CRE Development 101

Understanding Commercial Real Estate Development Economics

Aaron Graves, Narberth Planning Commission | June 2026

Overview

Agenda

Three parts, one framework — by the end you will speak the language of development underwriting.

Part I Slides 3–7

CRE Math Fundamentals

- Real estate's Illiquidity premium
- The Capital Stack
- Net Operating Income (NOI)
- Cap Rates
- Yield on Cost (YOC) & Feasibility

Part II Slides 8–13

Why Development Is Harder Today

- The four headwinds
- NOI growth trends, 2021–2026
- Construction cost inflation
- Interest rate shock
- Cap rate expansion (values decline)

Part III Slides 14–21

Development Example, Density vs. Feasibility, and Workforce Housing Tradeoff

- Project assumptions & rent comps
- Density — why the math improves
- Fixed cost dilution / Incremental YOC
- The workforce-housing tradeoff
- Other policies, tools, & considerations

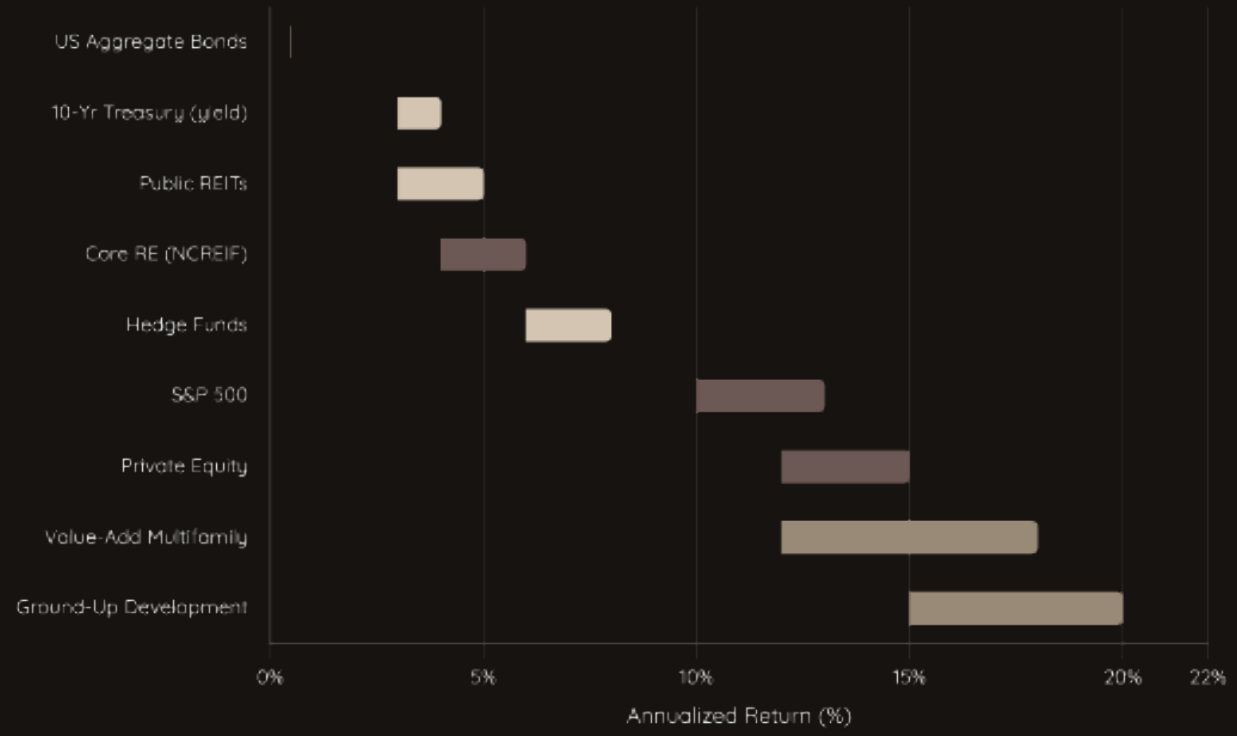
Asset Class Comparison · 2021–2026

Real Estate's Illiquidity Premium

Real estate demands a higher return because it carries illiquidity, leverage, and execution risk that liquid alternatives do not — and the 2021–2026 cycle shows exactly why that premium is earned.

- **US Aggregate Bonds ~0.5% annualized** — Hurt by the 2022 rate shock, the worst bond year since 1926
- **S&P 500 ~10–13% annualized** — with volatility: +28% (2021), −18% (2022), +26% (2023), +23% (2024)
- **Value-Add Multifamily targets 12–15% IRR** — premium compensates for illiquidity, active management, and capital risk during renovation
- **Ground-Up Development targets 15–20% IRR** — highest execution risk: entitlement, construction, and lease-up must all succeed
- Real estate IRR targets are **not windfalls** — the minimum return required to justify capital lock-up and hands-on execution vs. a diversified, more liquid portfolio

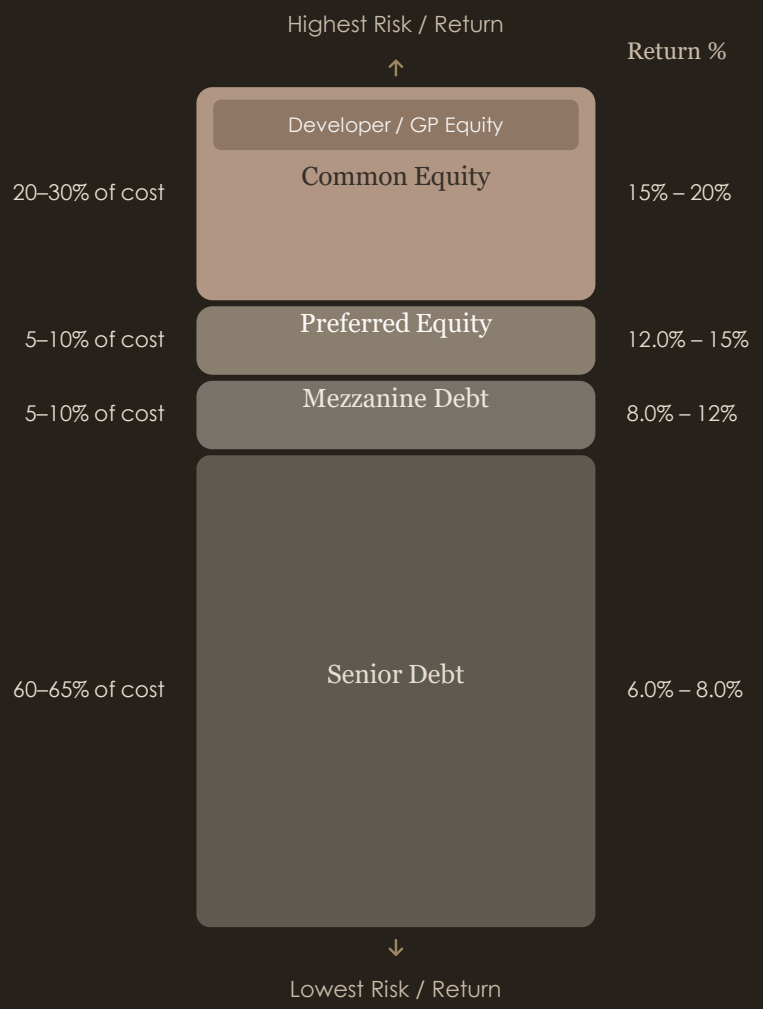
Annualized Return Ranges by Asset Class



Source: Internal analysis based on public market data and industry benchmarks

The Capital Stack

Every development project is financed by a stack of capital
Each layer carries a different risk profile, return expectation, and priority claim on the asset.

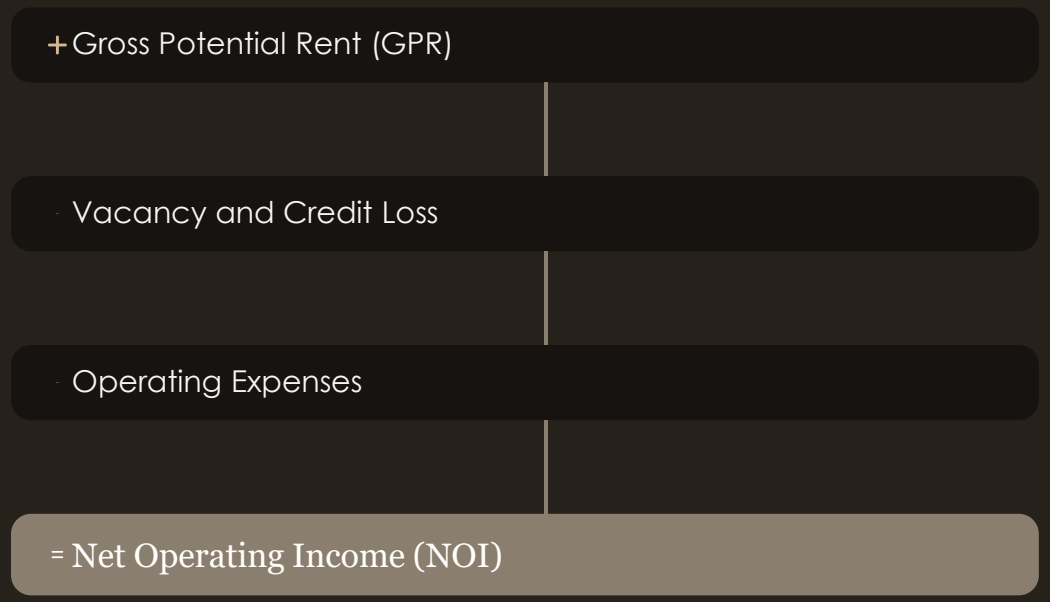


- **Developer / GP Equity**
  Developer's invested capital — last in, first to lose, highest potential return. Controls the deal.
- **Common Equity (LP)**
  Passive limited-partner capital — provides the bulk of common equity, shares in the upside, but holds no operational control.
- **Preferred Equity** ~5–10%
  Equity with a preferred return hurdle — ranks ahead of common equity but behind all debt; fills the capital gap.
- **Mezzanine Debt** ~5–10%
  Subordinate debt sitting between senior and equity — fills the leverage gap at a higher rate than senior.
- **Senior Debt** ~60–65%
  Bank construction loan — first lien on the asset, lowest interest rate, paid first in liquidation.

Net Operating Income (NOI)

NOI is the heartbeat of every CRE valuation — the income a property generates after paying operating costs, before debt service.

NOI Formula Waterfall



Property-Level, Not Owner-Level

NOI excludes mortgage payments entirely — it measures the property's earning power independent of how it is financed.

The Universal CRE Metric

NOI drives value and every feasibility test in development underwriting

Cap Rates

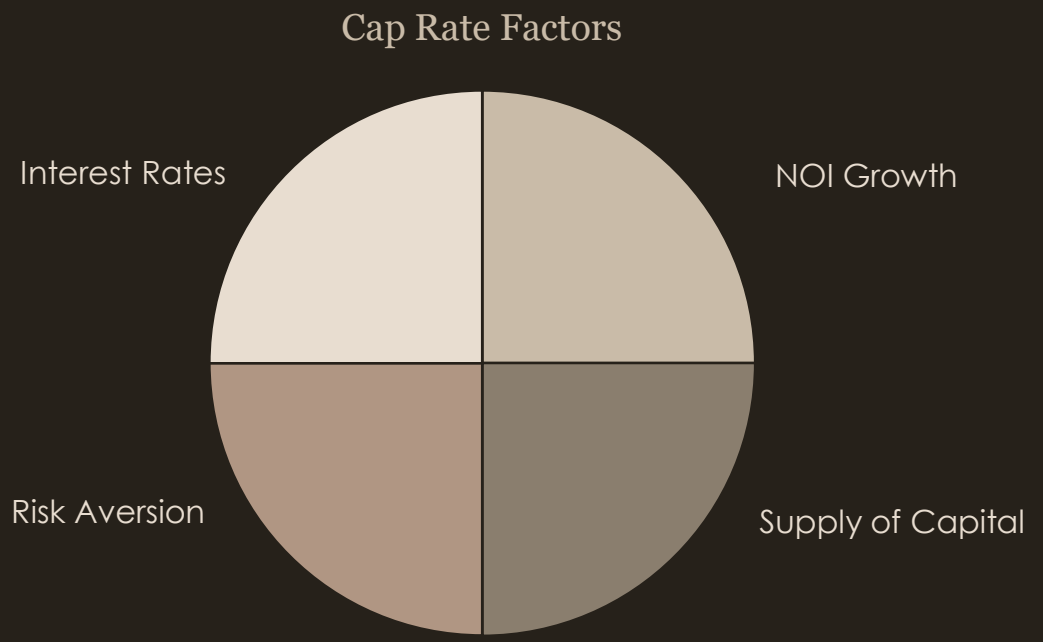
The cap rate converts a property's income / NOI into a market value — it is the market's rate of return on an unlevered asset.

Cap Rate = NOI ÷ Property Value

VALUE = NOI ÷ Cap Rate

Cap Rate as Market Signal

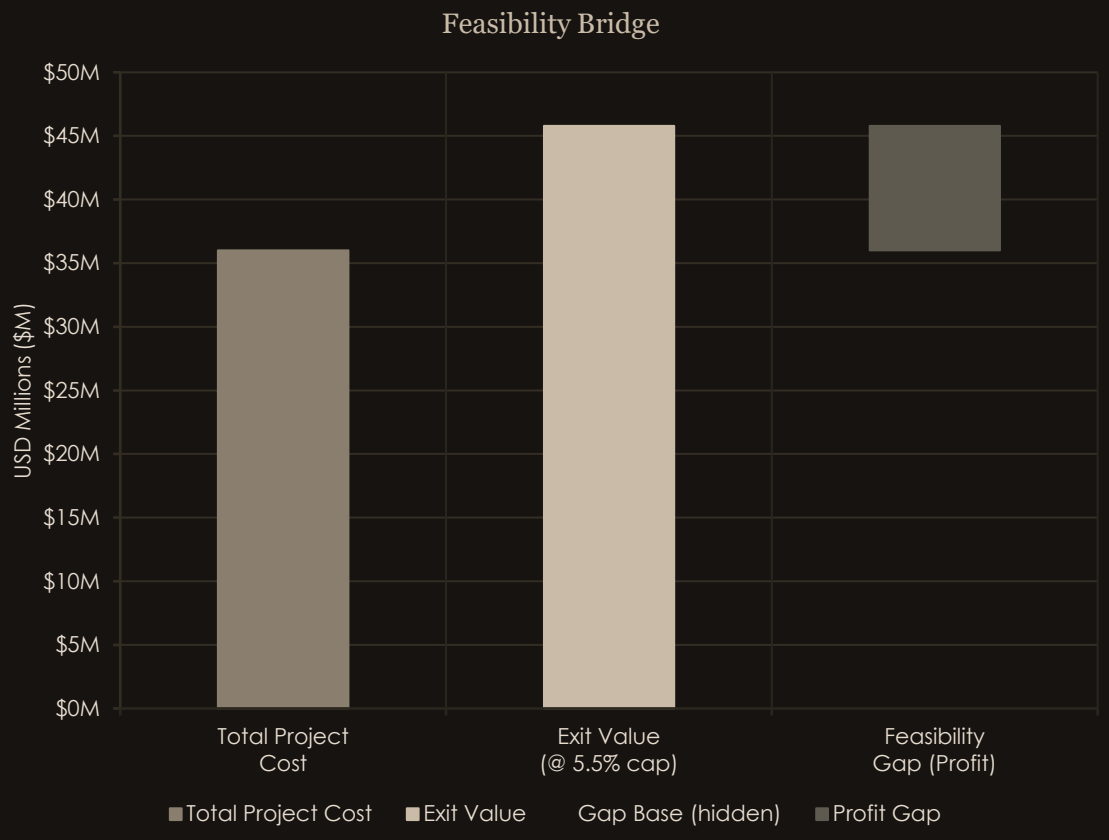
- Low cap rate → high demand, low yield expectation (e.g., ~4.0%-4.5% in 2021)
- High cap rate → weaker demand, higher yield requirement (e.g., ~5.5% in 2026)



Multifamily Avg Cap Rate Estimate 2Q 2026

5.5%

vs. ~4.0%-4.5% in 2021 — 100 - 150 bps expansion



Source: Cap Rates for Apartment/Multifamily Properties 2026

Yield on Cost | Feasibility Gap

Yield on Cost and the feasibility gap answer the same question two ways — does the finished asset create more value than it cost to build? The percentage spread (YoC − exit cap) and the dollar gap (exit value − cost) move together.

Formula

- **Yield on Cost** = Stabilized NOI ÷ Total Project Cost
- **Development Spread** = YoC − Exit Cap | Feasibility Gap = Exit Value − Total Cost
- 7.0% YoC vs 5.5% cap = +150 bps → $45.8M − $36.0M = **+$9.8M**

Value Created vs. Value Destroyed

- **Value-creating**: YoC above exit cap (e.g. +100 bps) — worth more than build cost
- **Value-destroying**: YoC below exit cap (e.g. −30 bps) — costs exceed value
- Rule of thumb: a **100–200 bps** spread justifies construction risk

$45.8M	$36.0M	+$9.8M
2026 Exit Value (NOI ÷ 5.5% cap)	2026 Total Project Cost	Feasibility Gap (Profit)

Headwinds

The development economics of 2021 no longer exist — four simultaneous headwinds have fundamentally reset the feasibility calculus.

NOI Margin Pressures
Operating expenses outpace rent growth; NOI margins compress

Construction Cost Inflation
Higher project basis; same NOI covers a smaller cost

Rising Interest Rates
Higher cost of capital; debt service consumes more cash flow

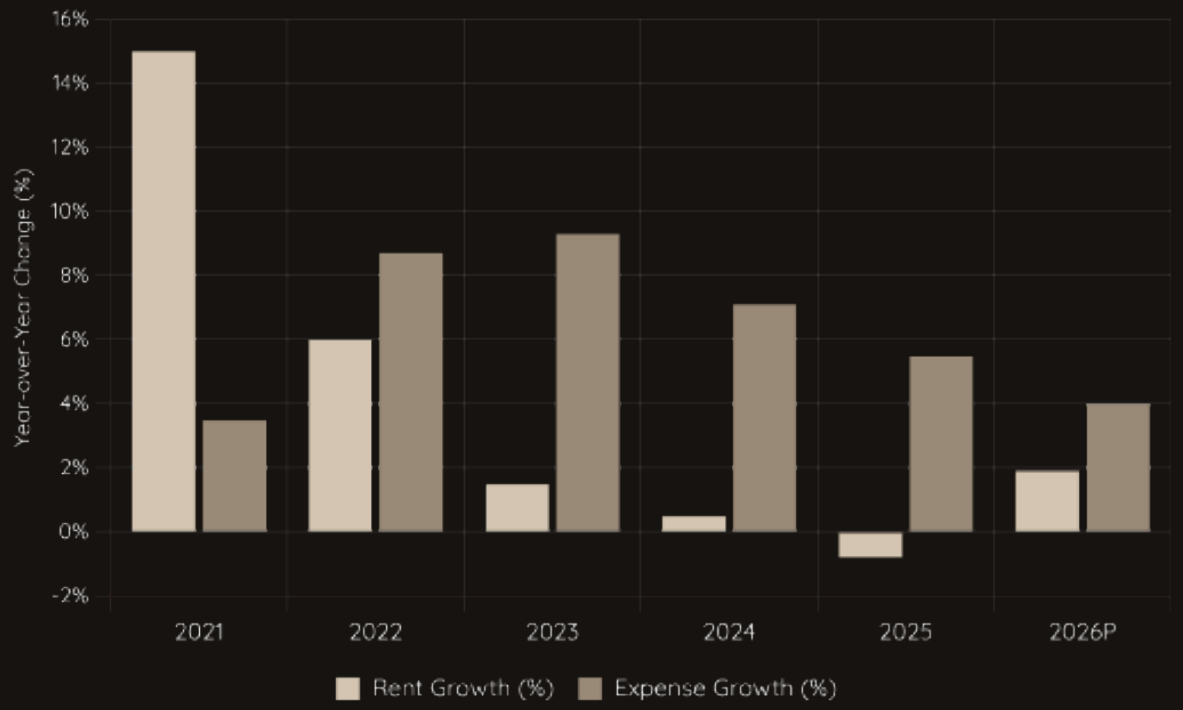
Cap Rate Expansion = property values decline
Lower exit values; the same income stream is worth less at sale

The Compound Effect

Each headwind alone is manageable. Together, they create a feasibility gap.

Four converging forces have stalled billions in planned development — raising borrowing costs, inflating project basis, compressing exit values, and squeezing operating margins simultaneously.

NOI Growth Drivers by Year, 2021–2026



Sources:

Analyzing Multifamily Financial Performance Across th...

Multifamily Expenses Increase Above-Trend Levels, Rep...

U.S. Multifamily Market Snapshot — February 2026

Annual NOI Growth — What the Numbers Show 2021–2026

The NOI story is one of strong early gains eroded by a multi-year squeeze — with a recovery now underway as supply pressures ease.

2021 Strong NOI growth driven by 15% rent gains, with expenses still below trend — the high-water mark for income performance. [1]

2022 Rent growth remained strong (~6%) but expenses surged 8.7%, eroding the spread; cap rate expansion began compressing valuations. [2]

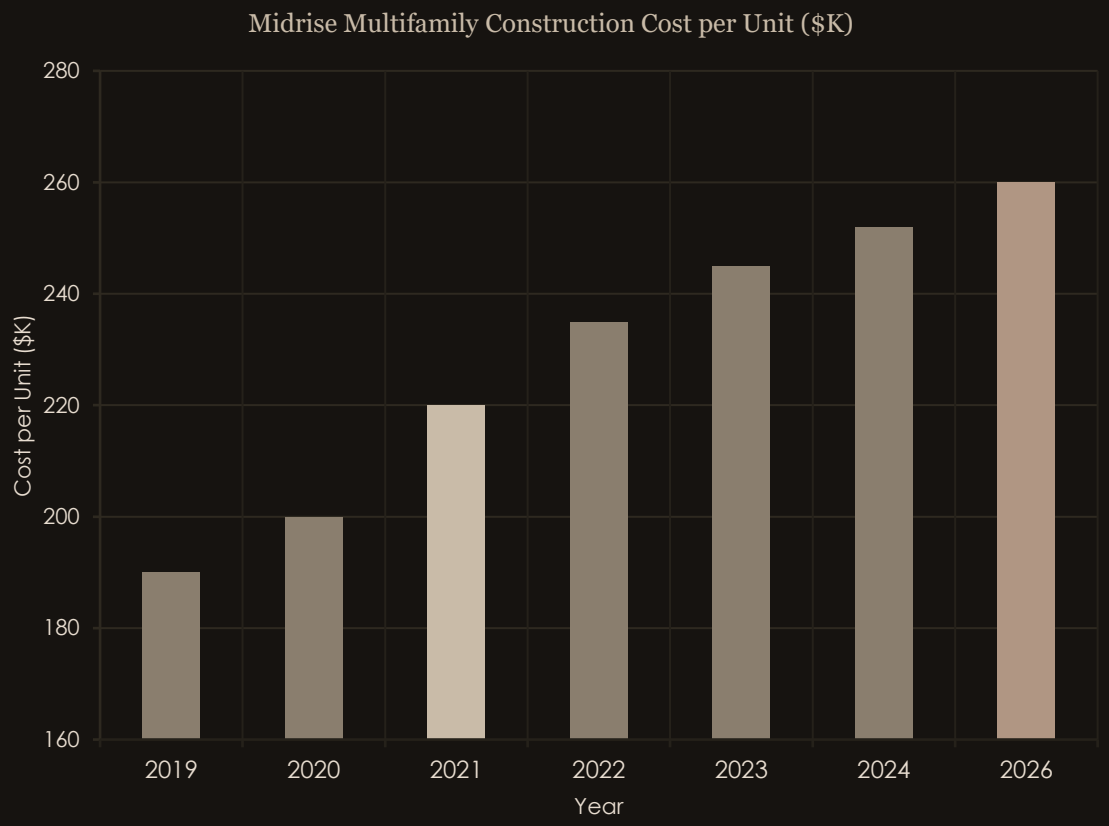
2023 Expense growth accelerated to 9.3% mid-year while rent growth fell toward 1%–2%, squeezing NOI margins across most markets. [3]

2024 Per-unit NOI remained nominally positive (+$463/unit) as of January, but vacancy rose and effective rent growth approached zero in high-supply markets. [2]

2025 Effective rent growth turned negative (–0.8%); investment volume reached $165.5 billion — a three-year high — as investors looked past near-term headwinds. [8]

2026 Rent growth stabilizing at ~1.0% nationally with projections of 1.9% by year-end; expense growth decelerating; occupancy near 95% — conditions for NOI recovery building. [4] [7]

Headwind 2 — Construction Cost Inflation



Source: Industry benchmarks — midrise multifamily construction cost estimates

Hard construction costs have increased substantially since 2020, driven by labor shortages, supply chain disruptions, and persistent materials cost increases — raising the bar for every project's NOI requirement.

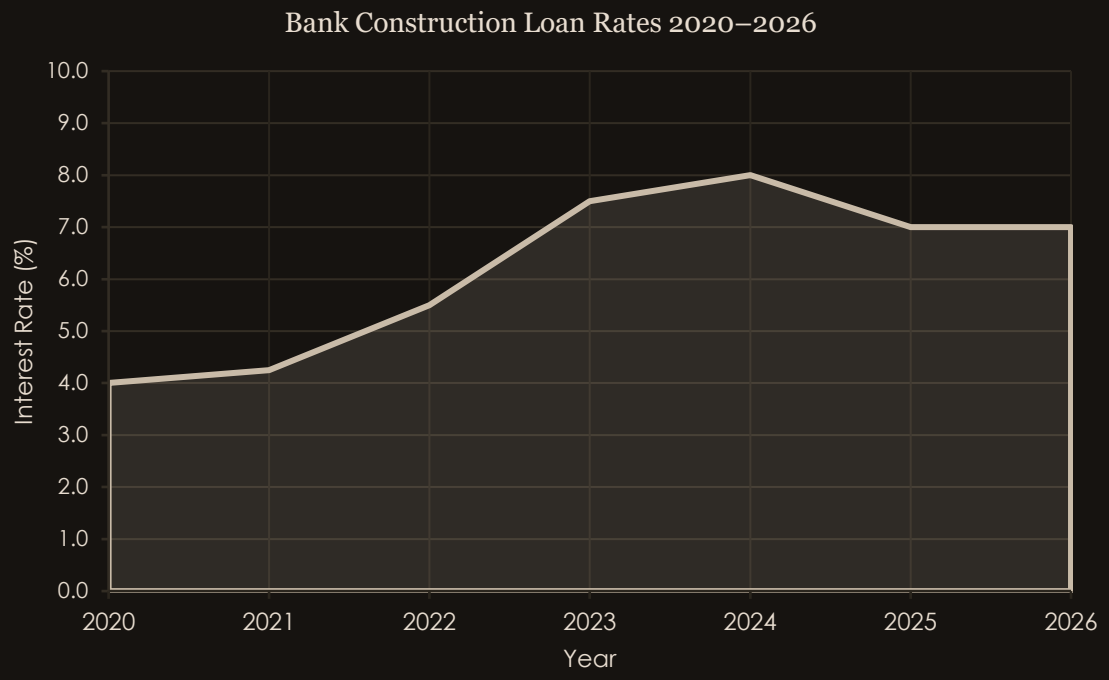
- 2019 baseline:~$180–200K/unit (midrise multifamily)
- 2021:~$210–230K/unit
- 2026:~$260K/unit average for midrise multifamily ($200-$260 PSF)
- Cumulative increase 2021–2026: approximately 15–25%
- Drivers: labor market tightness, lumber and steel price volatility, incomplete supply chain normalization, tariff uncertainty 2025–2026

+15–25%	~$260K	$30K
Cost increase 2021 → 2026	Cost per unit 2026 midrise avg	Per-unit increase since 2021

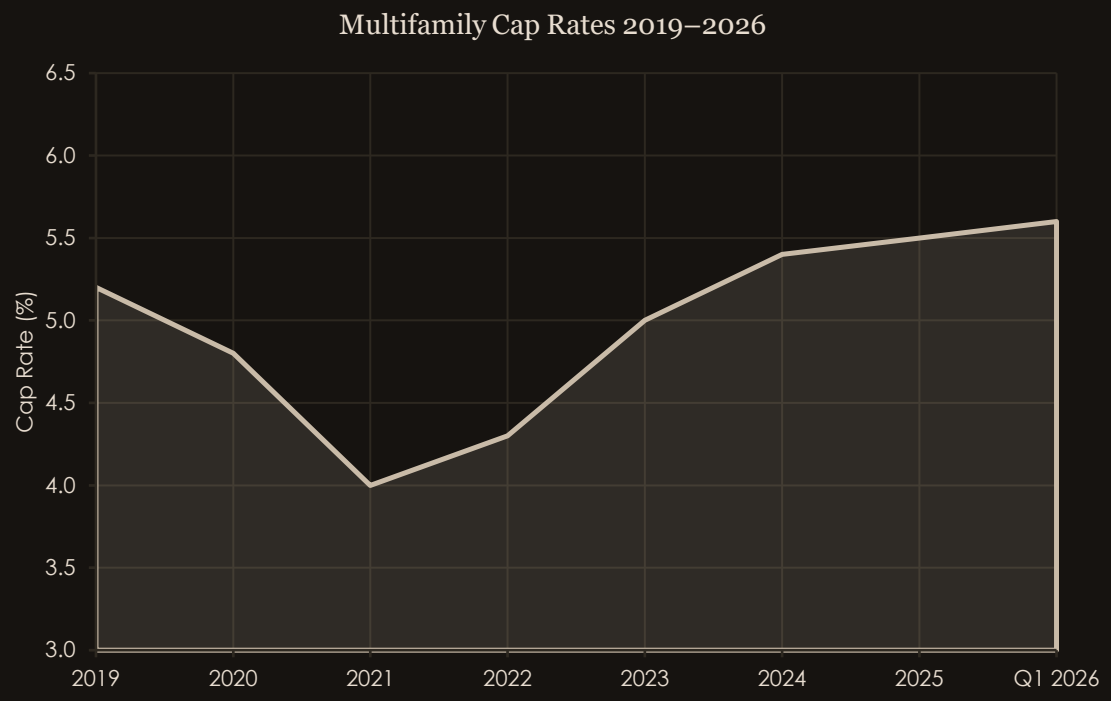
Soft costs (design, permits, financing, legal) and Land cost typically add **25%–35%** to hard costs, bringing all-in basis to ~ **$325,000–$400,000 per unit**

Headwind 1 — Interest Rate Shock

Construction loan rates have nearly doubled from 2021 lows, inverting the spread between borrowing cost and asset yield.



- 2021 benchmark: construction loans ~4.0%
- June 2026: construction loans 6.0–7.0%
- Higher interest rates reduce loan proceeds (via DSCR constraints), forcing more equity into deals
- Higher interest rates increase cost basis, stressing Project feasibility



Source: Cap Rates for Apartment/Multifamily Properties 2026

Headwind 3 — Cap Rate Expansion

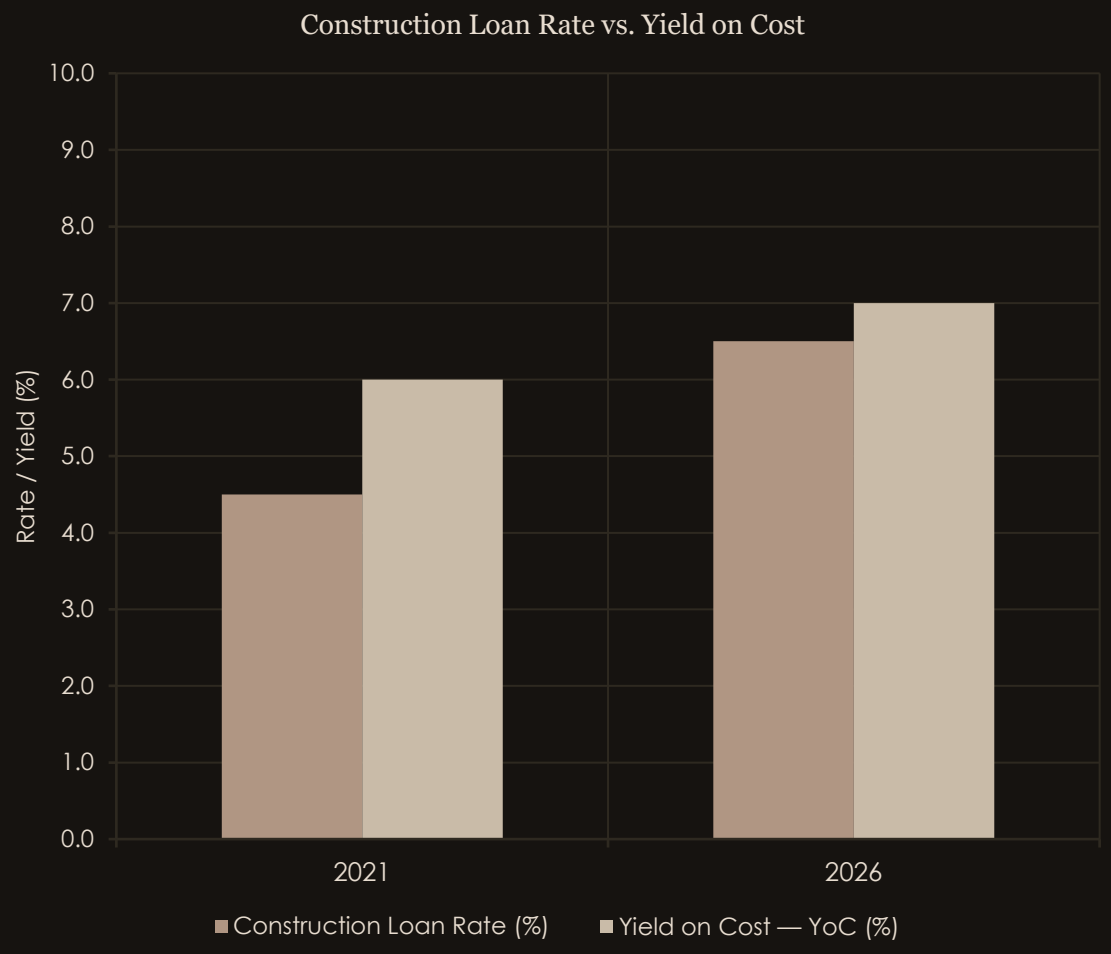
As interest rates rose, investors demanded higher yields — pushing cap rates up and compressing the value created by any given income stream.

4.0% – 4.5% 2021 multifamily cap rate — historic low

5.5% Q2 2026 multifamily all-class average estimate

Value Destruction on Identical Income (NOI $2MM)

- At 4.5% cap → exit value $44.5MM
- At 5.5% cap → exit value $36.5MM
- ↘ Delta: −$8MM in exit value (18% decline)
  The project did not change; the market repriced it



Negative leverage is the defining challenge of 2026 CRE development — the math forces developers to optimize every unit of efficiency.

Leverage and Returns — Positive, Neutral, and Negative leverage

Leverage amplifies returns when borrowing costs are below asset yields — but when that relationship inverts, leverage destroys equity value.

Positive Leverage — 2021

Construction loan rate: **~4.5%** | YoC: **6.0% - 6.5%** | Spread: **150 - 200 bps**

Debt is cheaper than the asset earns — equity returns are amplified.

Neutral Leverage — 2026

Construction loan rate: **6.0% - 7.0%** | YoC: **6.75% - 7.0%** | Spread: **0 to 75 bps**

Cost of debt is at (or slightly below) asset yield and debt service erodes equity returns.

Negative Leverage — Late 2025

Construction loan rate: **7.75% - 8.25%** | YoC: **6.75%+** | Spread: **−100 to −150 bps**

Cost of debt exceeds asset yield — debt service erodes equity returns and cash-on-cash turns negative.

Part III — Development, Density & Workforce Housing

Where the Math Comes Together

A hypothetical project example, why density improves feasibility, and the trade-off it creates.

The Development Example

A 40-unit project — assumptions, rent comps, and budget

Density vs. Feasibility

Why adding units improves the math — fixed-cost dilution lifts yield on cost

The Workforce-Housing Trade-off

Balancing affordability against the returns that make a project pencil

The Through-Line

Density helps make the math work in Today's Real Estate Market

A concrete development example shows why greater density dilutes fixed costs and lifts yield on cost — then weighs the workforce-housing trade-off it creates.

PART II — THE ECONOMICS

40-Unit Project — Key Assumptions Summary

A snapshot of the underwriting assumptions: program, costs, income, expenses, financing, and return targets — all on one page.

Project Program

Total Units	40 apartments
1BR Units	30 (765 SF avg)
2BR Units	10 (1,150 SF avg)
Retail	1 unit @ 2,500 SF
Total Building SF	39,230 SF
Building Form	4-Story

Construction Budget

Land Cost	$1,800,000 $45k / unit
Hard Cost	$10,710,000
Hard Cost / Unit	$267,750
Soft Cost	$2,449,650
Financing & Reserves	$1,034,389
Total Project Cost	**$16,013,422**
TPC / Unit / SF	$400k / Unit | ~ $400 PSF

Operating Assumptions

Avg 1BR Rent	$2,650/mo
Avg 2BR Rent	$4,000/mo
Blended Rent	$3.47/SF
Other Income (RUBS)	$150/u/mo
Vacancy	5% res / 10% retail
Total OPEX	**$11,600 per unit / 30% EGR**
NOI	**$1,050,000**

$10.4M
Senior Loan (65% LTC @ 6.5%)

6.60%
Yield on Cost

+110 bps
Development Spread (vs 5.5% Cap)

Narberth & Submarket Rent Comparables

Five comparable apartment communities anchor underwriting and top line rent revenue
Source = CoStar and Property websites

	1-Bedroom			2-Bedroom		
Property	**Rent**	**SF**	**$/SF**	**Rent**	**SF**	**$/SF**
The Elm	$2,830	882 SF	$3.21	$4,271	1,312 SF	$3.26
Narberth Square	$2,950	739SF	$3.99	$3,995	1,146 SF	$3.49
The Maybrook	$2,458	822 SF	$2.99	$3,968	1,185 SF	$3.35
Lofts at Narberth Station	$2,238	706 SF	$3.17	N/A	—	—
The Lorraine / Station Circle	$2,040	582 SF	$3.51	$3,390	1,043 SF	$3.25
Averages	**$2,503**	**746 SF**	**$3.35**	**$3,906**	**1,172 SF**	**$3.33**

Density— Why the Math Improves

Adding 1 story / 10 apartments spreads the same land and soft costs over more units and increases return on investment – making a feasibility difference

Metric	4-Story (40u)	5-Story (50u)	Δ Change
PROGRAM			
Total Apartments	40	50	**+10**
Land Cost Estimate (FIXED)	$1,800,000	$1,800,000	**$0**
Land Cost / Unit	$45,000	$36,000	**–$9,000 (–20%)**
DEVELOPMENT COST			
Hard Costs	$10,710,000	$13,260,000	+$2,550,000
Soft Costs	$2,449,650	$2,560,000	+$110,350 (+4.5%)
Total Project Cost	$16,013,422	$18,710,000	+$2,696,578
Cost / Unit	$400,335	$374,200	**–$26,135 (–6.5%)**
OPERATING ECONOMICS			
Effective Gross Revenue	$1,532,100	$1,865,550	**+$333,450**
Total Operating Expenses	$464,463	$541,967	+$77,504
Op Ex Ratio	30.3%	29.05%	**–125 bps**
Stabilized NOI	$1,067,637	$1,323,583	**+$255,946**
VALUATION (@ 5.5% Cap)			
Residual Value	$19,023,350	$24,074,236	**+$5,050,886**
Yield on Cost	**6.60%**	**7.01%**	**+41 bps**
Development Spread	**+110 bps (too thin right now)**	**+151 bps (feasible)**	**+41 bps**

Density Advantage

Building one more story can improve feasibility — by spreading fixed costs across more revenue-generating units and lowering the per-unit cost basis.

The Core Question

If land, design, and fixed site costs are already committed — what does one additional floor truly cost versus what it earns?

The answer reveals one of the levers in development economics: fixed cost dilution

Fixed Cost Dilution

Land, design fees, permits, and site work are largely fixed regardless of story count — adding a floor spreads these costs across more units, compressing per-unit basis.

Costs that do not incrementally scale with additional Floors

- **Land acquisition**
- **Site work, grading, and utility connections**
- **Architecture and engineering fees** (majority of scope)
- **Permits, entitlements, and impact fees**
- **Financing costs** allocated to fixed work
- **Hard construction per floor** — structure, MEP rough-in, finishes
- **Operating Expenses** (R&M, G&A, Marketing, etc) spread across more units, boosting NOI

4-Story Basis

$400K

per unit

5-Story Basis

$374K

per unit

Fixed cost dilution lowers basis **by $26K** / unit

Marginal 5th-Floor Economics

Incremental NOI

+$256K

÷

Incremental Cost

+$2.7MM

=

Incremental Yield on Cost

9.4%

Incremental NOI ÷ Incremental Cost

The 5th floor carries only its **marginal construction cost** — not the land and fixed cost burden already absorbed by floors 1–4. This is why cost per unit declines when moving from 4 to 5 stories.

5-Story (Market) vs. 5-Story + 10% Workforce Housing

Reserving 5 of 50 apartments for workforce households at $1,850/mo costs the project 24 basis points of return — a modest concession that opens the door to Borough approval and meaningful community benefit.

Metric	5-Story (Market)	10% @ 80% AMI	Δ Change
PROGRAM			
Total Apartments	50	50	Same
Market Rate Units	50	45	−5
Workforce Units (~80% AMI)	0	**5 (at $1,850/mo)**	**+5**
REVENUE			
1BR Market Rent	$2,650/mo	$2,650/mo	Same
Workforce Rent	—	**$1,850/mo**	**New**
Annual Apartment Rental Income	$1,752,000	$1,704,000	**−$48,000**
Effective Gross Revenue	$1,865,550	$1,819,950	**−$45,600**
OPERATING ECONOMICS			
Total Operating Expenses	$541,967	$540,599	−$1,368
Stabilized NOI	$1,323,583	$1,279,351	**−$44,232**
VALUATION (@ 5.5% Cap)			
Total Project Cost	$18,710,000	$18,710,000	$0
Residual Value	$24,074,236	$23,260,927	**−$813,309**
Yield on Cost	**7.01%**	**6.77%**	**−24 bps**
Development Spread	**+151 bps (feasible)**	**+127 bps (likely feasible)**	**−24 bps**

Both versions remain fundable — the workforce version is the one that earns Borough approval.

Does the 5th Floor Still Pay With 10% Workforce Housing?

Slide 21 showed the market-rate 5th floor yields 9.4% on its incremental cost. Reserving 10% of apartments at ~80% AMI trims the marginal income by ~$44K — yet the added floor still enhances the Project's YOC making it more feasible.

Incremental NOI — Market		Workforce Concession		Incremental NOI — 10% AMI
+$256K	−	−$44K	=	+$212K

Incremental cost of the 5th floor is unchanged at +$2.7MM — only the marginal income shifts.

MARKET-RATE 5TH FLOOR

9.4%

Incremental Yield on Cost · Slide 21

Overall Project YOC **7.0%**

VS

−160 bps

5TH FLOOR + 10% WORKFORCE (~80% AMI)

7.8%

Incremental NOI ÷ Incremental Cost

Overall Project YOC **6.77%**

Even absorbing the workforce concession, the marginal 5th floor still returns 7.8% on incremental cost.
This results an overall Project YOC of 6.77% and a development spread of ~127bps above today's spot cap rate of 5.5%

How much Workforce Housing is the right Amount?

Two Reference Points

Pennsylvania regional standard + national research consensus

10%

at 60% AMI

Philadelphia — Mixed Income Housing Bonus

Philadelphia's Zoning Code provides density, height, and floor area bonuses for residential developments that designate at least 10% of dwelling units (rounded up) as affordable for households at 60% AMI.

Source: Philadelphia Code §14-702(7), Mixed Income Housing Bonus (Bill No. 250810) amlegal.com/pdffiles/Philadelphia/250810.pdf

10–20%

10% = typical start

National Research — Inclusionary Programs

Research on 1,000+ U.S. inclusionary programs shows most set-asides fall between 10% and 20% of a development. 10% is the typical starting point — the level most often associated with continued production.

Source: "Inclusionary Zoning: Core Concepts and Policy Overview," LegalClarity Property Law (May 2026) legalclarity.org/inclusionary-zoning-core-concepts-and-policy-overview

Is 10% the Right Number?

1. Math has a ceiling — at 20% workforce, the project would drop below a 6.75% YOC and will likely not get built in today's market.
2. Aligns with Philadelphia's and other national inclusionary program standards — as most inclusionary programs land in the 10-20% range with 10% the typical starting point.
3. Voluntary programs must be calibrated — overly aggressive requirements stall construction entirely, producing fewer affordable units, not more.

In this example, 10% Is the Sweet Spot — Maximizes Affordable Housing While Keeping the Project Buildable.

OTHER POLICY TOOLS & CONSIDERATIONS

FEDERAL TOOLS

- CRA, LIHTC, HOME Funds (Grants)
- HUD, Opportunity Zones
- Housing Choice Vouchers
- Pending legislation: Road to Housing & NHIA

STATE TOOLS

- Tax abatements / PILOTs
- TIF bonds
- Housing Trust Funds (Payments in Lieu)
- Grants, PHA, etc.

PRIVATE CAPITAL & PARTNERSHIPS

- Impact / ESG investors
- Employer-assisted housing
- CDFI funding assistance
- Guarantees, preservation, etc.

OTHER LOCAL / MUNICIPALITY CONSIDERATIONS

EXPEDITED PERMITTING

Fast-track approvals tied to affordability commitments.

GENTLE DENSITY

Allows duplexes, triplexes, ADUs, and more flexible lot coverages.

PARKING REDUCTIONS

Lowering or eliminating minimums substantially reduces costs / increases feasibility.

INCLUSIONARY ZONING (IZ)

Requires 10–20% affordable / workforce units, with options for in-lieu fees or density bonuses.

Glossary of Key Terms

A shared vocabulary is the foundation — these are the terms that appear in every deal model and every capital markets conversation.

Real Estate Terms

NOI
Net Operating Income; property income after operating costs, before debt service

Cost Basis
Total all-in cost per unit; the denominator of Yield on Cost

Yield on Cost
NOI ÷ Total Project Cost; developer's unlevered return on investment

Dev Spread
Yield on Cost minus Exit Cap Rate; the margin of feasibility

Cap Rate
NOI ÷ Value; the market's unlevered yield

Debt Terms

LTV
Loan-to-Value ratio; debt as a percentage of property value

DSCR
Debt Service Coverage Ratio; NOI ÷ Annual Debt Service; lender's primary underwriting metric

Debt Yield
NOI ÷ Loan Amount; a lender's downside cushion, independent of interest rate

LTC
Loan-to-Cost ratio; debt as a percentage of total project cost

AMI
Area Median Income; benchmark used to set affordable / workforce rent limits

Equity Terms

IRR
Internal Rate of Return; annualized return that sets a deal's net present value to zero

GP Equity
General-partner / sponsor co-investment; earns a promote for managing the deal

Common Equity / LP
Limited-partner equity in the residual position; bears most risk, keeps most upside

Preferred Equity
Equity with priority on distributions over common; paid before common, after debt