

	Base
Total cost, including construction interest	\$420
Developer/owner's discount rate	0.15
Month when rents begin (Ts)	46
NPV of construction loan to owner at To	\$237
Change in NPV of Cost	\$0
Monthly rents	\$4.48
Total annual rents	\$53.76
Capital worth of rents at Ts to owner (annual rents/i)	\$358
NPV of rents to owner at To	\$202
Change in NPV of Benefits	\$0
Value of project to Owner, no perm. mortgage	(\$35)
80% of rents	\$43.01
Permanent loan interest rate	8%
Value of 80% of rents to bank (i.e. max rent value of permanent mortgage)	\$538
Permanent mortgage	\$420
Monthly payment, 30-year mortgage	\$3.08
Monthly rents - mortgage payment	\$1.40
Capital worth of net rents to owner (net rent/i) at Ts	\$112
NPV of net rents to owner at time To	\$63
Discount rate of buyer	10%
Capital worth of net rents to buyer	\$168
Max sale price (assume mortgage + CW of net rents)	\$588
Profit to developer at time Ts (Sale-Loan)	\$168
NPV of profit at time To	\$95

**COST SENSITIVITY**

	Base	Cost+40	Cost+80	Cost+120	Cost+160	Cost+220	Cost+280	Int = 9%	Int=10%
Total cost, including construction interest	\$420	\$460	\$500	\$540	\$580	\$640	\$700	420	420
Developer/owner's discount rate	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Month when rents begin (Ts)	46	46	46	46	46	46	46	46	46
NPV of construction loan to owner at To	\$237	\$260	\$282	\$305	\$328	\$361	\$395	\$237	\$237
Change in NPV of Cost	\$0	\$23	\$45	\$68	\$90	\$124	\$158	\$0	\$0
Monthly rents	\$4.48	\$4.48	\$4.48	\$4.48	\$4.48	\$4.48	\$4.48	\$4.48	\$4.48
Total annual rents	\$53.76	\$53.76	\$53.76	\$53.76	\$53.76	\$53.76	\$53.76	\$53.76	\$53.76
Capital worth of rents at Ts to owner (annual rents/i)	\$358	\$358	\$358	\$358	\$358	\$358	\$358	\$358	\$358
NPV of rents to owner at To	\$202	\$202	\$202	\$202	\$202	\$202	\$202	\$202	\$202
Change in NPV of Benefits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Value of project to Owner, no perm. mortgage	(\$35)	(\$57)	(\$80)	(\$103)	(\$125)	(\$159)	(\$193)	(\$35)	(\$35)
80% of rents	\$43.01	\$43.01	\$43.01	\$43.01	\$43.01	\$43.01	\$43.01	\$43.01	\$43.01
Permanent loan interest rate	8%	8%	8%	8%	8%	8%	8%	9%	10%
Value of 80% of rents to bank (i.e. max rent value of permanent mortgage)	\$538	\$538	\$538	\$538	\$538	\$538	\$538	\$506	\$430
Permanent mortgage	\$420	\$460	\$500	\$538	\$538	\$538	\$538	\$420	\$420
Monthly payment, 30-year mortgage	\$3.08	\$3.38	\$3.67	\$3.94	\$3.94	\$3.94	\$3.94	\$3.23	\$3.69
Monthly rents - mortgage payment	\$1.40	\$1.10	\$0.81	\$0.54	\$0.54	\$0.54	\$0.54	\$1.25	\$0.79
Capital worth of net rents to owner (net rent/i) at Ts	\$112	\$88	\$65	\$43	\$43	\$43	\$43	\$100	\$64
NPV of net rents to owner at time To	\$63	\$50	\$37	\$24	\$24	\$24	\$24	\$56	\$36
Discount rate of buyer	10%	10%	10%	10%	10%	10%	10%	11%	12%
Capital worth of net rents to buyer	\$168	\$133	\$97	\$64	\$64	\$64	\$64	\$136	\$79
Max sale price (assume mortgage + CW of net rents)	\$588	\$593	\$597	\$602	\$602	\$602	\$602	\$556	\$499
Profit to developer at time Ts (Sale-Loan)	\$168	\$133	\$97	\$62	\$22	(\$38)	(\$98)	\$136	\$79
NPV of profit at time To	\$95	\$75	\$55	\$35	\$12	(\$22)	(\$55)	\$77	\$45

RENT SENSITIVITY

	Base	90% Rent	80% Rent	70% Rent	Cost+40 90% Rent	Cost+40 80% Rent	Cost+40 70% Rent	Int=9% Cost+40 80% Rent	Int=10% Cost+40 70% Rent
Total cost, including construction interest	\$420	\$420	\$420	\$420	\$460	\$460	\$460	\$460	\$460
Developer/owner's discount rate	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Month when rents begin (Ts)	46	46	46	46	46	46	46	46	46
NPV of construction loan to owner at To	\$237	\$237	\$237	\$237	\$260	\$260	\$260	\$260	\$260
Change in NPV of Cost	\$0	\$0	\$0	\$0	\$23	\$23	\$23	\$23	\$23
Monthly rents	\$4.48	\$4.03	\$3.58	\$3.14	\$4.03	\$3.58	\$3.14	\$3.58	\$3.14
Total annual rents	\$53.76	\$48.38	\$43.01	\$37.63	\$48.38	\$43.01	\$37.63	\$43.01	\$37.63
Capital worth of rents at Ts to owner (annual rents/i)	\$358	\$323	\$287	\$251	\$323	\$287	\$251	\$287	\$251
NPV of rents to owner at To	\$202	\$182	\$162	\$142	\$182	\$162	\$142	\$162	\$142
Change in NPV of Benefits	\$0	(\$20)	(\$40)	(\$61)	(\$20)	(\$40)	(\$61)	(\$40)	(\$61)
Value of project to Owner, no perm. mortgage	(\$35)	(\$55)	(\$75)	(\$96)	(\$78)	(\$98)	(\$118)	(\$98)	(\$118)
80% of rents	\$43.01	\$38.71	\$34.41	\$30.11	\$38.71	\$34.41	\$30.11	\$34.41	\$30.11
Permanent loan interest rate	0.08	0.08	0.08	0.08	0.08	0.08	0.08	9%	10%
Value of 80% of rents to bank (i.e. max rent value of permanent mortgage)	\$538	\$484	\$430	\$376	\$484	\$430	\$376	\$430	\$376
Permanent mortgage	\$420	\$420	\$420	\$420	\$460	\$460	\$460	\$460	\$460
Monthly payment, 30-year mortgage	\$3.08	\$3.08	\$3.08	\$2.76	\$3.38	\$3.08	\$2.64	\$3.08	\$2.64
Monthly rents - mortgage payment	\$1.40	\$0.95	\$0.50	\$0.37	\$0.66	\$0.51	\$0.49	\$0.51	\$0.49
Capital worth of net rents to owner (net rent/i) at Ts	\$112	\$76	\$40	\$30	\$53	\$41	\$40	\$41	\$40
NPV of net rents to owner at time To	\$63	\$43	\$23	\$17	\$30	\$23	\$17	\$23	\$22
Discount rate of buyer	10%	10%	10%	10%	10%	10%	10%	11%	12%
Capital worth of net rents to buyer	\$168	\$114	\$60	\$45	\$79	\$55	\$49	\$55	\$49
Max sale price (assume mortgage + CW of net rents)	\$588	\$534	\$480	\$421	\$539	\$438	\$350	\$438	\$350
Profit to developer at time Ts (Sale-Loan)	\$168	\$114	\$60	\$1	\$79	\$22	(\$110)	(\$22)	(\$110)
NPV of profit at time To	\$95	\$64	\$34	\$1	\$45	(\$13)	(\$62)	(\$13)	(\$62)

	Base	Time+6	Time+12	Int+9% Cost+80 Time+6	Int=10% Cost+120 Time+12
Total cost, including construction interest	\$420	420	420	500	640
Developer/owner's discount rate	0.15	0.15	0.15	0.15	0.15
Month when rents begin (Ts)	46	52	58	52	58
NPV of construction loan to owner at To	\$237	\$220	\$204	\$262	\$311
Change in NPV of Cost	\$0	(\$17)	(\$33)	\$25	\$74
Monthly rents	\$4.48	\$4.48	\$4.48	\$4.48	\$4.48
Total annual rents	\$53.76	\$53.76	\$53.76	\$53.76	\$53.76
Capital worth of rents at Ts to owner (annual rents/i)	\$358	\$358	\$358	\$358	\$358
NPV of rents to owner at To	\$202	\$188	\$174	\$188	\$174
Change in NPV of Benefits	\$0	(\$15)	(\$28)	(\$15)	(\$28)
Value of project to Owner, no perm. mortgage	(\$35)	(\$32)	(\$30)	(\$74)	(\$137)
80% of rents	\$43.01	\$43.01	\$43.01	\$43.01	\$43.01
Permanent loan interest rate	8%	8%	8%	9%	10%
Value of 80% of rents to bank (i.e. max rent value of permanent mortgage)	\$538	\$538	\$538	\$478	\$430
Permanent mortgage	\$420	\$420	\$420	\$478	\$430
Monthly payment, 30-year mortgage	\$3.08	\$3.08	\$3.08	\$3.85	\$3.77
Monthly rents - mortgage payment	\$1.40	\$1.40	\$1.40	\$0.63	\$0.71
Capital worth of net rents to owner (net rent/i) at Ts	\$112	\$112	\$112	\$51	\$56
NPV of net rents to owner at time To	\$63	\$59	\$54	\$27	\$27
Discount rate of buyer	10%	10%	10%	11%	12%
Capital worth of net rents to buyer	\$168	\$168	\$168	\$69	\$71
Max sale price (assume mortgage + CW of net rents)	\$588	\$588	\$588	\$547	\$501
Profit to developer at time Ts (Sale-Loan)	\$168	\$168	\$168	\$47	(\$139)
NPV of profit at time To	\$95	\$88	\$82	\$25	(\$68)