CapRate Analyzer

User Guide

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Investor-grade income property screening for Canadian real estate

Tool Version	V28
Jurisdiction	Canada — federal Interest Act compounding
CMHC Schedule	Homeowner & Small Rental (current as of 2024–2025)
Intended Use	Educational screening only — not investment advice

Mortgage calculations use Canadian semi-annual compounding per the federal Interest Act, R.S.C. 1985. CMHC premium rates are based on the published Homeowner & Small Rental schedule — confirm current rates at cmhc-schl.gc.ca before advising clients. Results depend on the accuracy of inputs supplied by the user.

1 Who This Tool Is For

The CapRate Analyzer is designed for anyone who needs to assess the financial viability of a Canadian income property quickly and rigorously — before committing time to deeper due diligence or before entering a financing conversation.

1.1 Primary Users

- Real estate investors (active and aspiring) evaluating 1–6 unit residential income properties — duplexes, triplexes, small apartment buildings, and income-generating condominiums.
- First-time investors using it to understand how the numbers work on a prospective property before speaking with a lender or mortgage professional.
- Experienced investors who want a consistent, repeatable triage framework to compare multiple opportunities side-by-side without building a spreadsheet from scratch for each deal.
- Mortgage agents and brokers who want to arrive at a client meeting already knowing whether the deal's income can support the proposed financing — and what the CMHC insurance cost will be.
- Buyers' agents and REALTOR® partners who want to offer clients a quick screening tool during property tours or offer preparation.

1.2 How Each Audience Benefits

Audience	Key Benefit
Active investor	Compares multiple properties on a single consistent scorecard. Sensitivity grid shows how cap rate and DSCR hold up under rent softness, higher vacancy, or rising expenses — before making an offer.
First-time investor	Breaks down every component of income and expense, explains what each metric means, and delivers a plain-language decision (Keep / Review / Pass) so the math is accessible without a finance background.
Mortgage agent	Calculates CMHC insurance premiums with live eligibility checks (purchase price cap, tiered minimum down payment, amortization rules, unit count limits). Flags Ontario, Quebec, and Saskatchewan PST obligations on the premium.
Buyer's agent	Runs in a browser — no install required. Produces a sharable Export CSV with all key metrics for clients or referral partners.
Portfolio manager	Opportunity ranking table automatically scores and ranks multiple saved properties using a weighted composite score, so the strongest deals rise to the top.

1.3 What This Tool Is Not

- It is not investment advice. The analyzer is an educational screening instrument that helps users understand a deal's income characteristics — it cannot account for physical condition, local market sentiment, legal encumbrances, or future rent growth.
- It is not a replacement for a formal appraisal, home inspection, or legal review.
- It is not a lender's underwriting model. Actual lender qualification depends on borrower income, credit history, GDS/TDS ratios, and lender-specific policy.
- It does not provide tax advice. Capital cost allowance, rental income treatment, and HST implications are outside its scope.

Disclosure

Results depend on the accuracy of rents, vacancy assumptions, expense figures, and market cap rates entered by the user. Mortgage calculations use Canadian semi-annual compounding per the federal Interest Act. Confirm CMHC rates at cmhc-schl.gc.ca before advising clients.

2 The Interface — A Visual Tour

The analyzer is a single-page web application divided into four zones: the Header Bar, the Input Panel, the Output Panel, and the Comparables Table. Everything updates in real time as you type — there is no calculate button.

2.1 Header Bar

The header runs across the top and is always visible. It contains:

Decision Badge	Plain-language verdict: Keep, Review, or Pass. Updates instantly with every keystroke.
Grade Badge	Letter grade A through D based on the composite score.
Score Badge	Composite score from 0–100. Weights vary by Market Posture Preset (see Section 3).
Risk Badge	Low, Moderate, or High — derived from the composite score.
Completeness Badge	Percentage of the ten critical input fields that are filled in. Incomplete data penalises the score.

2.2 Fast Screen Strip

Directly below the header, the Fast Screen strip shows the active decision message in full and a live NOI Gap pill showing how far the current NOI is from what the benchmark cap rate would require. Warning pills appear here whenever the calculator detects a condition that needs attention — thin DSCR, CMHC ineligibility, PST obligation, negative NOI, and others.

2.3 Input Panel (Left Column)

All data entry happens here. Inputs are grouped into three areas.

Core Inputs

These are always visible and cover the property's basic income and expense profile.

Field	Default	Purpose
Property Label	Property • Example	Identifies the deal in the comparables table and CSV export.
Location	ON	Used for PST detection (Ontario, Quebec, Saskatchewan) when CMHC is enabled.
Value / Purchase Price	$950,000	The purchase price or appraised value — the denominator in all cap rate calculations.
Units	2	Number of residential units. Drives eligibility check for CMHC (max 4 units for Homeowner/Small Rental).
Avg Monthly Rent / Unit	$2,400	Average rent across all units. Gross Scheduled Income = Units × Rent × 12 + Other Income.

Field	Default	Purpose
Other Income	$1,200	Annual income from parking, laundry, storage, etc.
Vacancy Rate	5%	Applied to GSI to produce Effective Gross Income (EGI = GSI × (1 − vacancy)).
Property Taxes	$5,200	Annual municipal tax bill.
Insurance	$1,800	Annual building insurance premium.
Utilities	$2,400	Landlord-paid utilities (heat, hydro, water). Zero if all tenant-paid.
Repairs & Maintenance	$3,000	Annual routine maintenance budget.
Condo Fees	$0	Monthly maintenance fees × 12 for strata/condo properties.
Property Management	8% of EGI	Mode toggle: Percent of EGI (scales with income) or Flat Annual amount.
CapEx Reserve	5% of EGI	Capital expenditure reserve for roofs, HVAC, appliances. Mode toggle same as management.
Benchmark Cap Rate	5.25%	The market cap rate for comparable properties in the subject neighbourhood — your yardstick.
5-Year Bond Yield	3.10%	Current Government of Canada 5-year bond yield — used to calculate spread above the risk-free rate.

Advanced Inputs (expand the Advanced accordion)

The Advanced section is collapsed by default. Click the Advanced button to reveal it. It contains four sub-groups.

Market & Sensitivity Parameters

Market Posture Preset	'core', 'balanced', or 'yield'. Shifts the scoring weight table. See Section 5 for weights.
Target Cap Rate	6.25% — the cap rate you need to meet your investment return target. Drives the Target Purchase Price output.
Market Cap Range — Low / High	4.75% / 5.75% — the current observed range for the submarket. The Position vs Market Range card uses this.
Snow/Landscaping	$600/yr — often omitted from quick estimates but meaningful in colder climates.
Admin / Accounting / Legal	$450/yr — bookkeeping, legal letters, accountant fees.
Miscellaneous	$350/yr — a catch-all for minor unlisted costs.
Rent Haircut (Stress)	−3% — how much rents drop in the stress scenario.
Vacancy Add-on (Stress)	+3pp — vacancy rate added in the stress scenario.
OpEx Increase (Stress)	+7% — how much operating expenses rise in the stress scenario.

Expense Floor (optional safeguard)

When turned on, the analyzer enforces a minimum expense ratio of the percentage you specify (default 35% of EGI). If your entered expenses are lower than this floor, the floor value is substituted and the

Expense Ratio card is flagged. This protects against accidentally under-expensed analysis on properties where some costs were not yet known.

DSCR & Financing

LTV	75% — loan-to-value ratio. Determines the mortgage balance.
Amortization	25 years
Contract Rate	5.49% nominal semi-annual — the rate quoted on your mortgage commitment.
Payment Frequency	Monthly, Biweekly, Accelerated Biweekly, or Weekly.
Stress Buffer	2.00 pp — added to the contract rate for the OSFI B-20 stress test.
OSFI B-20 Floor	5.25% — the minimum qualifying rate regardless of the contract rate.

CMHC Mortgage Insurance

Tick the checkbox to enable CMHC insurance calculation. When enabled, an additional First-Time Buyer / New Build checkbox appears — this unlocks amortizations of 26 to 30 years for eligible purchases (a +0.20% premium surcharge applies). The calculator performs seven eligibility checks automatically and displays the result in an expandable detail box below the checkbox.

2.4 Output Panel (Right Column)

Outputs are organised into five lenses, followed by the Sensitivity Grid and Opportunity Ranking table.

Benchmark Lens

Cap Rate	The subject property's net income yield: NOI ÷ Purchase Price.
Spread vs Benchmark	How far the subject cap rate is above or below the benchmark. Positive = more income per dollar invested than market.
Position vs Market Range	Above / Within / Below the defined market cap range. Above is favourable (priced below market).

Operating Lens

Net Operating Income (NOI)	Annual income after all operating expenses but before mortgage payments.
Expense Ratio	Operating expenses as a percentage of EGI. Industry norm is 35–50%.
Break-Even Vacancy	The vacancy rate at which NOI falls to zero. Accounts for EGI-linked expenses (management, CapEx). Higher is safer — it means the property can withstand significant vacancy before income turns negative.

Financing Lens

DSCR	Debt Service Coverage Ratio: NOI ÷ Annual Debt Service. A ratio ≥ 1.25 is considered strong; < 1.00 means the property does not generate enough income to service the debt at the entered rate.
DSCR (Stress)	Same calculation applied to the stress scenario income and the OSFI-qualified rate. A stress DSCR ≥ 1.00 means the deal survives a moderate income shock.
CMHC Premium	The insurance premium as a percentage of the loan, and the premium dollar amount. Only shown when CMHC is enabled and the deal is eligible.

Valuation Lens

Implied Value (Benchmark Cap)	What the property would be worth if it were priced at the benchmark cap rate: NOI ÷ Benchmark. The delta vs your entered price tells you how much above or below market value the asking price is.
Target Purchase Price (Target Cap)	Maximum price you should pay to achieve your target return: NOI ÷ Target Cap Rate.

Quick Triage

NOI Margin	NOI as a percentage of Gross Scheduled Income. A quick sanity check on income quality.
Gross Rent Multiplier (GRM)	Purchase Price ÷ Gross Scheduled Income. Lower is better — a quick relative value screen.
Cap Rate (Stress)	The cap rate after applying the stress shocks to rent, vacancy, and operating expenses simultaneously.
NOI Required (Benchmark)	How much annual NOI the property would need to generate at the benchmark cap rate to justify the purchase price. The NOI Gap pill in the Fast Screen strip shows the distance.
Spread vs 5-Year Bond	How much additional return the property offers over the risk-free government bond. Tightening spread signals a less attractive risk/return tradeoff.

Sensitivity Grid

A 3×3 matrix showing cap rate (or NOI — toggle with Show Cap / Show NOI) under nine combinations of rent shock (−5%, 0, +5%) and vacancy shock (−2pp, 0, +2pp). Below the grid, a DSCR row shows debt-service coverage at each rent column under base vacancy. Debt service is held constant across all cells — only income changes. Cells are colour-coded green, amber, and red against thresholds. An OpEx selector applies an additional cost stress (−5%, base, +5%) across the entire grid.

Opportunity Ranking Table

Saved deals are scored, sorted, and displayed in a ranked table showing Score, Grade, Cap Rate, Spread, Expense Ratio, and Break-Even Vacancy. Use Add to Comparables to save the current property. The table reranks automatically each time a new property is added. Export CSV saves all saved properties with all metrics including CMHC fields to a spreadsheet-ready file.

3 Step-by-Step: How to Use the Analyzer

The following procedure walks through a complete analysis from blank inputs to a decision-ready output. Each step builds on the previous one.

Step 1 — Enter the property identification

1. Type a descriptive name in the Property Label field (e.g. '123 Maple St — Duplex ON'). This label appears in the comparables table and in your CSV export, so be specific enough to tell properties apart later.
2. Type the city, province, or region abbreviation in Location (e.g. ON, BC, AB). This is used to trigger the PST warning if CMHC insurance is enabled.

Step 2 — Enter the property and income data

1. Enter the asking or appraised price in Value / Purchase Price.
2. Enter the number of residential units.
3. Enter the average current monthly rent per unit. If rents vary, use the average. If units are vacant, use the market rent you expect to achieve.
4. Enter any other income (parking, laundry, storage) as an annual amount. Enter 0 if none.
5. Enter the vacancy rate as a percentage. Industry standard for most urban Canadian markets is 3–7%. Use local CMHC Rental Market Report data if available.

Step 3 — Enter operating expenses

1. Enter annual property taxes from the most recent tax bill or MLS listing.
2. Enter annual building insurance. A rough estimate is $1,000–$2,500 for a 2-unit property.
3. Enter landlord-paid utilities. If utilities are fully tenant-paid, enter 0.
4. Enter annual repairs and maintenance. A common benchmark is 1–2% of property value per year.
5. Enter condo / strata fees if applicable.
6. Set the Property Management mode. Choose Percent of EGI (recommended — expenses scale with income) or Flat Annual. Enter the rate or amount. Typical management fees are 7–10% of collected rent.
7. Set the CapEx Reserve mode and amount. A CapEx reserve of 3–7% of EGI is standard. Older or larger properties warrant higher reserves.

Step 4 — Set the benchmarks

1. Enter the Benchmark Cap Rate for the submarket. Source this from recent comparable sales (NOI ÷ sale price), your brokerage's market data, or published CBRE/Colliers reports. This is the most important single input — an incorrect benchmark will invalidate the spread and scoring outputs.
2. Enter the current 5-Year Government of Canada bond yield. This is published daily on the Bank of Canada website.

Step 5 — Read the Fast Screen result

At this point, with core inputs complete, the Fast Screen strip will show a preliminary verdict and any warning pills. Review:

- Decision — is this Keep, Review, or Pass?
- Grade and Score — are they consistent with your expectations?
- Warning pills — are there any eligibility issues, thin margins, or missing data flags?

If the decision is clearly Pass and the score is very low, there is rarely value in proceeding to financing analysis. If the decision is Keep or Review, continue to Step 6.

Step 6 — Add financing details (Advanced accordion)

1. Click Advanced to expand the section.
2. Scroll to DSCR & Financing.
3. Enter LTV — the loan-to-value ratio you intend to finance at.
4. Enter Amortization in years.
5. Enter the Contract Rate — the rate on your mortgage commitment or your broker's current best rate. Use the nominal semi-annual rate as quoted by Canadian lenders.
6. Select your payment frequency.
7. The Stress Buffer and OSFI B-20 Floor default to the current OSFI B-20 qualifying rule (contract + 2%, minimum 5.25%). Change these only if you have specific instructions from a lender or if the regulatory floor has changed.

Step 7 — Enable CMHC if applicable

1. If the purchase has less than 20% down and the price is below $1.5M, tick Apply CMHC Mortgage Insurance to loan.
2. If the purchase is a first-time buyer purchase or a new build, also tick First-time buyer or new build — this unlocks 26–30 year amortization eligibility.
3. Review the CMHC detail box that appears below the checkbox. It shows the applicable premium rate, premium dollar amount, insured principal, and minimum down payment required. If the deal is ineligible, the reason is stated clearly in red.

Note: The CMHC premium is capitalised into the loan — the insured principal is the base loan plus the premium. The DSCR calculation uses this inflated balance. The Stress DSCR uses the base loan (pre-premium) amount, consistent with how lenders apply the OSFI qualifying test.

Step 8 — Review the Sensitivity Grid

1. Scroll to the Sensitivity Grid in the output panel.
2. The default view shows Cap Rate. Toggle to Show NOI to see dollar income under each scenario.
3. Read across the top row (−2pp vacancy shock) — these are the best-case cells. Read across the bottom row (+2pp vacancy shock) — these are the stressed cells.
4. Check the DSCR row below the grid. A green DSCR at base rent means the property services debt comfortably. If the DSCR turns amber or red even at base rent, the financing terms need to be revisited.
5. Change the OpEx selector to +5% and re-read the grid to see a combined income and cost stress.

Step 9 — Save and compare

1. When satisfied with the inputs, click Add to Comparables. The property is added to the Opportunity Ranking table at the bottom.
2. Change the inputs to model a different property (or different financing assumptions on the same property) and add it as well.
3. The ranking table scores and sorts all saved properties automatically. The highest-scoring deal appears at row 1.
4. When you have finished comparing, click Export CSV to download a spreadsheet with all metrics for all saved properties, including CMHC premium data.

> **Tip — Changing the Market Posture Preset**
>
> Set the Preset field in Advanced to 'core' for a stabilised, low-risk portfolio, 'balanced' for a mixed strategy (the default), or 'yield' to emphasize cash-on-cash return. The scoring weights shift with the preset, so the same property will receive a different score depending on the investment lens you apply. Run all three and compare.

4 Worked Scenarios

The four scenarios below illustrate how to read and interpret the analyzer's outputs across a range of real-world property situations. Each scenario is followed by a table of key outputs with their colour signal and a plain-language explanation of what the result means and what action it implies.

Scenario A — The Solid Performer

A fully-tenanted triplex in a mid-sized Ontario city is listed at $875,000. Current rents are $1,700/month across all three units. The seller has provided two years of tax history showing property taxes of $6,400/year. You are financing at 75% LTV, 5.49% over 25 years, monthly payments.

Inputs Summary

Value	$875,000
Units	3
Avg Monthly Rent	$1,700
Other Income	$1,200 (laundry)
Vacancy Rate	5%
Property Taxes	$6,400
Insurance	$2,200
Utilities	$3,600
Repairs & Maint.	$4,000
Management	8% EGI
CapEx Reserve	5% EGI
Benchmark Cap	5.50%
LTV / Amort / Rate	75% / 25yr / 5.49%

Key Outputs and Interpretation

Metric	Value	Signal	What It Means
GSI	**$62,400**	—	3 units × $1,700 × 12 + $1,200 other income.
EGI	**$59,280**	—	After 5% vacancy allowance.
NOI	**$37,200**	**Green**	Strong income after all operating costs. NOI margin ≈ 59.6%.
Cap Rate	**4.25%**	**Amber**	Below the 5.50% benchmark — the property is priced above what the income justifies at current rents.

Metric	Value	Signal	What It Means
Spread vs Bench	**-1.25pp**	**Red**	Cap rate is 1.25pp below benchmark. The property is overpriced relative to its income — or rents need to grow.
Expense Ratio	**37.3%**	**Green**	Well within the healthy range (below 40%). Expenses are controlled.
BEV	**75.8%**	**Green**	NOI goes to zero only at 75.8% vacancy — well above realistic vacancy levels. Durable income.
DSCR	**0.74**	**Red**	NOI does not cover the mortgage payment at 75% LTV. The property does not self-fund at current rents and the proposed financing.
Implied Value	**$676,400**	**Red**	At a 5.50% benchmark, the income supports a price of $676k — $198,600 below the asking price.
Target Price	**$595,200**	**—**	To achieve a 6.25% target cap, the purchase price would need to be $595,200 or less.

Reading This Scenario

The property has healthy operating fundamentals — low expenses and high break-even vacancy — but the asking price is disconnected from the income. The cap rate spread is negative and the DSCR fails. The correct action is either to negotiate the price down toward the implied value ($676,400) or to wait for a rent increase cycle before purchasing. At $875,000 this is a Pass at the financing lens, even though the Operating Lens is green.

Scenario B — The CMHC-Insured First Purchase

A first-time buyer wants to purchase a purpose-built duplex at $680,000. They have $68,000 saved (10% down). They plan to live in one unit and rent the other at $2,800/month. The transaction qualifies as a first-time buyer purchase of an owner-occupied small rental.

Inputs Summary

Value	$680,000
Units	1 (rental unit only)
Avg Monthly Rent	$2,800
Other Income	$0
Vacancy Rate	5%
Property Taxes	$3,900
Insurance	$1,100
Utilities	$900
Repairs & Maint.	$1,800
Snow / Admin / Misc	$0 / $300 / $200
Management	8% EGI
CapEx Reserve	5% EGI
CMHC	Enabled — First-Time Buyer checked
LTV / Amort / Rate	90% / 25yr / 5.49%
Location	ON

Key Outputs and Interpretation

Metric	Value	Signal	What It Means
CMHC Premium Rate	**3.10%**	**Amber**	LTV = 90% → base rate 3.10%, no surcharge (25yr amort). PST warning fires for ON.
CMHC Premium	**$18,972**	**Amber**	Added to the mortgage principal. Must also budget for Ontario PST on the premium — payable at closing, not added to loan.
Insured Principal	**$630,972**	**—**	The loan the debt service payment is calculated on: $612,000 + $18,972 premium.
Min Down Required	**$34,000 (5%)**	**Green**	On a $680,000 property the full 5% minimum applies. The buyer's $68,000 comfortably exceeds this.
NOI	**$19,570**	**—**	Only the rental unit is modelled. The owner-occupied unit is not included in the income analysis.
Cap Rate	**2.88%**	**Red**	Low — partly expected because only one unit's income is

Metric	Value	Signal	What It Means
			modelled against the full purchase price.
DSCR	**0.42**	**Red**	The rental unit income alone does not cover the insured mortgage payment. This is typical for an owner-occupied duplex — the owner's personal income services the shortfall.
Expense Ratio	**36.6%**	**Green**	Well-controlled expenses on a single-unit rental.
BEV	**76.9%**	**Green**	The rental unit income can withstand very high vacancy before turning negative.

Reading This Scenario

A DSCR below 1.00 looks alarming but is expected here — the analyzer is screening only the rental income of a property the buyer will partially occupy. The meaningful metrics are the CMHC eligibility confirmation, the premium amount (and the Ontario PST obligation), and the break-even vacancy on the rental unit. The buyer and their mortgage agent should model personal income alongside this output to complete the full GDS/TDS picture.

Scenario C — The Yield Play with Sensitivity Analysis

An investor is considering a 6-unit building at $1,200,000 in Alberta. Average rents are $1,900/month. They want to understand how the deal performs under stress and are running a yield-focused analysis. They are financing conventionally at 80% LTV.

Inputs Summary

Value	$1,200,000
Units	6
Avg Monthly Rent	$1,900
Other Income	$2,400 (parking)
Vacancy Rate	5%
Property Taxes	$9,500
Insurance	$3,200
Utilities	$5,400
Repairs & Maint.	$6,000
Snow / Admin / Misc	$1,200 / $800 / $500
Management	8% EGI
CapEx Reserve	5% EGI
CMHC	Enabled (triggers ineligibility — 5+ units)
Benchmark Cap	5.25%
Market Preset	yield
LTV / Amort / Rate	80% / 25yr / 5.69%

Key Outputs and Interpretation

Metric	Value	Signal	What It Means
CMHC	**Ineligible**	**Red**	6 units exceeds the Homeowner & Small Rental limit of 4 units. Note directs to CMHC Multi-Unit / MLI Select.
NOI	**$88,449**	**Green**	Strong absolute income on a 6-unit building.
Cap Rate	**7.37%**	**Green**	1.12pp above the 5.25% benchmark in yield-preset mode — solid spread.
DSCR	**1.24**	**Amber**	Just below the 1.25 green threshold — adequate coverage but limited cushion.
Stress DSCR	**0.92**	**Red**	Under the stress scenario (rents −3%, vacancy +3pp, expenses +7%) the property no longer covers its debt. The margin is thin.

Metric	Value	Signal	What It Means
Expense Ratio	**33.1%**	**Green**	Well-controlled for a 6-unit building.
BEV	**74.9%**	**Green**	Income is highly durable — break-even vacancy is nearly 75%.
Cap vs Stress	**7.37% → 6.1%**	**Amber**	A 1.27pp cap rate drop under stress. The deal survives at the income level but debt service is not fully covered.
Implied Value	**$1,684,700**	**Green**	$484,700 above asking — the income materially exceeds what the benchmark cap would require.

Sensitivity Grid Reading (Show Cap, OpEx +5%):

Rent Shock	−5% Rent	Base Rent	+ 5% Rent
Vacancy −2pp	7.02%	7.53%	8.04%
Base Vacancy	6.58%	7.07%	7.56%
Vacancy +2pp	6.11%	6.58%	7.06%
DSCR row	1.16	1.24	1.32

Reading This Scenario

This is a strong income property with a wide cap spread and durable operating profile. The single concern is the stress DSCR dipping below 1.00 — meaning the debt is not fully covered if rents soften and costs rise simultaneously. The investor should either negotiate a slightly lower purchase price, build in a cash reserve, or seek better financing terms. The CMHC ineligibility is not a problem for a conventional investment — the note about MLI Select Multi-Unit is informational for an owner who might want high-ratio financing on a future multi-unit acquisition.

Scenario D — The Pass: Negative NOI

An investor receives a lead on a 2-unit property at $1,100,000 in Toronto. The listing shows below-market rents of $1,650/month. The building has high property taxes and deferred maintenance. They run the numbers before scheduling a showing.

Inputs Summary

Value	$1,100,000
Units	2
Avg Monthly Rent	$1,650
Other Income	$0
Vacancy Rate	5%
Property Taxes	$14,500
Insurance	$4,000
Utilities	$6,000
Repairs & Maint.	$9,500
Condo Fees	$3,600
Snow / Admin / Misc	$1,200 / $800 / $500
Management	10% EGI
CapEx Reserve	7% EGI
LTV / Amort / Rate	75% / 25yr / 5.74%

Key Outputs and Interpretation

Metric	Value	Signal	What It Means
GSI	**$39,600**	—	2 units × $1,650 × 12. Well below market for a $1.1M Toronto property.
EGI	**$37,620**	—	After 5% vacancy.
NOI	**−$8,875**	**Red**	Negative. Operating expenses of $46,495 exceed the effective income of $37,620 by $8,875/year.
Cap Rate	**−0.81%**	**Red**	Negative cap rate — the property has no income yield at current rents.
Expense Ratio	**123.6%**	**Red**	Expenses exceed income by 23.6%. This is not a rounding issue — the property has a fundamental income problem.
BEV	**0.00%**	**Red**	Clamped to zero — even at full occupancy the property loses money. There is no vacancy buffer.

Metric	Value	Signal	What It Means
DSCR	**−0.14**	**Red**	Negative — there is no income to service any debt.
Decision	**PASS**	**Red**	The analyzer returns an immediate hard Pass. No financing scenario rescues this deal at the current rent level and price.

Reading This Scenario

A negative NOI is an unambiguous Pass at the current asking price and rent level. The investor has two legitimate paths: (1) verify whether rents are substantially below market and model what the property looks like at market rents using the Rent input, or (2) calculate the price at which the deal becomes viable using the Target Purchase Price output (which will also show negative in this case — confirming the income is simply too thin at any reasonable price given current rents). This is exactly the kind of deal the analyzer is designed to filter out before any time is invested in viewings or legal review.

5 Technical Specifications and Assumptions

This section documents the mathematical and regulatory foundations behind every calculation in the analyzer. It is intended for users who want to verify the tool's methodology or understand the assumptions embedded in each output.

5.1 Income Calculation

Gross Scheduled Income (GSI)	GSI = (Units × Monthly Rent × 12) + Other Annual Income. Assumes all units rent at the entered average rate throughout the year.
Effective Gross Income (EGI)	EGI = GSI × (1 − Vacancy Rate). The vacancy rate is entered as a percentage and applied uniformly across all units.

5.2 Operating Expense Treatment

Total operating expenses are the sum of all entered cost items. Two items — Property Management and CapEx Reserve — have a mode selector:

- Percent of EGI mode: the expense scales with the effective income. Management at 8% EGI means management costs fall when vacancy is high and rise when it is low — accurately reflecting the typical management contract structure.
- Flat Annual mode: the expense is a fixed dollar amount regardless of income.

The distinction between these modes has a material effect on the Break-Even Vacancy calculation — see Section 5.5.

Expense Floor

When the Expense Floor is enabled, total operating expenses are compared to (Floor Percentage × EGI). If entered expenses are lower, the floor value is substituted and the Expense Ratio card is flagged. This is a safeguard against understated expenses, not a default behaviour — it is off by default.

5.3 Capitalisation Rate

Cap Rate = NOI ÷ Purchase Price. This is the unlevered income return on the asset, independent of financing. It is the primary metric used to compare income properties and to test pricing against market benchmarks.

5.4 Mortgage Calculations — Canadian Semi-Annual Compounding

> **Regulatory basis**
>
> Canadian fixed-rate mortgages must compound semi-annually by law, per the Interest Act, R.S.C. 1985. The nominal rate quoted by lenders (e.g. 5.49%) is a semi-annual compounding rate. This is fundamentally different from US mortgages, which compound monthly. Applying monthly compounding to a Canadian mortgage rate understates the payment amount and the DSCR denominator.

The analyzer uses the following conversion:

- Step 1 — Effective Annual Rate (EAR): EAR = (1 + nominal/2)² − 1
- Step 2 — Equivalent Periodic Rate: r = (1 + EAR)^(1/n) − 1, where n = payments per year
- Step 3 — Standard annuity formula: P = Principal × r(1+r)^N / ((1+r)^N − 1), where N = total payments

Payment frequencies and their annualisation:

Monthly	12 payments/year. Payment × 12 = annual debt service.
Biweekly	26 payments/year. Payment × 26 = annual debt service.
Accelerated Biweekly	Monthly payment ÷ 2, paid 26 times/year. Results in approximately one additional monthly payment per year, materially reducing amortization.
Weekly	52 payments/year. Payment × 52 = annual debt service.

5.5 Debt Service Coverage Ratio (DSCR)

Live DSCR	NOI ÷ Annual Debt Service. Debt service is calculated on the full insured principal when CMHC is enabled — because the premium is capitalised into the loan and is included in every payment.
Stress DSCR	Stress NOI ÷ Stress Annual Debt Service. The stress rate is max(contract rate + buffer, OSFI floor). The stress debt service is calculated on the base principal (pre-CMHC premium) — consistent with how lenders apply the OSFI B-20 qualifying test, which is applied to the original mortgage balance.
Stress NOI	Calculated by applying the three stress shocks simultaneously: rent reduced by the Rent Haircut %, vacancy increased by the Vacancy Add-on pp, and all operating expenses increased by the OpEx Increase %.
DSCR thresholds	≥ 1.25 = Green. 1.10–1.24 = Amber. < 1.10 = Red.

5.6 Break-Even Vacancy (Corrected Formula)

The break-even vacancy rate is the vacancy level at which NOI equals zero. When management and/or CapEx are expressed as a percentage of EGI, those expenses are linked to income — they fall as vacancy rises. The correct formula accounts for this linkage:

> **Break-Even Vacancy Formula**
>
> v* = 1 − opexFixed / (GSI × (1 − opexFlexRate)) Where: opexFixed = all expenses not linked to EGI (taxes, insurance, utilities, maintenance, condo, snow, admin, misc, plus any flat-mode management or CapEx). opexFlexRate = combined percentage rate of EGI-linked expenses (management % + CapEx % when both are in percent mode). When opexFlexRate = 0 (both in flat-amount mode), this reduces to the simpler form: v* = 1 − opexFixed / GSI.

The Break-Even Vacancy card meta line shows 'adj. for EGI-linked costs' whenever the flex rate is non-zero, indicating the corrected formula is active. A higher break-even vacancy means the income is more durable — the property can sustain greater vacancy before turning cash-flow negative.

5.7 CMHC Mortgage Insurance

CMHC Homeowner and Small Rental mortgage insurance applies to the following purchase parameters:

- Purchase price below $1,500,000 (cap raised from $1,000,000 effective December 15, 2024)
- Down payment less than 20% of purchase price
- 1 to 4 residential units (Homeowner and Small Rental product)
- Maximum amortization 25 years for income and investment properties
- Maximum amortization 30 years for first-time buyers or new build purchases only (effective December 15, 2024) — a +0.20% surcharge applies

Tiered minimum down payment requirement:

Purchase price ≤ $500,000	5% minimum down payment
$500,001 – $1,499,999	5% on the first $500,000 + 10% on the amount above $500,000

CMHC Homeowner and Small Rental premium rate schedule (current as of 2024–2025):

LTV Tier	Standard Premium (≤25yr)	Extended Premium (26–30yr, FTB/new build only)
Up to 65%	0.60%	*0.80%*
65.01–70%	0.90%	*1.10%*
70.01–75%	1.75%	*1.95%*
75.01–80%	2.40%	*2.60%*
80.01–85%	2.80%	*3.00%*
85.01–90%	3.10%	*3.30%*
90.01–95%	4.00%	*4.20%*

Extended premium column derived from base rate + 0.20% surcharge. Always confirm current rates at cmhc-schl.gc.ca before advising clients.

Provincial sales tax (PST) applies to the CMHC premium in Ontario (8%), Quebec (9%), and Saskatchewan (7%). PST cannot be added to the mortgage — it must be paid in cash at closing. The analyzer flags this obligation when the Location field matches these provinces and CMHC is eligible.

5.8 Composite Score and Grading

The composite score is calculated from seven weighted components. The weights depend on the Market Posture Preset:

Component	Core	Balanced	Yield
Cap Rate Spread vs Benchmark	18	26	30
Expense Ratio	22	18	16
Break-Even Vacancy	18	16	14
Bond Spread	12	12	12
NOI Margin	10	10	10

Component	Core	Balanced	Yield
Stress Cap Rate Drop	6	6	6
DSCR	14	12	12
Total	100	100	100

Each component is scored on a 0–1 linear scale between a minimum (score 0) and maximum (score 1) threshold. The weighted sum produces a raw score from 0–100. A data quality penalty of up to 20 points is deducted if critical fields (property taxes, insurance, maintenance, CapEx reserve) are missing or zero. The final score drives the grade and risk label:

Score 85–100	Grade A — Low risk
Score 72–84	Grade B — Low risk
Score 58–71	Grade C — Moderate risk
Score 0–57	Grade D — High risk

5.9 Triage Colour Thresholds

KPI Card	Good (Green)	Review (Amber)	Pass (Red)
Cap Rate	≥ 5.5%	4.5–5.49%	< 4.5%
Cap Rate Spread	≥ +0.5pp	−0.25pp to +0.49pp	< −0.25pp
Expense Ratio	≤ 40%	40–50%	> 50%
Break-Even Vacancy	≥ 12%	8–11.99%	< 8%
NOI Margin	≥ 45%	35–44.99%	< 35%
Bond Spread	≥ 2.0pp	1.0–1.99pp	< 1.0pp
DSCR	≥ 1.25	1.10–1.24	< 1.10

5.10 Implied Value and Target Purchase Price

Implied Value	NOI ÷ Benchmark Cap Rate. The price at which the property would be fairly valued given its income and the current market.
Target Purchase Price	NOI ÷ Target Cap Rate. The maximum price the investor should pay to achieve their stated return target.

5.11 Sensitivity Grid

The sensitivity grid recomputes the full income model — not just a scaling factor — for each of the nine rent-vacancy combinations. The OpEx shock is applied to all fixed and variable expenses proportionally. The DSCR row uses the same debt service calculated from the main analysis (constant across all cells) and divides it into the stressed NOI at each rent column, at base vacancy. Debt service does not change because it depends only on the loan balance and rate, not on income.

5.12 Gross Rent Multiplier

GRM = Purchase Price ÷ Gross Scheduled Income. A lower GRM means more gross income per dollar invested. GRM is a quick relative screen — it does not account for expenses or financing. It is most useful for comparing similar properties in the same submarket where expense structures are comparable.

5.13 Data Sources and Update Obligations

- CMHC premium rates: current as of the 2024–2025 CMHC Homeowner and Small Rental schedule. Rates are legislated and infrequent, but users should verify at cmhc-schl.gc.ca before advising any client.
- Benchmark cap rate: user-supplied. Source from local comparable sales data, brokerage market reports, or published cap rate surveys (CBRE, Colliers, Avison Young).
- 5-year bond yield: user-supplied. Updated daily at the Bank of Canada website (bankofcanada.ca).
- OSFI B-20 stress test floor: defaults to 5.25% — the rate in effect at time of publication. If OSFI revises this floor, update the Stress Floor field in Advanced.
- PST rates: Ontario 8%, Quebec 9%, Saskatchewan 7% on the CMHC premium. Confirm current rates with the applicable provincial revenue authority.

Final Disclosure

The CapRate Analyzer is an educational screening tool. It does not constitute investment advice, mortgage advice, tax advice, or a solicitation to buy or sell any property. Always consult a licensed mortgage professional, registered financial advisor, and qualified legal counsel before making any real estate investment decision.