



Measuring Property Performance – What’s Behind the Numbers?

Cashflow Calculations

Measurement	What it Tells You	Formula	Comments
Gross Potential Rent (GPR)	Total rent that could be earned if 100% of the units were occupied 100% of the time.	Total # of Units (for Each Unit Type) x Monthly Rent (for Each Unit Type) <u>x 12 (months)</u> = GPR - annual	<ul style="list-style-type: none"> Check to see if GPR is keeping pace with pro forma expectations and market realities. If the GPR is below initial expectations, rent increases may not be being implemented regularly.
Effective Gross Income (EGI)	Revenue available to pay for all operating expenses, including reserve deposits, plus hard debt service and capital expenses.	GPR - Vacancy Loss <u>+ Other Income</u> = EGI	<ul style="list-style-type: none"> Sometimes, uncollected rents (bad debts) are added to the vacancy loss. These two numbers together are called “Rent Loss.” Alternatively, uncollected rents (bad debts) are recorded as an administrative operating expense.
Net Operating Income (NOI)	Revenue available for debt service and capital expenses, after deducting total operating expenses (TOE) from EGI.	EGI <u>- Total Operating Expenses</u> = NOI	<ul style="list-style-type: none"> Allows measurement in dollar terms of property performance before debt, reflecting what debt is possible and for operating comparison. May or may not include reserve deposits and resident services expenses.
Debt Service	Current interest and principal due on hard (“must pay”) debt. May also include other financial expenses such as mortgage insurance premiums (MIP) and service fees.	Current Portion of Principal + Current Portion of Interest + Mortgage Insurance Payment <u>+ Other Mortgage Fees</u> = Debt Service	<ul style="list-style-type: none"> Audits will include soft debt in financial statements – audit notes will clarify if the debt is hard or soft debt.
Hard Debt	Principal and interest payments that must be paid (serviced) during the current period.	Current Portion of Principal <u>+ Current Portion of Interest</u> = Hard Debt	<ul style="list-style-type: none"> Soft debt includes deferred or forgiven debt or loans payable only when cashflow permits.

Cash Flow	Cash remaining after operating expenses (including replacement reserves), debt service and capital expenses are deducted from EGI.	$\begin{aligned} & \text{EGI} \\ & - \text{Operating Expenses} \\ & = \text{NOI} \\ & - \text{Debt} \\ & - \text{Capital Expenses} \\ & = \text{Cashflow} \end{aligned}$	<ul style="list-style-type: none"> Ask about what is counted in operating expenses – Does it include reserves and resident services? These are sometimes subtracted from cashflow rather than being considered operating expenses. Cash flow for distribution purposes may be calculated differently. Check partnership agreement for details.
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Occupancy

Measurement	What it Tells You	Formula	Comments
Vacancy Rate (as a percentage of GPR)	What percentage of gross potential rent (GPR) is lost to vacancy?	$\frac{\text{Vacancy Loss (\$)}}{\text{GPR (\$)}}$	<ul style="list-style-type: none"> Very good measure of performance toward revenue potential. Vacancy in higher rent apartments can skew numbers.
Vacancy Rate (as a percentage of potential days of occupancy)	Vacancy loss calculated as a percentage of potential utilization rather than percentage of potential dollars.	$\frac{\text{Vacancy Days}}{\text{Potential Occupancy Days}}$	<ul style="list-style-type: none"> Good measure of use of the property – occupancy not skewed by higher rent units. Does not recognize the different revenue potential of different types of apartments.
Point in Time Vacancy	Percentage of units occupied at a given point in time.	$\frac{\text{Vacant Units on a Given Day}}{\text{Total Units}}$	<ul style="list-style-type: none"> Easy to calculate. Easy to mislead.

Collections

Measurement	What it Tells You	Formula	Comments
Percentage Collected	Gross cash collections as a percentage of billings.	$\frac{\text{Rent Collected}}{\text{Rent Billed}^*}$ (*GPR-Vacancy Loss)	<ul style="list-style-type: none"> Easy to measure, motivates staff to collect arrearages. May overstate current collection rate by counting amounts collected from previous periods.

Percentage of Current Rent Collected	What percentage of the current period's billings are being collected.	$\frac{\text{Rent Collected} - \text{Amount Collected on Arrears}}{\text{Rent Billed}^*}$ <i>(*GPR - Vacancy Loss)</i>	<ul style="list-style-type: none"> • Accurate portrayal of status of current periods' billings. • More complicated due to arrearage reduction calculation.
Percentage of Arrears Collected	What proportion of arrearages are being collected.	$\frac{\text{Amount Collected on Arrears}}{\text{Total Arrears at Start of Period}}$	<ul style="list-style-type: none"> • Keeps focus on arrears. • Can be misleading – arrears can be increasing despite high collection on arrears.
Economic Collection	Quick and dirty analysis of how the asset is performing financially (usually compared to a plan).	$\frac{\text{Cash Amount Collected}}{\text{GPR}}$	<ul style="list-style-type: none"> • Useful to funders who want the bottom line – pulls vacancy and collection into one calculation. • Very little insight into operations.

Turnover and Turn Time

Measurement	What it Tells You	Formula	Comments
Turnover Rate	Proportion of your population that is moving out.	Annual Turnover Rate: $\frac{\text{Number of Move Outs Per Year}}{\text{Total Number of Units}}$	<ul style="list-style-type: none"> • Good measure of resident satisfaction, easy to calculate. Important data to know for occupancy management. • Recognize whether it is an annual, quarterly or monthly measurement. Sometimes high turnover rates are central to the mission.
Average Days Vacant (ADV)	The average length of time all units are vacant during a period of time.	$\frac{\text{Total Days All Units Are Vacant During the Period}}{\text{Total Number of Units Vacant During the Period}}$	<ul style="list-style-type: none"> • Critical measure of management performance in preparing a unit for reoccupancy and leasing it. • Recognize the value of breaking down this measurement into its components – inspection, make-ready, lease-up, coordination.

Workorder/Maintenance

Measurement	What it Tells You	Formula	Comments
Average Days to Complete Workorders	How long your workorders are taking to be done.	$\frac{\text{Total Days to Complete All W.O.}}{\text{Number of W.O. Completed}}$	<ul style="list-style-type: none"> • Good sense of whether residents are getting good maintenance service. • Difficult with a manual workorder system. May not be counting those workorders not yet completed, which may paint a very different picture of performance. May not delineate between emergency and routine workorders.
Incomplete / Outstanding Workorder Backlog	How many workorders are outstanding and incomplete.	Number of incomplete workorders at a given time	<ul style="list-style-type: none"> • Good measure of whether you're on top of maintenance management. • By itself, it may not tell the entire picture.
Workorder Backlog	How long a backlog exists.	$\frac{\text{Incomplete Workorders}}{\text{Average Number of Workorders Completed}}$	<ul style="list-style-type: none"> • Perspective on numbers of outstanding workorders. • Can be misleading – arrears can be increasing despite high percentage on arrears.
Workorder Completion Ratio	Are we keeping up with new workorders?	$\frac{\text{Completed Workorders}}{\text{New Workorders Issued}}$	<ul style="list-style-type: none"> • Are you keeping up with your new work? • No insight into types of work completed.

Expense Calculations

Measurement	What it Tells You	Formula	Comments
Total Operating Expenses (TOE) per Unit: <ul style="list-style-type: none"> • Per Unit per Year (PUPY) • Per Unit per Month (PUM) 	The amount you are spending per unit to operate a property, exclusive of debt on an annual (PUPY) or monthly (PUM) basis.	$\frac{\text{Total Operating Expenses}}{\text{Number of Units}}$ <i>Can be used for total operating expenses or within cost subcategories – maintenance, admin, utilities, insurance, etc.</i>	<ul style="list-style-type: none"> • Widely used in industry and allows measurement of costs across different size properties. • Recognize that this is not strictly “apples to apples.” Look at the treatment of utilities, reserves, resident services. Regional differences are significant, as are types of housing (elderly/family, etc).

Trending	How much have costs (or revenue) increased/decreased over time.	Current Period Cost – <u>Prior Period Cost</u> Prior Period Cost (<i>Base Year</i>)	<ul style="list-style-type: none"> • Trending helps with projection of future costs/income. • For short-term measurement, numbers may be skewed by nonrecurring expenses. This analysis is better used over several years.
Percent of Total	“Pie Chart” type analysis of total operating cost – what proportion is going to each category – admin, utilities, maintenance, etc.	<u>Target Category Cost (Admin)</u> Total Operating Expense (TOE)	<ul style="list-style-type: none"> • Good analysis for benchmark comparisons against other properties or portfolios – for instance, is insurance taking too large a proportion of your total operating expenses. • Does not reflect the total operating cost, so should be used in conjunction with a Cost Per Unit exercise. Also – benchmark analysis should be limited to properties with similar per unit operating costs.

Financial Calculations

Measurement	What it Tells You	Formula	Comments
Debt Coverage Ratio (DCR) Debt Service Coverage Ratio (DSCR)	The calculation must be 1.0 or higher to have sufficient revenue to pay hard debt. A typical DCR or DSCR standard set by a lender is 1.2.	$\frac{\text{NOI}}{\text{Hard Debt}}$ <p><i>Usually does not include soft or deferred debt</i></p>	<ul style="list-style-type: none"> • Critical measurement of ability to meet debt obligations – pulls together operational and deal components of a property. • Recognize the treatment of soft and deferred debt – don’t lose sight of these!
Debt Coverage Ratio – Alternate DCR AFTER Reserve Contribution	Ability to meet debt obligations after payment of required reserves.	$\frac{\text{NOI} - \text{Reserve Contributions}}{\text{Hard Debt}}$ <p>or</p> $\frac{\text{NOI}}{\text{Hard Debt} + \text{Required Reserves}}$	<ul style="list-style-type: none"> • Includes reserve payments into the calculation, creating a truer measure of ability to pay debt. • May cause DCR to appear tighter than other properties in a benchmarking exercise. May be more stringent than required by lenders.

Return on Equity (Cash-on-Cash Return)	The rate of return earned on the equity invested over a specified period of time.	$\frac{\text{Before-Tax Cash Flow}}{\text{Equity Invested}}$	<ul style="list-style-type: none"> • Should be comparable to returns available for investments of comparable risk. This calculation treats return as the cash provided to the equity investor after paying all expenses and debt service.
Return on Investment (ROI)	The ratio of Net Operating Income (NOI) to the total funds invested (or total asset cost).	$\frac{\text{NOI}}{\text{Total Cost or Asset Value}}$	<ul style="list-style-type: none"> • Same formula as the capitalization rate (Cap Rate)
Present Value (PV)	The current value of a cashflow to be received at some predetermined time in the future.	$\frac{\text{FV}}{(1+i)^n}$ <i>Best done on a financial calculator or Excel</i>	<ul style="list-style-type: none"> • To calculate in Excel, use the PV function: i is the annual interest rate, nPer is the number of years, PMT is zero, and FV is the future cash amount. You can leave Type blank. • PV reflects the “time value of money”
Future Value	How much an investment will be worth after a certain period of time.	$\text{PV} \times (1+i)^n$ <i>Best done on a financial calculator or Excel</i>	<ul style="list-style-type: none"> • To calculate in Excel, use the FV function: i is the annual interest rate, nPer is the number of years, PMT is zero, and PV is the current cash investment amount. You can leave Type blank.
Capitalization Rate (Cap Rate)	Rate applied to NOI to calculate a total asset value for a property. Sometimes called the IRV calculation.	<p>Cap Rate = NOI/Value Value = NOI/Cap Rate NOI = Cap Rate x Value</p>	<ul style="list-style-type: none"> • The IRV calculation is one of three traditional methods of determining property value. The other two are the Market Value (based on appraisal) and Cost Method (based on actual cost of building the property).