

## Property Assumptions

### Property and purchase assumptions

Property size	50,000	sf
Rent	\$6.00	psf
Vacancy allowance	10.00%	
Operating expense ratio	7.41%	
Purchase price	\$2,500,000	
Acquisition costs	\$100,000	
Date property will be put in service	1/1/2012	

### Loan assumptions

Maximum LTV ratio	75.00%	
Minimum debt-coverage ratio	1.30	
Mortgage interest rate	6.00%	
Amortization length	25	years
Loan term	7	years
Loan fees	3.00	points

### Depreciation assumptions

Depreciable life	39.0	years
Tax assessor building value	\$1,800,000	
Tax assessor land value	\$200,000	
Appraised building value	\$2,000,000	
Appraised land value	\$500,000	

### Tax assumptions

Ordinary income tax rate	40.00%
Capital gains tax rates	15.00%
Depreciation recapture tax rate	25.00%

### Sale assumptions

Cap rate at sale	10.00%
Sale costs	5.00%
Date property will be sold	12/31/2016
Year 6 NOI	\$289,818

### Operating cash flow assumptions

ATCF in year 2	\$80,000
ATCF in year 3	\$80,000
ATCF in year 4	\$80,000
ATCF in year 5	\$80,000

### Other assumptions

After-tax equity discount rate	18.00%
NOI growth rate	3.00%

## Pro Forma Operating Statement (First Year)

Potential gross income	\$	300,000	= 50,000 sf x \$6.00 psf
– Vacancy & collection @ 10.00%	\$	30,000	
Effective gross income	\$	270,000	
– Operating expenses @ 7.41%	\$	20,000	
<b>Net operating income</b>	<b>\$</b>	<b>250,000</b>	
– Annual debt service	\$	144,968	
<b>Before-tax cash flow</b>	<b>\$</b>	<b>105,032</b>	
– Taxes from operations	\$	29,149	
<b>After-tax cash flow</b>	<b>\$</b>	<b>75,883</b>	

<b>Capitalization rate</b>	<b>10.00%</b>	= NOI ÷ purchase price
<b>Cash-on-cash return</b>	<b>16.81%</b>	= BTCF ÷ (purchase price – loan amount)

## Mortgage Calculations

Property value	\$2,500,000	
Maximum loan-to-value ratio	75.00%	
<b>LTV-based maximum loan amount</b>	<b>\$ 1,875,000</b>	
Net operating income	\$ 250,000	
÷ Minimum debt coverage ratio	1.30	
Maximum annual debt service	\$ 192,308	
Maximum monthly payment	\$ 16,026	= Maximum ADS ÷ 12
<b>DCR-based maximum loan amount</b>	<b>\$ 2,487,287</b>	P/Y = 12, N = 25 × 12, I = 6.00%, PMT = –16,026, FV = 0
<b>Maximum loan amount</b>	<b>\$ 1,875,000</b>	= Minimum of LTV- and DCR-based calculations
Monthly payment	\$ 12,081	P/Y = 12, N = 25 × 12, I = 6.00%, PV = –1,875,000, FV = 0
<b>Annual debt service</b>	<b>\$ 144,968</b>	Monthly payment × 12
<b>Debt coverage ratio</b>	<b>1.72</b>	= NOI / ADS
<b>Mortgage constant</b>	<b>7.73%</b>	= ADS / loan amount
<b>Total loan fees</b>	<b>\$ 56,250</b>	= \$1,875,000 × 3.00 / 100

## Tax Calculations

### Taxable Income Calculations (First Year)

Net operating income	\$	250,000	
– Depreciation allowance	\$	57,500	
– Interest expense	\$	111,592	P1 = 1, P2 = 12
– Amortization expense	\$	8,036	
<b>Taxable income</b>	<b>\$</b>	<b>72,872</b>	
x Tax rate		40.00%	
<b>Tax</b>	<b>\$</b>	<b>29,149</b>	

### Depreciation Calculations

Assessor's building value ratio	90.00%	= \$1,800,000 / (\$1,800,000 + \$200,000)	
Appraiser's building value ratio	80.00%	= \$2,000,000 / (\$2,000,000 + \$500,000)	
Purchase price	\$	2,500,000	
+ Acquisition costs	\$	100,000	
<b>Initial basis</b>	<b>\$</b>	<b>2,600,000</b>	
x Percent of value in building		90.00%	Maximum of assessor and appraiser ratios
<b>Depreciable basis</b>	<b>\$</b>	<b>2,340,000</b>	
÷ Depreciable life		39.0	
<b>Annual depreciation allowance</b>	<b>\$</b>	<b>60,000</b>	Depreciation allowance when held full year
<b>First year depreciation allowance</b>	<b>\$</b>	<b>57,500</b>	Normal allowance × 11.5 ÷ 12
<b>Last year depreciation allowance</b>	<b>\$</b>	<b>57,500</b>	Normal allowance × 11.5 ÷ 12
<b>Total straight line depreciation</b>	<b>\$</b>	<b>295,000</b>	= 3 × \$60,000 + \$57,500 + \$57,500

### Amortization Calculations

Loan amount	\$	1,875,000	
x Points		<u>3.00</u>	
<b>Total loan fees</b>	<b>\$</b>	<b>56,250</b>	
÷ Term of loan		<u>7</u>	
<b>Annual amortization expense</b>	<b>\$</b>	<b>8,036</b>	Amortized expenses when loan is held full year
<b>First year amortized expenses</b>	<b>\$</b>	<b>8,036</b>	Normal expense × 12 ÷ 12
<b>Last year amortized expenses</b>	<b>\$</b>	<b>8,036</b>	Normal allowance × 12 ÷ 12
Total loan fees	\$	56,250	
– Amortized expenses claimed	\$	<u>40,179</u>	= 3 × \$8,036 + \$8,036 + \$8,036
<b>Unclaimed amortized loan fees</b>	<b>\$</b>	<b>16,071</b>	

## Sale Calculations

### Sale Cash Flows

<b>Year 6 NOI</b>	\$	<b>289,818</b>	= \$250,000 × (1 + 0.0300) <sup>5</sup>
÷ Cap rate at sale		10.00%	
<b>Sale price</b>	\$	<b>2,898,182</b>	
– Costs of sale at 5.00%	\$	144,909	
<b>Net sale price</b>	\$	<b>2,753,273</b>	
– Mortgage balance due	\$	1,686,227	P2 = 60
<b>Before-tax equity reversion</b>	\$	<b>1,067,046</b>	
– Taxes from sale	\$	90,312	
<b>After-tax equity reversion</b>	\$	<b>976,734</b>	

### Adjusted Basis Calculations

Initial basis	\$	2,600,000
– Straight-line depreciation	\$	295,000
<b>Adjusted basis</b>	\$	<b>2,305,000</b>

### Capital Gains Calculations

Net sale price	\$	2,753,273	
– Adjusted basis	\$	2,305,000	
<b>Total gain on sale</b>	\$	<b>448,273</b>	
– <b>Straight-line depreciation</b>	\$	<b>295,000</b>	Limited to the greater of the total gain or 0
<b>Gain due to appreciation</b>	\$	<b>153,273</b>	

### Taxes from Sale

Depreciation recapture at 25.00%	\$	73,750	= \$295,000 × 25.00%
Capital gains at 15.00%	\$	22,991	= \$153,273 × 15.00%
Unclaimed amortization at 40.00%	\$	(6,429)	= \$16,071 × 40.00%
<b>Total taxes from sale</b>	\$	<b>90,312</b>	

## NPV and IRR Calculations

### Initial Cash Flow Calculations

Purchase price	\$	2,500,000
+ Acquisition costs	\$	100,000
– Mortgage loan proceeds	\$	1,875,000
+ Mortgage loan fees	\$	56,250
<b>Total date 0 cash flows</b>	<b>\$</b>	<b>781,250</b>

### Cash Flow Analysis

<u>Year</u>	<u>Cash Flow</u>	
Date 0	\$	(781,250)
Date 1	\$	75,883
Date 2	\$	80,000
Date 3	\$	80,000
Date 4	\$	80,000
Date 5	\$	1,056,734 = \$80,000 + \$976,734

**NPV @ 18.00% = \$ (107,626) Do not invest, because NPV < 0.**

**IRR = 13.90% Do not invest, because IRR < discount rate.**