

## Property Assumptions

### Property and purchase assumptions

Property size	125,000	sf
Rent	\$20.00	psf
Vacancy allowance	10.00%	
Operating expense ratio	50.00%	
Purchase price	\$14,000,000	
Acquisition costs	\$0	
Date property will be put in service	1/1/2003	

### Loan assumptions

Maximum LTV ratio	70.00%	
Minimum debt-coverage ratio	1.25	
Mortgage interest rate	7.25%	
Amortization length	25	years
Loan term	10	years
Loan fees	3.00	points

### Depreciation assumptions

Depreciable life	39.0	years
Tax assessor building value	\$8,800,000	
Tax assessor land value	\$1,200,000	
Appraised building value	\$12,750,000	
Appraised land value	\$2,250,000	

### Tax assumptions

Ordinary income tax rate	35.00%
Capital gains tax rates	20.00%
Depreciation recapture tax rate	25.00%

### Sale assumptions

Cap rate at sale	8.00%
Sale costs	8.00%
Date property will be sold	12/31/2007
Year 6 NOI	\$1,304,183

### Other assumptions

After-tax equity discount rate	10.00%
Rent growth rate	3.00%
Operating expense growth rate	3.00%

**Pro Forma Operating Statement (First Year)**

Potential gross income	\$	2,500,000	= 125000 sf x \$20.00
- Vacancy & collection @ 10.00%	\$	250,000	
<b>Effective gross income</b>	<b>\$</b>	<b>2,250,000</b>	
- Operating expenses @ 50.00%	\$	1,125,000	
<b>Net operating income</b>	<b>\$</b>	<b>1,125,000</b>	
- Annual debt service	\$	850,021	
<b>Before-tax cash flow</b>	<b>\$</b>	<b>274,979</b>	
- Taxes from operations	\$	30,484	
<b>After-tax cash flow</b>	<b>\$</b>	<b>244,495</b>	

<b>Capitalization rate</b>	<b>8.04%</b>	= NOI ÷ purchase price
<b>Cash-on-cash return</b>	<b>6.55%</b>	= BTCF ÷ (purchase price – loan amount)

**Mortgage Calculations**

Property value	\$14,000,000	
Maximum loan-to-value ratio	70.00%	
<b>LTV-based maximum loan amount</b>	<b>\$ 9,800,000</b>	
Net operating income	\$ 1,125,000	
÷ Minimum debt coverage ratio	1.25	
Maximum annual debt service	\$ 900,000	
Maximum monthly payment	\$ 75,000	= Maximum ADS ÷ 12
<b>DCR-based maximum loan amount</b>	<b>\$ 10,376,216</b>	P/Y = 12, N = 25 x 12, I = 7.25%, PMT = -75,000, FV = 0
<b>Maximum loan amount</b>	<b>\$ 9,800,000</b>	= Minimum of LTV- and DCR-based calculations
Monthly payment	\$ 70,835	P/Y = 12, N = 25 x 12, I = 7.25%, PV = -9,800,000, FV = 0
<b>Annual debt service</b>	<b>\$ 850,021</b>	Monthly payment x 12
<b>Debt coverage ratio</b>	<b>1.32</b>	= NOI / ADS
<b>Mortgage constant</b>	<b>8.67%</b>	= ADS / loan amount
<b>Total loan fees</b>	<b>\$ 294,000</b>	= \$9,800,000 x 3.00 / 100

## Tax Calculations

### Taxable Income Calculations (First Year)

Net operating income	\$	1,125,000	
– Depreciation allowance	\$	302,735	
– Interest expense	\$	705,769	P1 = 1, P2 = 12
– Amortization expense	\$	29,400	
<b>Taxable income</b>	<b>\$</b>	<b>87,096</b>	
x Tax rate		35.00%	
<b>Tax</b>	<b>\$</b>	<b>30,484</b>	

### Depreciation Calculations

Assessor's building value ratio	88.00%	= \$8,800,000 / (\$8,800,000 + \$1,200,000)
Appraiser's building value ratio	85.00%	= \$12,750,000 / (\$12,750,000 + \$2,250,000)
Purchase price	\$	14,000,000
+ Acquisition costs at 0.00%	\$	-
<b>Initial basis</b>	<b>\$</b>	<b>14,000,000</b>
x Percent of value in building		88.00%
<b>Depreciable basis</b>	<b>\$</b>	<b>12,320,000</b>
÷ Depreciable life		39.0
<b>Annual depreciation allowance</b>	<b>\$</b>	<b>315,897</b>
		Depreciation allowance when held full year
<b>First year depreciation allowance</b>	<b>\$</b>	<b>302,735</b>
		Normal allowance x 11.5 ÷ 12
<b>Last year depreciation allowance</b>	<b>\$</b>	<b>302,735</b>
		Normal allowance x 11.5 ÷ 12
<b>Total straight line depreciation</b>	<b>\$</b>	<b>1,553,161</b>
		= 3 x \$315,897 + \$302,735 + \$302,735

**Amortization Calculations**

Loan amount	\$	9,800,000	
x Points		<u>3.00</u>	
<b>Total loan fees</b>	<b>\$</b>	<b>294,000</b>	
÷ Term of loan		<u>10</u>	
<b>Annual amortization expense</b>	<b>\$</b>	<b>29,400</b>	Amortized expenses when loan is held full year
<b>First year amortized expenses</b>	<b>\$</b>	<b>29,400</b>	Normal expense × 12 ÷ 12
<b>Last year amortized expenses</b>	<b>\$</b>	<b>29,400</b>	Normal allowance × 12 ÷ 12
Total loan fees	\$	294,000	
– Amortized expenses claimed	\$	<u>147,000</u>	= 3 × \$29,400 + \$29,400 + \$29,400
<b>Unclaimed amortized loan fees</b>	<b>\$</b>	<b>147,000</b>	

### Sale Calculations

#### Sale Cash Flows

<b>Year 6 NOI</b>	<b>\$ 1,304,183</b>
÷ Cap rate at sale	8.00%
<b>Sale price</b>	<b>\$ 16,302,286</b>
– Costs of sale at 8.00%	\$ 1,304,183
<b>Net sale price</b>	<b>\$ 14,998,103</b>
– Mortgage balance due	\$ 8,962,200
<b>Before-tax equity reversion</b>	<b>\$ 6,035,903</b>
– Taxes from sale	\$ 536,461
<b>After-tax equity reversion</b>	<b>\$ 5,499,442</b>

P2 = 60

#### Adjusted Basis Calculations

Initial basis	\$ 14,000,000
– Straight-line depreciation	\$ 1,553,161
<b>Adjusted basis</b>	<b>\$ 12,446,839</b>

#### Capital Gains Calculations

Net sale price	\$ 14,998,103
– Adjusted basis	\$ 12,446,839
<b>Total gain on sale</b>	<b>\$ 2,551,264</b>
<b>– Straight-line depreciation</b>	<b>\$ 1,553,161</b>
<b>Gain due to appreciation</b>	<b>\$ 998,103</b>

Limited to the greater of the total gain or 0

#### Taxes from Sale

Depreciation recapture at 25.00%	\$ 388,290	= \$1,553,161 × 25.00%
Capital gains at 20.00%	\$ 199,621	= \$998,103 × 20.00%
Unclaimed amortization at 35.00%	\$ (51,450)	= \$147,000 × 35.00%
<b>Total taxes from sale</b>	<b>\$ 536,461</b>	

## NPV and IRR Calculations

### Initial Cash Flow Calculations

Purchase price	\$	14,000,000
+ Acquisition costs at 0.00%	\$	-
- Mortgage loan proceeds	\$	9,800,000
+ Mortgage loan fees	\$	294,000
<b>Total date 0 cash flows</b>	<b>\$</b>	<b>4,494,000</b>

### Cash Flow Analysis

<u>Year</u>	<u>Cash Flow</u>
Date 0	\$ (4,494,000)
Date 1	\$ 244,495
Date 2	\$ 267,255
Date 3	\$ 285,783
Date 4	\$ 304,683
Date 5	\$ 5,818,789 = \$319,347 + \$5,499,442

<b>NPV @ 10.00% =</b>	<b>\$</b>	<b>(15,034)</b>	<b>Do not invest, because NPV &lt; 0.</b>
<b>IRR =</b>		<b>9.92%</b>	<b>Do not invest, because IRR &lt; discount rate.</b>

## Cash Flow Analysis

### Annual Operating Statements

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Potential gross income	\$ 2,500,000	\$ 2,575,000	\$ 2,652,250	\$ 2,731,818	\$ 2,813,772	\$ 2,898,185
– Vacancy & collection @ 10.00%	\$ 250,000	\$ 257,500	\$ 265,225	\$ 273,182	\$ 281,377	\$ 289,819
Effective gross income	\$ 2,250,000	\$ 2,317,500	\$ 2,387,025	\$ 2,458,636	\$ 2,532,395	\$ 2,608,366
– Operating expenses @ 50.00%	\$ 1,125,000	\$ 1,158,750	\$ 1,193,513	\$ 1,229,318	\$ 1,266,197	\$ 1,304,183
<b>Net operating income</b>	<b>\$ 1,125,000</b>	<b>\$ 1,158,750</b>	<b>\$ 1,193,513</b>	<b>\$ 1,229,318</b>	<b>\$ 1,266,198</b>	<b>\$ 1,304,183</b>
– Annual debt service	\$ 850,021	\$ 850,021	\$ 850,021	\$ 850,021	\$ 850,021	
<b>Before-tax cash flow</b>	<b>\$ 274,979</b>	<b>\$ 308,729</b>	<b>\$ 343,492</b>	<b>\$ 379,297</b>	<b>\$ 416,177</b>	
– Taxes from operations	\$ 30,484	\$ 41,474	\$ 57,709	\$ 74,614	\$ 96,829	
<b>After-tax cash flow</b>	<b>\$ 244,495</b>	<b>\$ 267,255</b>	<b>\$ 285,783</b>	<b>\$ 304,683</b>	<b>\$ 319,347</b>	

### Taxable Income Calculations

Net operating income	\$ 1,125,000	\$ 1,158,750	\$ 1,193,513	\$ 1,229,318	\$ 1,266,198
– Depreciation allowance	\$ 302,735	\$ 315,897	\$ 315,897	\$ 315,897	\$ 302,735
– Interest expense	\$ 705,769	\$ 694,956	\$ 683,333	\$ 670,838	\$ 657,407
– Amortization expense	\$ 29,400	\$ 29,400	\$ 29,400	\$ 29,400	\$ 29,400
<b>Taxable income</b>	<b>\$ 87,096</b>	<b>\$ 118,497</b>	<b>\$ 164,883</b>	<b>\$ 213,183</b>	<b>\$ 276,656</b>
× Tax rate	35.00%	35.00%	35.00%	35.00%	35.00%
<b>Tax</b>	<b>\$ 30,484</b>	<b>\$ 41,474</b>	<b>\$ 57,709</b>	<b>\$ 74,614</b>	<b>\$ 96,829</b>