal options will be exercised with no leasing costs. This assumption, according to this analysis, reduces the projected leasing costs by \$564,750. There is also no accounting for capital expenditures. Given all of these factors, **the current amounts shown for leasing and capital costs in the Lucrative Pro-forma Cash Flow would represent a “best-case” scenario.**



### Effects on Cash-on-Cash Returns

The following shows the effect if the Lucrative Pro-forma Cash Flow used the same renewal rate and leasing cost estimates for new and renewing tenants, without assuming that all renewal options would be exercised, and a \$0.15 per square foot annual capital expenditures reserve contribution.

The 5-year average cash-on-cash return would decrease from 7.47% to 6.50% (all else constant).

| For the Years Ending                 | Year 1<br>Dec-2006 | Year 2<br>Dec-2007 | Year 3<br>Dec-2008 | Year 4<br>Dec-2009 | Year 5<br>Dec-2010 |
|--------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>LEASING &amp; CAPITAL COSTS</b>   |                    |                    |                    |                    |                    |
| Tenant Improvements                  | \$150,000          | 0                  | \$225,000          | 0                  | \$75,000           |
| Leasing Commissions                  | \$66,000           | 0                  | \$123,750          | 0                  | \$41,250           |
| Capital Expenditures Reserve         | \$15,000           | \$15,000           | \$15,000           | \$15,000           | \$15,000           |
| <b>CASH ON CASH RETURN</b>           | <b>4.91%</b>       | <b>6.44%</b>       | <b>4.79%</b>       | <b>8.06%</b>       | <b>8.28%</b>       |
| <b>5 YR. AVG CASH ON CASH RETURN</b> | <b>6.50%</b>       |                    |                    |                    |                    |

### Informed Questions

- 1) Is it realistic to assume that all tenants will exercise renewal options and such renewals would not have any leasing costs?
- 2) Why are there no tenant improvements or lease commissions shown for leasing up the vacant space in the first year?
- 3) Why is there no accounting for capital expenditures in the pro-forma cash flow?
- 4) Are you projecting that there will be no capital expenditures throughout the 5 years?
- 5) Was a Property Condition Assessment performed on the building? What repair recommendations, if any, were presented?
- 6) When do you project that the roof, HVAC systems, parking lot, or other capital expenditure items will need to be repaired or replaced?
- 7) If any of these capital expenditures are scheduled in years 6-10, where will the funds come from if there is no capital expenditures reserve being collected in years 1-5?



## RESERVES

**Reserves** generally consist of funds set aside to pay the costs of **capital expenditures**, **lease commissions**, **tenant improvements**, and any other unforeseen costs. Since the exact amounts of these future costs are impossible to determine, it is important to set aside a conservative amount in reserves. If reserves run out, all leasing and capital costs will be paid from the property's operations. If the property's operating cash flow is insufficient, the investors (owners) might receive a "capital call". This analysis will consider the following 3 factors to determine whether or not reserves are sufficient and accurately accounted for in the pro-forma cash flow:

- 1) Up-front vs. Annual Reserve Collections
- 2) Lender Required Reserves
- 3) Projected Leasing and Capital Costs

### Upfront vs. Annual Reserve Collections

Reserves can either be collected upfront (at purchase), annually from the property's operations, or both. Generally, TIC investments attempt to offer investors returns that are consistent from year to year. Since leasing and capital costs can vary greatly from year to year, enough reserves should be collected to cover the majority, if not all, of these costs throughout the projected hold of the property. This ensures that investors, who rely on receiving a return every year, can still receive adequate cash flows in years with large amounts of leasing and capital costs.

Upfront reserves are usually collected if there are large amounts of leasing and capital costs in the first few years of operating the property. Annual reserves are often collected for capital expenditures which are, sometimes, more predictable since parking lot repairs, or roof replacements can be scheduled well in advance. The Lucrative Pro-forma Cash Flow does not show the use of any reserves, but on page 6 of this document it was shown that the offering does include \$300,000 of lender reserves.

### Lender Required Reserves

Oftentimes, a lender will require a certain amount of the loan proceeds to be kept in reserves held by the lender. The lender's primary concern in requiring reserves is to ensure that capital and leasing costs do not interfere with a property's ability to cover the **debt service** payments. **Just because a lender is requiring a certain amount of reserves, it doesn't necessarily mean that this amount will be enough to cover all or even most of the future leasing and capital costs.** Remember, as an investor, your annual cash-on-cash return comes from whatever is left-over after the capital, leasing and debt service costs are fully paid.

Lender-held reserves can also carry restrictions on the amount of reserves that can be released and what costs the reserves will cover. Lenders are not always willing to release all of the reserves that might be needed to cover large amounts of leasing and/or capital costs incurred in a single year.

For these reasons, **any pro-forma cash flow that assumes that lender reserves will cover all future leasing and capital costs, might not be reliable.**

### Projected Leasing and Capital Costs

In the previous section, it was determined that the total of \$108,000 projected for leasing and capital costs in the Lucrative Pro-forma Cash Flow, would represent a very "best-case" scenario. **The analysis also showed that more realistic projections should total at least \$756,000 for both leasing and capital costs over the 5 years.**



### Analysis Results

The Lucrative Offering shows that \$300,000 is to be held by the lender for reserves. Since the lender is requiring these reserves, to rely on these reserves to cover all future leasing and capital costs might not be realistic. The Lucrative Pro-forma Cash Flow also fails to show any projections for the use of these reserves. This most likely means that all leasing and capital costs not shown in the pro-forma are assumed to be covered by these reserves.

**Any pro-forma cash flow that does not show the use of reserves is missing a very important factor needed to accurately project future cash flows.**

If future leasing and capital costs are in-line with the \$756,000 projections, found previously, the \$300,000 in lender reserves would be insufficient by \$456,000, and would have to be covered by the property's operations or directly from the investors.

### Effects on Cash-on-Cash Returns

The following shows the effect if the use of the \$300,000 of lender reserves were to be shown in the Lucrative Pro-forma Cash Flow, and if the lender allowed enough reserves to be released each year to cover the total leasing and capital costs:

| For the Years Ending          | Year 1<br>Dec-2006 | Year 2<br>Dec-2007 | Year 3<br>Dec-2008 | Year 4<br>Dec-2009 | Year 5<br>Dec-2010 |
|-------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| TOTAL LEASING & CAPITAL COSTS | \$258,500          | \$43,500           | \$393,250          | \$45,500           | \$162,750          |
| Use of Reserves               | \$231,000          | \$15,000           | \$54,000           | 0                  | 0                  |
| CASH ON CASH RETURN           | 6.45%              | 6.54%              | 5.15%              | 8.06%              | 8.28%              |
| 5 YR. AVG CASH ON CASH RETURN | 6.90%              |                    |                    |                    |                    |

If the lender allowed the reserves to be released to cover the total leasing and capital costs for each year (excluding the asset management fees), the \$300,000 of reserves would run out in Year 3.

### Informed Questions

- 1) Why does the pro-forma cash flow not show the use of reserves?
- 2) Do you believe that the \$300,000 reserve held by the lender is sufficient to cover all future leasing and capital costs for the next 5 years or more?
- 3) Why are no additional reserves being collected?



The following shows the Lucrative Pro-forma Cash Flow with all of the changes in assumptions:

| <b>LUCRATIVE PRO-FORMA CASH FLOW</b>                                     |                    |                    |                    |                    |                    |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>In Inflated Dollars for the Fiscal Year Beginning January 1, 2006</b> |                    |                    |                    |                    |                    |
| For the Years Ending   | Year 1<br>Dec-2006 | Year 2<br>Dec-2007 | Year 3<br>Dec-2008 | Year 4<br>Dec-2009 | Year 5<br>Dec-2010 |
| <b>POTENTIAL GROSS REVENUE</b>   |                    |                    |                    |                    |                    |
| Base Rental Revenue  | \$2,000,000        | \$2,010,000        | \$2,050,000        | \$2,080,000        | \$2,120,000        |
| Absorption & Turnover Vacancy  |                    |                    | \$20,000           |                    |                    |
| Scheduled Base Rental Revenue  | \$2,000,000        | \$2,010,000        | \$2,030,000        | \$2,080,000        | \$2,120,000        |
| Expense Reimbursement Revenue  | \$750,000          | \$770,000          | \$790,000          | \$810,000          | \$830,000          |
| <b>TOTAL POTENTIAL GROSS REVENUE</b>                                     | <b>\$2,750,000</b> | <b>\$2,780,000</b> | <b>\$2,820,000</b> | <b>\$2,890,000</b> | <b>\$2,950,000</b> |
| General Vacancy  | \$137,500          | \$139,000          | \$121,000          | \$144,500          | \$147,500          |
| <b>EFFECTIVE GROSS REVENUE</b>   | <b>\$2,612,500</b> | <b>\$2,641,000</b> | <b>\$2,699,000</b> | <b>\$2,745,500</b> | <b>\$2,802,500</b> |
| <b>OPERATING EXPENSES</b>  |                    |                    |                    |                    |                    |
| Real Estate Taxes  | \$450,000          | \$480,000          | \$493,500          | \$507,000          | \$520,500          |
| Operating Expenses   | \$425,000          | \$437,750          | \$450,500          | \$463,250          | \$476,000          |
| <b>TOTAL OPERATING EXPENSES</b>  | <b>\$875,000</b>   | <b>\$917,750</b>   | <b>\$944,000</b>   | <b>\$970,250</b>   | <b>\$996,500</b>   |
| <b>NET OPERATING INCOME</b>  | <b>\$1,737,500</b> | <b>\$1,723,250</b> | <b>\$1,755,000</b> | <b>\$1,775,250</b> | <b>\$1,806,000</b> |
| <b>DEBT SERVICE</b>  |                    |                    |                    |                    |                    |
| Interest Payments  | \$825,000          | \$825,000          | \$825,000          | \$825,000          | \$825,000          |
| <b>LEASING &amp; CAPITAL COSTS</b>                                       |                    |                    |                    |                    |                    |
| Tenant Improvements  | \$150,000          |                    | \$225,000          |                    | \$75,000           |
| Leasing Commissions  | \$66,000           |                    | \$123,750          |                    | \$41,250           |
| Capital Expenditures Reserve   | \$15,000           | \$15,000           | \$15,000           | \$15,000           | \$15,000           |
| Asset Mgmt Fee   | \$27,500           | \$28,500           | \$29,500           | \$30,500           | \$31,500           |
| <b>TOTAL LEASING &amp; CAPITAL COSTS</b>                                 | <b>\$258,500</b>   | <b>\$43,500</b>    | <b>\$393,250</b>   | <b>\$45,500</b>    | <b>\$162,750</b>   |
| Use of Reserves  | \$231,000          | \$15,000           | \$54,000           |                    |                    |
| <b>CASH FLOW AFTER DEBT SERVICE</b>                                      | <b>\$885,000</b>   | <b>\$869,750</b>   | <b>\$590,750</b>   | <b>\$904,750</b>   | <b>\$818,250</b>   |
| <b>CASH ON CASH RETURN</b>   | <b>5.90%</b>       | <b>5.80%</b>       | <b>3.94%</b>       | <b>6.03%</b>       | <b>5.46%</b>       |
| <b>5 YR. AVG CASH ON CASH RETURN</b>                                     | <b>5.42%</b>       |                    |                    |                    |                    |

If all of the changes in assumptions proposed in the basic analysis were applied to the Lucrative Pro-forma Cash Flow, the projected 5-year average cash-on-cash return would be reduced from 7.47% to 5.42%.



## ANALYSIS SUMMARY

The 6.50% CAP Rate for the Lucrative Building shown on the first page of the offering documents was based on a first-year pro-forma NOI that reflected only a 2% vacancy while the building is currently 10% vacant. The CAP Rate also used a purchase price that was \$2,000,000 less than the total cost of the investment to the investor(s). **After adjusting these two factors the CAP Rate dropped to 5.33%.**

The Basic Pro-forma Analysis found that the Lucrative Pro-forma Cash Flow contains the following assumptions:

1. The property is projected to have an average of 2% vacancy while there is currently a 10% vacancy with 40% of the leased space expiring within the next 5 years and a 15% average vacancy rate in the market.
2. The property has a projected average annual increase of 5% in the base rent even though 50% of the space under lease has no contractual base rent increases and market rental rates appear to have been decreasing in the last few years.
3. Total expenses are projected to increase an average of 1.71% annually, while CPI and national suburban office expenses have both been increasing around 3.00%.
4. The property's cash flow projections are based on all lease renewal options being exercised with no leasing costs (reducing the projected leasing costs by \$564,750) and no capital expenditures.
5. The \$300,000 of reserves held by the lender are presumed to be sufficient to cover all leasing and capital costs over the next 5 years.

After analyzing these assumptions used in the five key areas of the Lucrative Pro-forma Cash Flow, it was determined that the assumptions used in each area represented "best-case" scenarios. Upon discovering so many "best-case" assumptions, an informed investor will now be able to place a low probability on receiving the projected 7.47% average annual cash-on-cash return. By making changes to the assumptions in each of the key areas a more "typical" scenario was generated, in which the projected average annual cash-on-cash return was reduced to 5.42%. Although this return is much less appealing, it would have a much higher probability of occurring, and is therefore much more useful in making an informed investment decision.

**The key point of this guide is to demonstrate that not all CAP Rates and Pro-forma Cash Flows are equal.** If an investor does not question how a CAP Rate is presented or what assumptions are used to project cash-on-cash returns, then an investment offering such as the Lucrative Building might look very appealing. By questioning the assumptions, however, an informed investor will be able to see past "The Numbers" and make a more informed decision. In this case, a more suitable name for "The **Lucrative** Office Building" would be "The **Average** Office Building".



## SECTION 3: ASK THE RIGHT QUESTIONS

There were many informed questions presented throughout the analysis regarding the specifics of the Lucrative offering and its pro-forma cash flow assumptions. The following is a list of general questions that should be asked of **any** TIC investment sponsor:

### Sponsor History

1. How many TIC investments has your company completed?
2. How many of these properties are performing at or above the projected levels?
3. Does your company provide any protection against one of the properties performing significantly below projections?
4. How long has your company been in business? How long has your company been sponsoring investments in real-estate?
5. Have any of your past investors lost money in one of your investments?
6. How many employees does your company have?
7. How do you locate the properties that you offer? What are your acquisition criteria?
8. What functions related to your offerings (such as conducting site visits, performing due diligence, preparing offering documents, legal work, arranging financing, and managing properties) does your company handle internally? Which functions do you outsource?
9. Can I visit your home office?

### CAP Rates

1. Do you provide CAP Rates based on the total investor purchase price that includes all of the costs, fees and reserves?

### Pro-forma Cash Flows

1. Would you say that the annual cash-on-cash returns, typically shown in one of your offerings, reflect a “typical” scenario or a “best-case” scenario?
2. If they represent a typical scenario, what type of returns could I expect if the property performs better than average?
3. Do you offer any master-leased properties?
4. If not, do you present pro-forma cash flows that cover the entire projected hold time for your investment properties?
5. How long is the typical hold time in each of your offerings?
6. Would you be willing to explain the reasoning behind each of the assumptions used in any of the pro-forma cash flows shown in your offerings?

### Reserves

1. Do you generally project enough reserves to cover most of the leasing and capital costs for the entire term of the pro-forma cash flow analysis?
2. Do you show how these reserves will be used in the pro-forma cash flow?



## KNOW YOUR STUFF

### Glossary of Basic Terms

## Property Valuation

### Building Class

There are three typical classes given to commercial properties. These classes generally define a building's quality in regards to construction, interior finishes, maintenance and appearance.

1. Class A – a building is generally considered to be Class A if it has been recently constructed or renovated, consists of above average construction materials, upgraded interior finishes such as marble floors, crown molding etc, and has a been very well maintained.
2. Class B - a building is generally considered to be Class B if it consists of average construction materials, typical interior finishes such as carpeted floors, drywall etc, and has been well maintained.
3. Class C - a building is considered to be Class C if it consists of below average construction materials, interior finishes, and has been adequately maintained.

### Capitalization Rate

The Capitalization Rate, commonly referred to as a “CAP” Rate, is the most common method used to determine the price and potential return of a commercial real estate property. The CAP Rate is found by dividing the property's **net operating income** (NOI) by the property's **purchase price**. When setting a price, the opposite approach is used, in which the property's NOI is multiplied by a CAP Rate that is usually determined by the market.

### Debt Amount

The Debt Amount represents the total portion of the **purchase price** that is financed through either a mortgage or note. This amount is determined by the lender at the time of financing.

### Equity Amount

The Equity Amount is equal to a property's **purchase price** less the **debt amount**, if any. This amount represents the total amount of cash contributed by the investors.

### Loan to Value (LTV) Ratio

The Loan to Value Ratio is a percentage which identifies how much of the **purchase price** will be funded by debt. The LTV is found by dividing the **debt amount** by the purchase price.

### Purchase Price

As an investor, your purchase price represents the total acquisition price paid to purchase the property which equals the **equity amount** plus the **debt amount**. The purchase price includes a property's selling price, plus all costs such as sales commissions, upfront **capital and leasing reserves**, lender fees, closing costs, etc.

### Reserves

Reserves generally consist of funds set aside to pay the costs of **capital expenditures**, **lease commissions**, and **tenant improvements**. These reserves can either be collected upfront (at purchase), collected annually from the property's operations, or both. Oftentimes, a lender will require a certain amount to be kept in reserves. If reserves do run out, then all capital and leasing costs will be paid from the property's operations or directly by the investor owners.



## Property Leases

### Base Rent

Base rent is the base or fixed amount of rent a tenant pays. Depending on the [lease type](#), a tenant could also be responsible to pay its share of expenses, which represent costs in addition to the base rent. For example, when renting an apartment, a tenant may be charged \$500 a month, but also be responsible for paying utilities. The \$500 would be the base rent amount.

### Lease

This is a contract between a landlord (owner of property) and a tenant (renter), in which the tenant agrees to pay the landlord a certain amount of rent over a specified amount of time (term) for the right to occupy and use the property.

### Lease Roll

When a lease “rolls” it expires. Upon the expiration of a lease, tenants usually have three choices. They can exercise any [lease renewal options](#) contained in the previous lease, try to negotiate a new lease, or vacate the property. If leases for 50% of a property’s rented space expire in a certain year, one would say that 50% of the leases roll in that year.

### Lease Renewal Options

A renewal option gives a tenant the right, but not the obligation, to renew a lease at expiration for another period of time with specified rent payments. There are typically no [lease commissions](#) when a tenant exercises a renewal option. Renewal options are not always exercised by the tenants for a number of reasons.

For example, if upon expiration of its lease, a tenant feels that the [market rent](#) is below the rate it would be paying under the renewal option, the tenant will not exercise the option.

### Lease Type

Although every lease can contain its own unique terms and conditions, leases generally fall in one of three categories which specify different amounts of [expense reimbursements](#) to be paid separately from the [base rent](#) amount:

- **Triple Net (NNN) Lease** – Under this lease, a tenant is required to pay its pro-rata share of the total expenses ([expense reimbursements](#)) in addition to the [base rent](#) amount.
- **Gross Lease** – Under this lease, all expenses and utilities are included in the [base rent](#) amount; the tenant does not pay any separate [expense reimbursements](#).
- **Gross Modified Lease** - Under this lease (sometimes referred to as a base-year lease), only the first lease year expenses (base-year expenses) are included in the [base rent](#) amount. In following years, the tenant pays its pro-rata share of any increases above the first lease year expense totals in addition to the base rent amount. For example, in Tenant A’s first lease year under a gross modified lease, expenses were \$100,000. In this year, Tenant A only pays its base rent amount. If in the following year total expenses increase to \$110,000, Tenant A would pay its base rent plus its pro-rata share of the \$10,000 increase in expenses.

Given these definitions, base rent is typically lowest for a NNN Lease, highest for a Gross Lease and somewhere in between for a Gross Modified Lease.



## Pro-forma Cash Flow

These definitions are shown in the order that they typically appear in a pro-forma cash flow statement.

### Base Rental Revenue

The base rental revenue is generally the top line item on a pro-forma cash flow. It consists of the [base rent](#) from all current tenants plus the revenue a building would be receiving for any vacant space; calculated using an [estimated market rental rate](#).

### Absorption and Turnover Vacancy

The absorption and turnover vacancy is generally the second line item on a pro-forma cash flow. This number represents the amount of [base rental revenue](#) that is lost to vacancy. For example, if a property is fully leased, this amount would equal zero. If a tenant vacates during the year, the amount of base rental revenue lost before a new tenant is secured would be shown here.

### Expense Reimbursements

Expense Reimbursements represent the projected annual total of all tenant-paid [operating expenses](#) such as property taxes, property/liability insurance, maintenance costs, and other expenses incurred for the benefit of all tenants within the building. The amount of expense reimbursements paid depends on the [lease type](#). Under a [NNN lease](#), for example, tenants are required to pay their pro-rate share of the [operating expenses](#). For example, if the tenant is renting 10% of the building they would pay 10% of the operating expenses. Expenses are first paid by the property owner (landlord) and later billed to each of the [tenants](#) who then reimburse the landlord.

### Potential Gross Revenue

Potential Gross Revenue represents the projected annual total of all income sources of the property less any [absorption and turnover vacancy](#). This figure is calculated by adding together the annual total of [base rental income](#), [other income](#), and [expense reimbursements](#) less the absorption and turnover vacancy.

### General Vacancy

The General Vacancy represents the average annual percentage of the [potential gross revenue](#) that is projected to be lost for a given analysis year. General vacancy is often used to account for unforeseeable losses such as a tenant's failure to pay rent.

### Effective Gross Revenue

Effective Gross Revenue represents the total projected income for a property. It is calculated by subtracting the projected annual [general vacancy](#), if any, from the projected annual total [potential gross revenue](#).

### Operating Expenses

Operating Expenses represent the projected annual cost of all expenses incurred to own and operate the property. Operating expenses include costs associated with service contracts and maintenance agreements, as well as utilities, management fees, real estate taxes and insurance.

### Net Operating Income

Net Operating Income (NOI) represents the income projected for an income-producing property after deducting losses for vacancy, collection and operating expenses. Note that NOI does not include [debt service](#) payments and any costs associated with [tenant improvements](#), [lease commissions](#), and [capital expenditures](#).



### Debt Service

Debt Service represents the projected annual total of monthly or quarterly payments made on a loan. Some real estate loans have a period of time where interest only payments are made, while other loans require the payment of principal and interest.

### Tenant Improvements

Tenant improvements, like [lease commissions](#), are usually significant upfront costs for securing tenant leases. There are typically tenant improvement costs associated with new tenants and renewing tenants and the landlord is often expected to pay all or a portion of tenant improvement costs.

Tenant improvement costs are estimated by using a weighted average cost-per-square-foot for new and renewal tenant improvement (TI) projects. New TI projects include completely modifying a space for a new tenant; whereas, renewal TI projects would include minimal remodeling, such as new carpet and paint, negotiated during the renewal of a lease.

For example, if a new tenant is moving into a 10,000 square foot space and the TI costs are estimated at \$15 per-square-foot, then the total TI costs for modifying the space would be  $\$15 \times 10,000 = \$150,000$ . If a tenant is simply renewing a space, the TI costs might be estimated at \$5 per-square-foot. The total TI costs for remodeling the space would be  $\$5 \times 10,000 = \$50,000$ . For projection purposes, with a renewal rate of 75%, the weighted average TI cost of \$7.50 would be used;  $\$7.50 \times 10,000 = \$75,000$  (see [lease renewal rate](#)).

### Lease Commissions

Lease commissions are usually significant upfront costs of securing a tenant. These leasing costs are paid to a real estate broker or leasing agent for his/her services in finding a tenant to lease space in a building. The amount of the commissions is usually calculated as a percent of the total amount of [base rent](#) to be paid by the tenant over the term of the lease. Commissions are charged for leases signed by both new tenants and renewing tenants. Usually, a higher commission is paid for new tenants than for renewing tenants.

### Capital Expenditures

Capital expenditures are costs associated with maintaining or replacing costly building systems such as HVAC, parking lot, carpets, roof, etc. Many of these costs should be anticipated. It is common to have reserves collected annually from [net operating income](#) to cover these costs in the years they are incurred.

### Cash Flow after Debt Service

Cash Flow after Debt Service represents the amount of [net operating income](#) left after paying for debt service and any leasing and capital costs. This amount is available for distribution to the investors/owners of the property.

### Cash-on-Cash Return

The Cash-on-Cash Return shows the percentage of return that the owner/investor makes on the equity (cash) invested in the property. This figure is calculated by dividing the [cash flow after debt service](#) by the [equity amount](#) paid in acquiring the property.



## Assumptions

### Average Lease Term

The Average Lease Term represents the projected average term of all leases currently held by tenants within a building. This is calculated by adding the full lease terms (in years) of all current tenants within a building and then dividing the total by the number of tenants.

### Average Vacancy Rate

The Average Vacancy Rate represents the projected average portion of a property that is vacant during the pro-forma analysis period. The average projected vacancy is calculated by adding up the total vacancy amounts and dividing by the total potential gross revenue amounts over the entire pro-forma cash flow period.

### Market Rent

Market Rent is estimated by considering the typical amount of rent paid for a certain type and quality of space in a particular area. Market Rent is set by many different economic factors such as supply and demand. Although market rents tend to increase with inflation, it is not unusual to have market rents in an area decline as the amount of new space (supply) increases or occupancy (demand) decreases.

For example, if a tenant is paying rents that are above the market rate (due to a decline in market rents since the time its current lease was negotiated), this would mean that most properties in the area with similar accommodations are asking for less rent. Most tenants have brokers (tenant representatives) who advise them on market rent. If a tenant is paying above-market rent, he will either renegotiate his lease or move to another location offering a better rate.

### Lease Renewal Rate

The Lease Renewal Rate represents the projected percentage of leases that tenants will renew upon expiration of their current lease. If the tenant chooses to not renew their lease, then a new tenant must be found. The Leasing Renewal Rate is used as a weight in forecasting the average value of future tenant improvement and lease commission costs due to tenant lease expirations. A higher Lease Renewal Rate means that a higher percentage of tenants are projected to renew their leases, which lowers the average leasing costs since renewed leases generally have less tenant improvement and lease commission costs.

The following table shows how the renewal rate assumption affects the weighted average leasing costs used in a pro-forma cash flow:

| Lease Renewal Rate Assumptions Table |                   |            |              |                     |                 |              |
|--------------------------------------|-------------------|------------|--------------|---------------------|-----------------|--------------|
| Renewal Rate                         | Lease Commissions |            |              | Tenant Improvements |                 |              |
|                                      | 6% New            | 3% Renewal | Weighted Ave | \$15 psf New        | \$5 psf Renewal | Weighted Ave |
| 100%                                 | 0.0%              | 3.00%      | 3.00%        | \$0.00              | \$5.00          | \$5.00       |
| 75%                                  | 1.5%              | 2.25%      | 3.75%        | \$3.75              | \$3.75          | \$7.50       |
| 50%                                  | 3.0%              | 1.50%      | 4.50%        | \$7.50              | \$2.50          | \$10.00      |
| 25%                                  | 4.5%              | 0.75%      | 5.25%        | \$11.25             | \$1.25          | \$12.50      |
| 0%                                   | 6.0%              | 0.00%      | 6.00%        | \$15.00             | \$0.00          | \$15.00      |



## Footnotes and Resources

1. A legitimate argument can be made to exclude reserves from the purchase price of a property since this capital is refundable to the extent to which it is not used in the operations of the property. On the other hand, if the cash flow projections show that all of the reserves will be used during the term of the investment, the argument can be made that the reserves, essentially, are part of the cost to acquire the property because they will never be returned to the investor. Since this guide seeks to evaluate the CAP Rate based on the total investor cost of acquiring a property, the reserves are included in the purchase price.
2. There are additional areas that must be considered when performing a complete analysis of an offering. These five key areas in this basic analysis were chosen based on both the simplicity of calculations and the degree to which assumptions affect cash-on-cash return projections.
3. If the offering documents do not provide information on the local market conditions, free local market reports for many major cities can be found online at:
  - <http://www.cbre.com/Global/Research/Market+Reports/>
  - <http://www.colliers.com/Corporate/MarketReports/UnitedStates/>
4. 2005 National Real-Estate Market Information was obtained from IRR-Viewpoint 2006, published by Integra Realty Resources, Inc.; one of the largest property valuation and counseling firms in the United States ([www.irr.com](http://www.irr.com)).
5. The calculations shown in this analysis for both average annual base rent increases and average annual expense increases are simple averages, meaning that they are not compounding increase calculations. Since most pro-forma cash flows use compounding increases, these simple calculations will show annual increases as rates slightly higher than compounding rates. Since this analysis is meant to catch major discrepancies, the simple calculations are still effective for this purpose.
6. Note: Base rents can only be compared for leases with the same [lease type](#).
7. Information was compiled by DDRS, which manages more than 14 million square feet of Retail, Office, Industrial, Flex, and Multi-family properties.
8. Bureau of Labor Statistics; CPI for all items ([www.bls.gov](http://www.bls.gov)). The CPI index tracks the changes in prices paid by consumers for goods and services.