

Table 24.1 Discounted Cash Flow Analysis of a Small Retail Center

Tenant	Suite #	Sq. Ft.	Leased	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Resale Year 6
Estimated market (rollover) rate average				3.00%	\$14.00	\$14.42	\$14.85	\$15.30	\$15.76	\$16.23
Tenant A	100	1,500	1,500	11.00	16,500	16,500	16,500	16,500	16,500	24,345
Tenant B	102	1,500	1,500	11.25	16,875	16,875	16,875	16,875	23,636	23,636
Tenant C	104	1,500	0	0.00	21,000	21,000	21,000	21,000	21,000	24,345
Tenant D	106	1,500	1,500	11.50	17,250	17,250	17,250	17,250	23,636	23,636
Tenant E	108	1,500	1,500	11.00	16,500	16,500	16,500	16,500	16,500	24,345
Tenant F	110	1,500	1,500	MTM	21,000	21,630	21,630	21,630	21,630	21,630
Tenant G	112	1,500	0	0.00	21,000	21,000	21,000	21,000	21,000	24,345
Tenant H	114	1,500	1,500	10.00	15,000	15,000	15,000	15,000	15,000	15,000
Tenant I	116	1,500	1,500	8.00	12,000	12,000	12,000	12,000	12,000	21,345
Building size		13,500	10,500	77.8%						
Other income					\$9,000	\$9,270	\$9,548	\$9,835	\$10,130	\$10,433
Pass-through income (reimbursements)					\$48,750	\$51,188	\$53,747	\$56,434	\$59,256	\$62,219
Potential gross income					\$214,889	\$218,227	\$221,065	\$224,039	\$240,303	\$275,294
Vacancy loss (22.2%, decreasing 3.00% per year)					19.2%	16.2%	13.2%	10.2%	7.2%	4.2%
Collection loss					2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Total V&C losses					21.2%	18.2%	15.2%	12.2%	9.2%	6.2%
Effective gross income					\$169,285	\$178,461	\$187,414	\$196,657	\$218,141	\$258,165
Expense items (Rate of increase in expenses = 3.00%)										
Administrative			\$0.02/sq. ft.		270	278	286	295	304	313
All utilities			\$0.25/sq. ft.		3,375	3,476	3,581	3,688	3,799	3,913
Outside services			\$0.14/sq. ft.		1,890	1,947	2,005	2,065	2,127	2,191
Management expense			5.0% EGI		8,464	8,923	9,371	9,833	10,907	12,908
Advertising, promotion			\$0.10/sq. ft.		1,350	1,391	1,432	1,475	1,519	1,565
Maintenance salary			\$0.50/sq. ft.		6,750	6,953	7,161	7,376	7,597	7,825
Insurance			\$0.25/sq. ft.		3,375	3,476	3,581	3,688	3,799	3,913
Taxes and licenses			\$1.10/sq. ft.		14,850	15,296	15,754	16,227	16,714	17,215
Maintenance (snow, trash, etc.)			\$0.45/sq. ft.		6,075	6,257	6,445	6,638	6,837	7,043
Contract cleaning			\$1.00/sq. ft.		13,500	13,905	14,322	14,752	15,194	15,650
Supplies (HVAC, janitorial, etc.)			\$0.50/sq. ft.		6,750	6,953	7,161	7,376	7,597	7,825
Total expenses from operations					\$66,649	\$68,854	\$71,099	\$73,413	\$76,395	\$80,361
Expenses per sq. ft.					\$4.94	\$5.10	\$5.27	\$5.44	\$5.66	\$5.95
Build out and leasing expenses										
Repainting/carpets-existing (1,500 sq. ft. @ \$6.50)					\$9,750	\$10,043	\$10,344	\$10,654	\$10,974	\$11,303
New space build out (1,500 sq. ft. @ \$12.00)					\$18,000	\$18,540	\$19,096	\$19,669	\$20,259	\$20,867
Capital exp (roof, HVAC, etc.)					\$0	\$22,000	\$0	\$0	\$11,000	\$0
Leasing commissions (4% for five years)					\$4,200	\$4,326	\$4,456	\$4,589	\$4,727	\$4,869
Total build out, capital expense					\$31,950	\$54,909	\$33,896	\$34,913	\$46,960	\$37,039
Build out per sq. ft. GFA					\$2.37	\$4.07	\$2.51	\$2.59	\$3.48	\$2.74
Total all expenses					\$98,599	\$123,762	\$104,995	\$108,326	\$123,355	\$117,399
Net operating income					\$70,686	\$54,699	\$82,419	\$88,331	\$94,787	\$140,765
The reversion of the property is estimated by applying a terminal cap rate of 11.00% of the last year's income less selling expenses										
										Reversion of property = \$1,202,903
Cash flows with reversion					\$70,686	\$54,699	\$82,419	\$88,331	\$1,297,690	
Discounted at 9.0%					0.917431	0.841680	0.772183	0.708425	0.649931	
										Value
Present value					\$64,849	\$46,039	\$63,643	\$62,576	\$843,409	1,080,516

Table 24.2 Calculating Net Present Value

Discount rate = 8%

Year	Cash Flow	Discount Factor	Present Value
0	-\$550,000*	1.000000	-\$550,000
1	\$35,000	0.925926	\$32,407
2	\$40,000	0.857339	\$34,294
3	\$45,000	0.793832	\$35,722
4	\$50,000	0.735030	\$36,751
5	\$51,000	0.680583	\$34,710
6	\$56,000	0.630170	\$35,289
7	\$60,000	0.583490	\$35,009
8	\$61,000	0.540269	\$32,956
9	\$64,000	0.500249	\$32,016
10	\$65,000	0.463193	\$30,108
11	\$49,000	0.428883	\$21,015
12	\$54,000	0.397114	\$21,444
13	\$55,000	0.367698	\$20,223
14	\$60,000	0.340461	\$20,428
14	\$625,000†	0.340461	\$212,788
Net present value of the investment			\$85,162

* Acquisition price

† Reversion

Table 24.3 Calculating Net Present Value

IRR = 0.0973208

Year	Cash Flow	Discount Factor	Present Value
0	-\$550,000	1.000000	-\$550,000
1	\$35,000	0.911311	\$31,896
2	\$40,000	0.830487	\$33,219
3	\$45,000	0.756831	\$34,057
4	\$50,000	0.689708	\$34,485
5	\$51,000	0.628539	\$32,055
6	\$56,000	0.572794	\$32,076
7	\$60,000	0.521993	\$31,320
8	\$61,000	0.475698	\$29,018
9	\$64,000	0.433508	\$27,745
10	\$65,000	0.395061	\$25,679
11	\$49,000	0.360023	\$17,641
12	\$54,000	0.328093	\$17,717
13	\$55,000	0.298994	\$16,445
14	\$60,000	0.272477	\$16,349
14	\$625,000	0.272477	\$170,298
Net present value of the investment			\$0

Table 24.4 Payback Period

Amount invested = \$1,250,000

Year	Annual Cash Flows	Running Total	
1	\$142,589	\$142,589	} Payback period
2	\$146,268	\$288,857	
3	\$150,042	\$438,898	
4	\$153,913	\$592,811	
5	\$157,884	\$750,694	
6	\$161,957	\$912,651	
7	\$166,135	\$1,078,787	← Payback point
8	\$170,422	\$1,249,208	
9	\$174,819	\$1,424,027	
10	\$179,329	\$1,603,356	

Table 24.5 Profitability Index

Discount rate = 8.0%

Purchase price = \$1,250,000

Year 1	Cash flow	\$89,000	×	0.9259259	=	\$82,407
Year 2	Cash flow	\$97,500	×	0.8573388	=	\$83,591
Year 3	Cash flow	\$103,300	×	0.7938322	=	\$82,003
Year 4	Cash flow	\$109,800	×	0.7350299	=	\$80,706
Year 5	Cash flow	\$114,000	×	0.6805832	=	\$77,586
Year 6	Cash flow	\$116,300	×	0.6301696	=	\$73,289
Year 7	Cash flow	\$118,650	×	0.5834904	=	\$69,231
Year 8	Cash flow	\$119,850	×	0.5402689	=	\$64,751
Year 9	Cash flow	\$121,350	×	0.5002490	=	\$60,705
Year 10	Cash flow	\$123,850	×	0.4631935	=	\$57,367
10	Reversion	\$1,548,125	×	0.4631935	=	<u>\$717,081</u>

Sum of the present values of the CFs

\$1,448,718

Profitability index = \$1,448,718/\$1,250,000 = 1.16

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