Yield Maintenance vs. *HUD Step-Down*: Which Is Cheaper?

A Side-by-Side Comparison of HUD and Agency Call Protection

A common sentiment we hear from property owners comparing a HUD mortgage to a Fannie Mae or Freddie Mac mortgage is that the HUD prepayment penalty is worse. We're not sure where that came from, but once you run the math, the picture is more nuanced. When treasuries are falling and most people want to refinance, yield maintenance is more expensive. Under flat treasuries, yield maintenance is cheaper through year 4 of the loan and cheaper again in years 9 and 10 — but the HUD step-down is the cheaper form of call protection through years 5 through 7, which is the window in which sponsors most commonly evaluate a refinance or disposition.

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The sentiment that HUD prepayment penalties are worse than agency yield maintenance got traction during a long stretch of rising rates the last few years, which is the one environment where yield maintenance actually is cheaper. With rates holding steady and hopefully dropping, the math is shifting the other way now. On the loan we use throughout this paper — a **$25 million note, 5.30% rate, 35-year amortization** — the year-by-year picture under flat treasuries is roughly this: YM is cheaper through year 4, HUD is cheaper through years 5 through 7, year 8 is roughly a coin flip, and YM is cheaper again in years 9 and 10. The HUD-

wins zone in the middle happens to be the same window in which sponsors most commonly evaluate a refinance or disposition, which is the reason this matters.

01

CALL PROTECTION

How the HUD *Step-Down Works*

Most HUD loans carry some version of the standard step-down. Roughly 90% of the deals we see close with the full **10-9-8-7-6-5-4-3-2-1**, where the prepayment penalty is 10% of the outstanding balance in year 1, 9% in year 2, and steps down one percentage point each year until it hits 1% in year 10. After the tenth anniversary of the loan, there is no prepayment penalty for the remainder of the term. The percentage applies to the unpaid principal balance at the time of payoff, not the original loan amount, so the dollar amount of the penalty decreases over time both because the rate is stepping down and because the balance is amortizing.

LOAN YEAR	PENALTY %	UPB AT START OF YEAR	PENALTY AT START OF YEAR
Year 1	10.0%	$25,000,000	$2,500,000
Year 2	9.0%	$24,746,971	$2,227,227
Year 3	8.0%	$24,480,200	$1,958,416
Year 4	7.0%	$24,198,943	$1,693,926
Year 5	6.0%	$23,902,411	$1,434,145
Year 6	5.0%	$23,589,775	$1,179,489
Year 7	4.0%	$23,260,161	$930,406
Year 8	3.0%	$22,912,647	$687,379
Year 9	2.0%	$22,546,261	$450,925
Year 10	1.0%	$22,159,978	$221,600
Year 11+	0.0%	$21,752,716	$0

Alternative call protection structures are allowed and commonly requested. Instead of the full 10-9-8-7-6-5-4-3-2-1, a borrower can negotiate a Lockout-Lockout-Lockout-7-6-5-4-3-2-1, a Lockout-Lockout-4-3-2-1, a 7-8-6-5-4-3-2-1, or any number of other variations tailored to a specific business plan. The general rule is that the more favorable the call protection is to the borrower, the higher the interest rate will be. Whether it pencils depends on how likely a payoff event is within the prepayment window and what the rate add actually is at current pricing. Reach out and we'll run the side-by-side on current coupons.

The most important feature of the step-down for cash flow modeling is that the penalty in each month is **fixed at origination**. It doesn't move with treasuries, it doesn't move with credit spreads, it doesn't move with anything. If you want to know what the penalty will be in month 47 of your loan, you look at the scheduled balance in month 47 and multiply by 7%. Done.

02

AGENCY CALL PROTECTION

How Yield Maintenance *Works*

Most agency multifamily loans use some version of yield maintenance. Fannie Mae uses a yield maintenance formula directly. Freddie Mac typically uses defeasance, which substitutes a portfolio of treasuries matching the loan's remaining cash flows in place of the mortgage — structurally different, but economically very similar to yield maintenance because the cost of replacing the lender's income stream tracks the same rate math. For the rest of this paper we'll refer to both as "yield maintenance" and use the Fannie Mae calculation.

The FNMA yield maintenance formula is:

$$YM = UPB \times (Note\ Rate - Reinvestment\ Yield) \times PVA_{n,\,r}$$

Where **UPB** is the unpaid principal balance at the payoff date, **Reinvestment Yield** is interpolated from the on-the-run treasury curve between the two maturities bracketing the remaining yield maintenance period, and **PVA** is the present value annuity factor over the remaining years discounted at the reinvestment yield. The result is floored at 1% of the UPB — meaning even if rising rates would produce a zero or negative YM number, the borrower still pays 1%.

Rather than fighting through the symbolic math, walk through a concrete example. Say you have the same $25M loan at 5.30% and you want to pay it off on the loan's fifth anniversary. Your balance at that point is roughly $23.6M. The loan has a 9.5-year yield maintenance period, so there are roughly 4.5 years remaining on the YM window at that payoff. Interpolating the treasury curve between the 3-year treasury and 5-year treasury points gives you the reinvestment yield — call it 3.89% under the assumed curve. The spread between the current interest rate and the reinvestment yield is 5.30% − 3.89% = 1.41%. Apply the 4.5-year annuity factor at 3.89%, multiply by $23.6M × 1.41%, and you get roughly $1.38M of yield maintenance. That's the

mechanical calculation Fannie does. The present value factor is doing the heavy lifting — it's compensating the lender for the shortfall in yield over the remaining years, discounted back to today.

> **THE YM FLOOR**
>
> If rates rise enough that the reinvestment yield is **higher** than the note rate, the formula produces a negative number — which would theoretically pay the borrower to prepay. Fannie Mae applies a **1% of UPB floor** so that doesn't happen.

03
THE COMPARISON

What the Numbers *Actually Show*

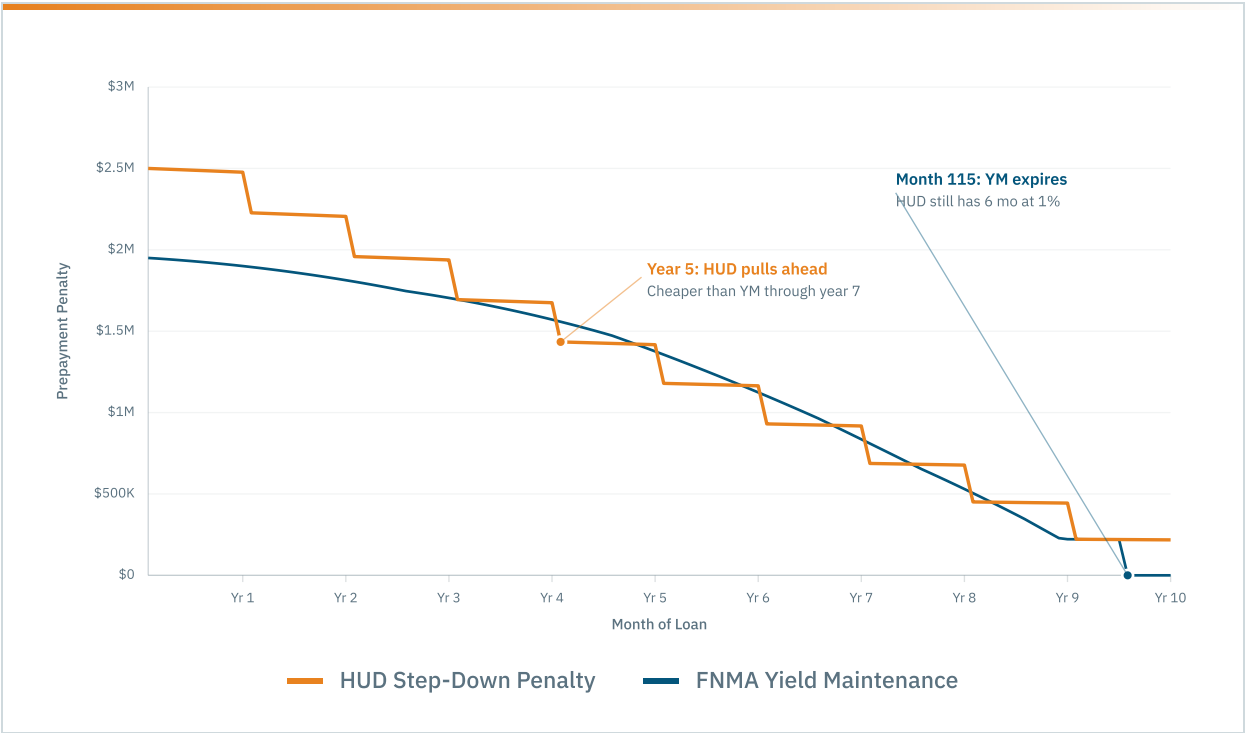
The percentage points attached to the HUD step-down — 10%, 9%, 8% — sound high, and we think that's where the bad reputation comes from. Yield maintenance doesn't quote a percentage, so it feels softer by comparison. But once you convert both to dollars against the same loan, the comparison looks different.

The assumptions below match the reference model. Every HUD dollar and YM dollar in the chart comes straight out of that model with no smoothing.

ASSUMPTION	VALUE
Loan amount (UPB at origination)	$25,000,000
Note rate	5.30%
Amortization	35 years (420 months)
HUD prepayment structure	10-9-8-7-6-5-4-3-2-1 step-down (10 years)
YM period	9.5 years (standard FNMA 10-yr loan)
Treasury curve at origination	3.71% (6mo) → 4.32% (10yr) → 4.90% (20yr)
YM floor	1% of UPB

Flat Treasuries — The Apples-to-Apples Case

The most honest comparison assumes treasuries don't move over the life of the loan. Predicting where treasuries go is not something we or anyone else should be staking borrower decisions on — if we knew, we'd be trading treasury futures. So the starting point is to run the comparison under the assumption that the treasury curve at the loan origination is the treasury curve at every payoff date.



Prepayment penalty in dollars, month by month, on a $25M loan at 5.30% with 35-year amortization. Flat treasury curve assumed from origination through payoff.

The shape of both curves is what you'd expect, but the relationship between them is the interesting part. HUD is more expensive in the early years — the 10% penalty on ~$25M is $2.50M in year 1 versus roughly $1.90M–$1.95M of YM. HUD stays more expensive than YM through all of year 4. That gap is there, but it's also largely academic — owners rarely refinance or sell a stabilized asset in the first four years of any fresh permanent loan, HUD or agency or life company. The rate was just locked, the deal was just closed, and the business plan is still running.

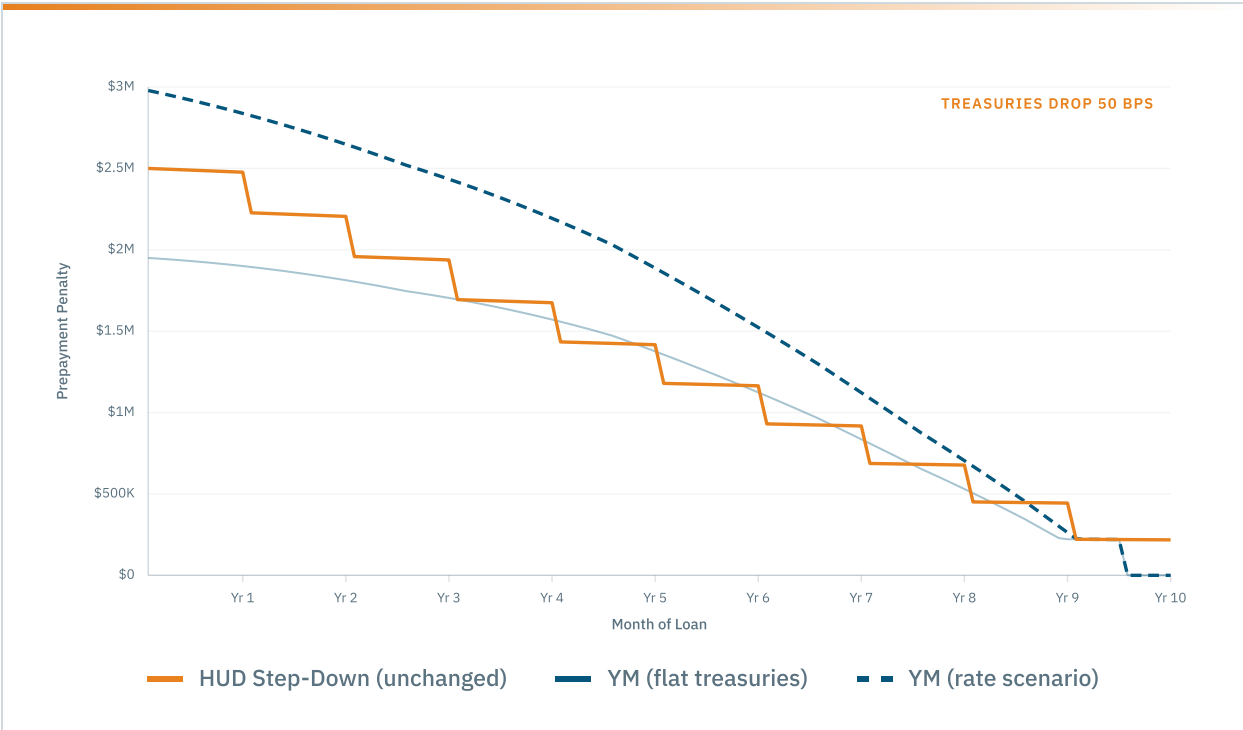
Starting in year 5, the picture flips. From month 49 (the start of year 5) through roughly month 80, HUD is consistently cheaper than YM — meaningfully so, usually by $100K–$175K depending on where in the year you measure. Inside each of those middle years you can see a sawtooth on the gold line: the HUD penalty holds at a fixed percentage (e.g. 6%, then 5%, then 4%) of a slowly-amortizing balance, then steps down at the next anniversary. YM declines smoothly because the annuity factor shrinks continuously. The result is that **YM catches up at the very end of each year**, right before the next HUD step-down — specifically the last few months of years 5 through 7. In practice, if a borrower is within a few months of an anniversary, they almost always wait for the next drop rather than pay the higher percentage.

Year 8 is roughly a coin flip — HUD wins the first half of the year, YM wins the second half as the remaining YM period gets short enough that the rate-differential × annuity-factor calculation collapses below the 1% floor. From that point on, YM is effectively locked at 1% of UPB, and that's what makes it cheap relative to the HUD step-down that's still stepping down through 2% and 1%.

Through years 9 and 10, YM is cheaper. Said differently, once you're in years 9 or 10, many borrowers simply elect to wait out the end of the prepayment period rather than pay either penalty — the window is short enough that a delayed refi or sale is usually the cleaner outcome.

What if Treasuries Move?

Flat treasuries is a clean analytical baseline, however, it is not the real world. So it's worth looking at what happens to the YM penalty if the reinvestment yield moves after rate lock. The HUD line doesn't change, no matter what treasuries do. The YM line moves meaningfully. Click the two buttons below to toggle between treasuries moving up 50 basis points or down 50 basis points.



Dashed blue line shows YM under the selected rate movement; solid blue shows YM under flat treasuries for reference. HUD step-down in gold does not move with rates.

A NOTE ON THE RATE-MOVEMENT ASSUMPTION

These charts assume the 50 bp treasury movement happens **all at once, on day one** of the loan, and holds through the prepayment period. In reality, treasuries move gradually. If the 50 bp shift instead occurred evenly over the 10-year window, the dashed YM line would land much closer to the solid flat-treasuries line in each chart. Treat the scenarios as stress tests at the outer edge of plausible rate paths, not as base-case expectations.

If treasuries **drop 50 bps** after rate lock, the reinvestment yield in the YM formula drops, the rate differential widens, and yield maintenance gets materially worse. HUD now beats YM across every month of years 1 through 8, typically by $400K–$600K. Years 9 and 10 still tilt toward YM, but by smaller margins than under the flat case. This is the scenario a borrower is exposed to if they lock a loan and then the economy softens — the call protection tightens on the agency side just when a sponsor would most want the flexibility to refinance.

If treasuries **rise 50 bps** after rate lock, the reinvestment yield rises, the rate differential narrows, and YM bottoms out at the 1% of UPB floor for most of the loan term. In this scenario YM is cheaper than the HUD step-down in every month of every year — roughly $1.5M cheaper at year 1, $500K cheaper at year 5, and still meaningfully cheaper through year 9. In a material rising-rate environment, yield maintenance is the cheaper form of call protection. This is precisely the window — 2022-2025, broadly — during which the sentiment that "HUD prepayment is worse" became entrenched.

> TWO POINTS WORTH MAKING CLEAR
>
> **(1)** The HUD step-down is identical in every rate scenario. Nothing in these charts changes the gold line.
>
> **(2)** Under today's forward curve expectations — where most borrowers we talk to are pricing in stable-to-lower rates over the medium term — the HUD step-down is either roughly even with or meaningfully cheaper than YM across the prepayment window.

04

BEYOND PRICE

The Other Reason Borrowers *Prefer the Step-Down*

Price aside, the HUD step-down has a second advantage that doesn't show up in any single-scenario chart: certainty. When you're building the cash flow model for a deal, you know in month 1 exactly what the prepayment penalty will be in months 13, 36, 60, and 84. It's the outstanding balance times a known percentage. That number goes straight into your IRR sensitivities for a refinance-at-year-5 case, a sale-at-year-7 case, or whatever disposition scenarios you're running.

Yield maintenance can't be modeled that precisely because it depends on what treasuries do between now and the payoff date. Sophisticated sponsors handle this by running YM scenarios at plus and minus 50 or 100 bps — which is useful, but it's still a range rather than a number. The step-down gives you a number. For sponsors whose capital stack models depend on confident IRR projections to close with investors, that certainty has real value independent of expected cost.

This is also why the step-down is helpful in asset-sale underwriting on the buyer side. A buyer assuming the existing HUD debt knows exactly what call protection is in place at any future point. A buyer assuming Fannie paper with YM needs to model a rate path.

05

A RELATED TOOL

223(a)(7) and Interest *Rate Reduction*

One more thing worth flagging on the topic of HUD prepayment, because it changes the practical calculus of being in HUD paper when rates fall. HUD has two streamlined refinance products — the **HUD 223(a)(7) streamlined refinance** and the **HUD Interest Rate Reduction (IRR) loan modification** — that are specifically designed to let an existing HUD borrower capture a rate drop without writing a check for the prepayment penalty. Both allow the existing prepayment penalty to be rolled into the new loan rather than paid in cash at closing. The 223(a)(7) is a full refinance into a new HUD loan; the IRR is a modification of the existing loan's rate without re-originating the note (read about the 223(a)(7) and IRR here).

That combination — a step-down penalty that is often the cheaper form of call protection, plus two streamlined HUD-to-HUD products that let you restructure without coming up with cash for the penalty — is a better deal than the conventional wisdom suggests.

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FREQUENTLY ASKED

Common Questions on *HUD vs. Agency Prepayment*

What is the standard HUD prepayment penalty structure?

Most HUD multifamily loans carry a two-year lockout plus eight-year step-down, or more commonly the full 10-9-8-7-6-5-4-3-2-1 step-down with no lockout. Under the full step-down, the prepayment penalty is 10% of the outstanding balance in year 1, 9% in year 2, and declines by 1% each year until it reaches 1% in year 10. After the tenth anniversary of the loan, there is no prepayment penalty. Alternative call protection structures — lockout-lockout-lockout-7-6-5-4-3-2-1, lockout-lockout-4-3-2-1, 7-8-6-5-4-3-2-1, and others — can be negotiated in exchange for a higher interest rate.

Is the HUD prepayment penalty worse than yield maintenance?

Under flat treasury assumptions, the comparison is year-dependent. Yield maintenance is cheaper than the standard HUD 10-9-8-7-6-5-4-3-2-1 step-down through roughly year 4 of the loan, HUD is cheaper through years 5 through 7 (though YM catches up in the last few months of each year, right before the next HUD step-down), year 8 is roughly a coin flip, and YM is cheaper again in years 9 and 10. The HUD-wins window in the middle is the same period in which sponsors most commonly evaluate a refinance or disposition. If treasuries rise after rate lock, YM floors at 1% of UPB and becomes the cheaper option throughout the loan. If treasuries fall, YM gets materially more expensive and HUD dominates years 1 through 8.

Does a HUD 223(f) loan have a prepayment penalty?

Yes. A 223(f) refinance carries the same call protection as the other HUD multifamily programs — most commonly the full 10-9-8-7-6-5-4-3-2-1 step-down, or a two-year lockout followed by an eight-year step-down. The penalty is a percentage of the outstanding balance that declines by 1% each year and disappears entirely after the tenth anniversary. The same alternatives are available on a 221(d)(4), and either can be negotiated in exchange for a higher rate.

Can I negotiate a different HUD prepayment structure?

Yes. Alternative call protection schedules — including lockout-lockout-lockout-7-6-5-4-3-2-1, lockout-lockout-4-3-2-1, and 7-8-6-5-4-3-2-1, among others — are allowed. The rate-to-penalty tradeoff is real: a more borrower-favorable schedule generally comes with a higher interest rate. Current pricing on those tradeoffs moves with market conditions, so reach out and we'll quote them on current pricing.

Can a HUD prepayment penalty be waived or refinanced without paying cash?

Yes, under HUD's two streamlined refinance products — the 223(a)(7) streamlined refinance and the HUD Interest Rate Reduction (IRR) loan modification — an existing HUD borrower can refinance or recast into a lower interest rate and finance the prepayment penalty on the existing HUD loan into the new loan, without having to pay the prepayment penalty in cash. These products are available only when refinancing an existing HUD loan into another HUD loan; they cannot be used to exit HUD for a non-HUD lender.

How is Fannie Mae yield maintenance calculated?

The reinvestment yield is interpolated between the two on-the-run treasury maturities bracketing the remaining yield maintenance period. For example, at 4.5 years remaining, the calculation interpolates between the 3-year and 5-year treasury yields. At 8 years remaining, it interpolates between the 7-year and 10-year. The reference is H.15 as published by the Federal Reserve — federalreserve.gov/releases/h15/.

What happens to yield maintenance if rates go up a lot?

Yield maintenance hits a 1% of UPB floor. Even if the reinvestment yield exceeds the note rate — which would mathematically produce a zero or negative YM — Fannie Mae applies the 1% floor so the borrower still pays something.

Why does the 10-year FNMA yield maintenance period end at 9.5 years?

Standard FNMA multifamily notes close the prepayment window 6 months before the stated maturity. This is to give the borrower time to refinance or sell before the hard loan term stop. Since HUD is fully amortizing at either 35 or 40 years with no shorter term, HUD loans with a standard 10-year step-down carry the 1% penalty through the final month of year 10, so HUD's prepayment window is 6 months longer than Fannie's. At the end of the prepayment period, that structural difference is why YM becomes cheaper.

What's the difference between yield maintenance and defeasance?

Economically, very little. Defeasance (used commonly on Freddie loans) requires the borrower to purchase a portfolio of treasuries whose cash flows match the remaining payments on the loan and substitute that portfolio as the collateral for the note. Yield maintenance (used on Fannie loans) requires a cash payment equal to the present value of the lender's lost interest income. The two prices track each other closely because they're both anchored to treasury yields over the remaining term. For purposes of comparing HUD against agency prepayment, we treat them as equivalent.

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HUD/FHA Multifamily Origination — Centennial Mortgage, Inc.

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