The Opt-In Cooperative Housing Idea

Detailed report and financial model. Companion to "The Opt-In Housing Solution" [1]. Prepared September 2026. Revised to model the full capital stack: land equity, tax-exempt private activity bonds, 4% tax credits, project-based vouchers, the state density bonus, and standardized modular construction.

Summary

- The plan has four layers. First, neighbors pool land as equity. Second, tax-exempt private activity bonds and the 4% Low-Income Housing Tax Credit (LIHTC) finance the rentals. Third, Section 8 project-based vouchers (PBV) and the state density bonus make the numbers work while meeting state and city affordability rules. Fourth, standardized modular construction keeps costs down. The city's $10 million is a 10% catalyst loan, not the core funding.
- Our prototype is one 8-lot cluster. It has 52 homes at base zoning and 78 with a 50% density bonus[2]: 8 homes for the original owners plus 70 standardized studio, one- and two-bedroom rentals.
- In the base case the stack closes. A tax-exempt bond loan of $17.1M and 4% credit equity of $8.8M cover most of the rental cost. The city loan ($3.0M) and a deferred developer fee cover the rest, leaving about $4.5M to pay the cooperative cash for its land. That cash covers the owners' new homes ($4.4M), and the remaining land value ($2.7M) stays in the deal as a note owed to the owners.
- Vouchers matter. Under a federal exception, voucher rents can exceed tax-credit rent limits[3]. The 25 voucher units (the federal per-project cap[4]) raise net income about 12% versus no vouchers. Without them, owners would need to cover about $1.8M more.
- Modular pricing is competitive for hard costs. California modular multifamily runs about $300 to $330 per square foot versus $340 to $380 for stick-built[5]. The savings depend on standardized, repeated designs[6]. Our base uses $330 per square foot of hard cost. Adding parking, soft costs and fees, total cost is about $388k per home excluding land. So the post's $325 per square foot is realistic as a hard cost, but not as a total development cost.
- Building cost decides how owners come out. Each owner gets a new home (about $700,000) plus cash and a share of the land note. In the base case that is about $1,049k per owner in total, but about $332k of it is repaid slowly from cash flow. Repeat modular orders at $300 per square foot put about $898k in hand at completion. At $365 per square foot (tariffs and labor), owners would have to fund about $195k each.
- The city loan recycles more slowly than the post claims. Repaid from half of cash flow, it takes about 33 years in the base case and about 19 with income averaging, not 7. The $10 million fund seeds about 3 clusters (210 lower-income homes) up front.
- The biggest risks are competition for bond allocation, voucher awards and funding, and construction cost. These are listed in Section 9.

1. The housing challenge

Indicator	Value	Source
RHNA, 6th cycle	4,839 homes, including 2,093 very low- and low-income	7
Housing Authority fund, June 2024	$17.7M ($9.0M cash, $8.8M loans receivable)	8
Median home value	About $1.38M	9
Owner homes with no mortgage	About 38%	10
Homes built 1960 to 1979	About 78%	11
Market rent: studio / 1BR / 2BR	About $1,925 / $2,357 / $2,900	12,13
FY2026 Fair Market Rent: studio / 1BR / 2BR	$2,682 / $2,746 / $3,236	14
OCHA 2026 payment standard (Central): 0BR / 1BR / 2BR	$2,470 / $2,525 / $2,975	15
California LIHTC development cost	About $630,000 per unit	16
Fountain Valley 16790 Harbor Blvd. (50 units)	$29.6M total, about $592,000 per unit	17

Table 1. Fountain Valley housing context.

2. How the structure works

Layer	What it does	Key rule
1. Land equity (co-op)	Owners pool lots into a cooperative[18]. The co-op sells or ground-leases the rental parcel to a tax-credit partnership, taking part in cash and part as a seller note, and keeps the owner homes on a separate condo parcel.	Land counts as equity at appraised value[19]. Transfers can trigger reassessment[20].
2. Bonds + 4% LIHTC	Tax-exempt private activity bonds fund construction and a permanent loan. Using bonds unlocks 4% credits worth about 30% of the eligible basis in present value[21].	Bonds must now cover 25% of basis plus land, down from 50%[22]. CDLAC allocates bonds competitively[23].
3. Vouchers + mandates	Up to 25 units get OCHA project-based vouchers. Voucher rent can exceed tax-credit limits[3]. The density bonus adds units, and all-affordable rentals exceed the city's inclusionary rule.	Per-project cap: the greater of 25 units or 25%[4]. 15% very-low-income earns a 50% bonus[2].
4. Standardized modular	Three repeatable unit types (studio, 1BR, 2BR) built in a factory.	Hard-cost savings of 10% to 25% need design standardization[6].
City catalyst	A 10% soft loan, repaid from residual cash flow and then reused.	Post's 10% match

Table 2. The four-layer capital structure.

A note on the original post. The published post described the land-equity, voucher, modular and 10% city-loan pieces, but it did not describe the bond and tax-credit layer. In fact it said conventional projects fail "unless backed by endless state tax credits"[1]. This report models the structure as intended, with bonds and 4% credits as the main rental financing. We recommend the post say so.

3. Site, density and standardized unit mix

Type	Units	Net sf	Voucher units	Voucher rent	60% AMI rent (net)	70% AMI rent (net)
Studio	24	450	9	$2,250	$1,874	$2,200
1BR	30	600	10	$2,500	$1,994	$2,343
2BR	16	850	6	$2,950	$2,382	$2,801
Owner homes	8	900	-	-	-	Market value (about $700,000)

Table 3. Unit mix and rents. Net rent = gross limit less an assumed utility allowance.

Eight 7,200 sf lots make 1.32 acres. At 40 units per acre that is 52 homes. Under the State Density Bonus Law, projects with at least 15% very-low-income units earn a 50% bonus, and 100% affordable projects can earn up to 80%[2]. That gives 78 homes in about 60,488 gross sf, at 82% efficiency. The rental mix uses only three module sizes so the factory can repeat them across clusters. Voucher rents are set at "reasonable rent" (comparable market rent), below 110% of the FY2026 Fair Market Rent[14] and near the OCHA payment standards[15]. Tax-credit rents use the 2026 Orange County 60% AMI limits of $1,954, $2,094 and $2,512[24].

Assumption. Base zoning of 40 units per acre, the lot sizes, net sf, utility allowances and the market cap are ASSUMPTIONS. Density bonus eligibility requires a qualifying site and approvals. Parking follows density bonus ratios: 1 space per studio or 1BR and 1.5 per 2BR.

4. Modular costs, tariffs and standardization

Tariffs and immigration enforcement have pushed costs up. Steel and aluminum tariffs are 50%[25], and tariffs also hit lumber and other inputs[26]. Immigration enforcement has raised framing bids 25% to 50% in some markets[27], and immigrants make up about 28.7% of the Los Angeles construction workforce[28]. Modular building helps because more of the labor happens in a factory, but it does not avoid material tariffs. The savings come mostly from repetition: Terner Center research finds 10% to 25% hard-cost savings and 20% to 50% faster schedules when designs are standardized[6,29].

Evidence	Figure	Source
Modular multifamily hard cost, California	$300 to $330 per sf	5
Stick-built multifamily hard cost, California	$340 to $380 per sf	5
Realistic modular savings	10% to 20%, larger with repeated unit types	5
Savings with standardized design	10% to 25% hard cost; 20% to 50% faster	6
Los Angeles modular 1BR (420 sf), total cost	$344,331 per unit vs about $608,000 baseline	30
Post's claim	$325 per sf total vs $580 per sf	1
This model, base	$330 per sf hard; $388k per home total, excluding land	Model

Table 4. Cost evidence. Hard cost excludes land, parking, soft costs, financing and fees.

Scenario	Hard $/sf	Total cost	Per home	LIHTC equity	Owner cash surplus (shortfall)
Base	$330	$30.2M	$388k	$8.8M	$0.13M
Standardized repeat orders $300/sf	$300	$27.6M	$354k	$8.1M	$1.58M
Tariffs + labor $365/sf	$365	$33.2M	$426k	$9.7M	($1.56M)
Stick-built comparison $380/sf	$380	$34.5M	$443k	$10.1M	($2.28M)

Table 5. Construction cost scenarios (model output). Standardized repeat orders are what make the $300 case possible.

Takeaway: modular pricing is competitive with, and usually below, stick-built pricing. Standardizing on three unit types is what moves the project from the top of the modular range toward the bottom. Each $35 per sf of hard cost moves the owners' cash position by about $1.7M for the cluster. Supplier risk is real: a major California modular factory warned of closing in 2026[31].

5. Operations and income

Line (base case)	Annual
Gross potential rent (25 voucher + 45 at 60% AMI)	$1,857,120
Less 5% vacancy	-$92,856
Operating costs and reserves ($7,800 per unit)	-$546,000
Property tax (welfare exemption)	$0
Net operating income	$1,218,264
Debt service, tax-exempt loan (5.5%, 40 years, 1.15x)	-$1,059,360
Cash flow after debt service	$158,904

Table 6. Stabilized operations, 70 rentals (model output).

Assumptions are drawn from current deals. A 2026 Los Angeles bond financing showed a 5.28% permanent rate with 40-year amortization[32]. State draft rules use a 1.15x minimum debt coverage[33]. A 2026 CTCAC staff report shows $6,300 per unit as a minimum operating budget example[34]; we use $7,500 plus $300 reserves. The rental parcel is assumed exempt from property tax under the welfare exemption, which requires a qualifying nonprofit managing general partner[35]. With income averaging, units may be set anywhere from 20% to 80% AMI if the average stays at 60% or less[36]. Designating the 25 voucher units at 40% AMI lets the other 45 rent at 70% AMI, which raises net income to $1,401,253.

6. Capital stack: sources and uses

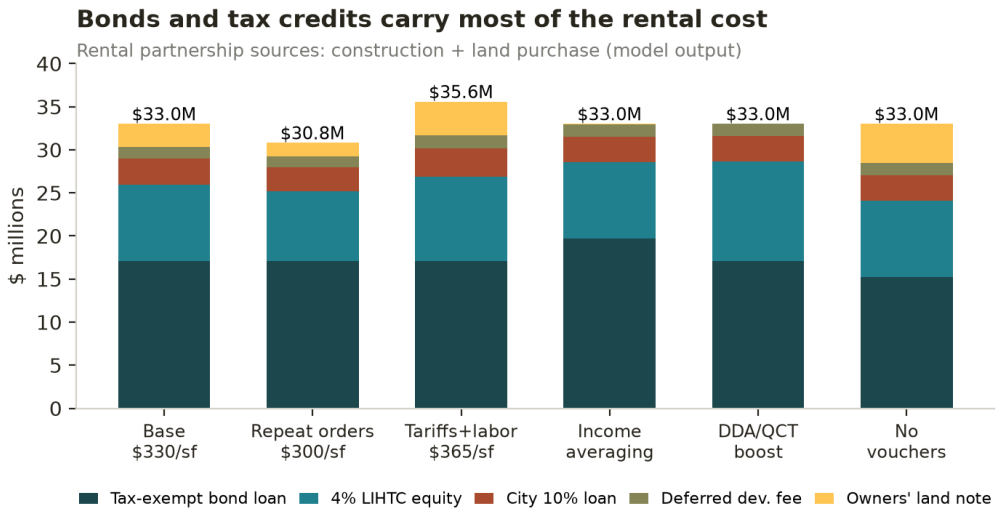


Figure 1. Rental partnership sources by scenario (model output).

Rental partnership	Amount	Share
Tax-exempt bond permanent loan	$17.12M	52%
4% LIHTC equity	$8.84M	27%
City 10% soft loan	$3.02M	9%
Deferred developer fee	$1.38M	4%
Seller carryback land note (owners)	$2.66M	8%
Total sources	$33.02M	100%
Uses: rental construction and soft costs	$25.84M	
Uses: rental land bought from co-op	$7.18M	
Co-op: cash received for land	$4.52M	
Co-op: cost of 8 owner homes	-$4.39M	
Co-op surplus	$0.13M	

Table 7. Base-case sources and uses (model output).

Credits: eligible basis of $24.5M (95% of rental cost) × 4% × 10 years × $0.90 gives $8.8M. California 4% credits priced at $0.88 to $0.95 in 2026[37]. If the site is in a Difficult Development Area or Qualified Census Tract, basis rises 130%[38], equity rises to $11.5M, and the land note nearly disappears. We have not confirmed Fountain Valley's designation. Bond volume: the cluster needs at least $7.9M of bonds to meet the 25% test[22]. California's 2026 bond ceiling was $5.32 billion[39] against about $6.68 billion of demand[40], so allocation is not guaranteed.

Scenario	Bond loan	LIHTC equity	Land cash	Land note	Owner surplus (shortfall)
Base: modular $330/sf	$17.1M	$8.8M	$4.5M	$2.7M	$0.13M
Standardized repeat orders $300/sf	$17.1M	$8.1M	$5.6M	$1.6M	$1.58M
Tariffs + labor $365/sf	$17.1M	$9.7M	$3.3M	$3.9M	($1.56M)
Stick-built comparison $380/sf	$17.1M	$10.1M	$2.7M	$4.5M	($2.28M)
Income averaging (40%/70% AMI)	$19.7M	$8.8M	$7.1M	$0.1M	$2.70M
Site in DDA/QCT (130% basis)	$17.1M	$11.5M	$7.2M	$0.0M	$2.78M
No vouchers awarded	$15.2M	$8.8M	$2.6M	$4.6M	($1.77M)
Credit price $0.85, rate 6.0%	$16.0M	$8.3M	$3.0M	$4.2M	($1.43M)

Table 8. Capital stack by scenario (model output). A shortfall means owners must fund the difference, for example with a loan against their new homes.

7. What original owners get

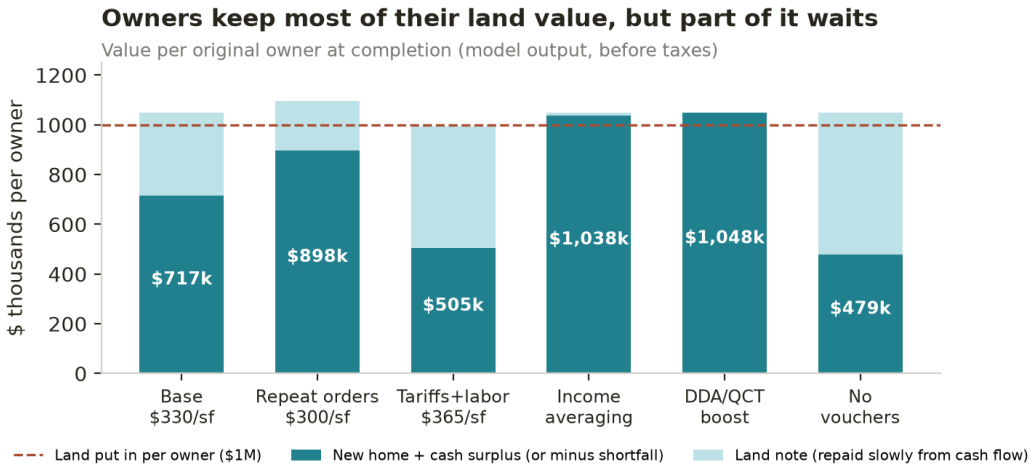


Figure 2. Value per original owner at completion (model output).

Fountain Valley suits this approach. About 78% of homes were built between 1960 and 1979[11], and about 38% of owner-occupied homes have no mortgage[10]. Land has historically made up most of a coastal Southern California home's value: about 82% in the Orange County metro in 2004[41] and about 61% in Los Angeles in 2017[42], versus about 40% nationally[43]. We assume $1 million of land per lot. In the base case each owner receives a new home worth about $700,000, a small cash surplus, and about $332k of land note. The note is repaid from residual cash flow, and only about $4.1M (including interest) comes back within 30 years across all eight owners. Owners come out whole at completion when costs fall (repeat orders), when income averaging is used, or when the site qualifies for the basis boost. They come out short when tariffs raise costs or vouchers are not awarded. The claimed $40,000 to $60,000 annual distributions per lot are not supported. Cash flow after debt service is about $158,904 a year for the whole building, and half of it goes to the soft lenders.

Assumption. Owner home values of about $700,000 are an ASSUMPTION. Owners would have new, market-assessed condos and would lose their current Prop 13 base on the land they sell. The land note is subordinate, and its repayment is uncertain. This is not tax advice.

8. City loan repayment and scale

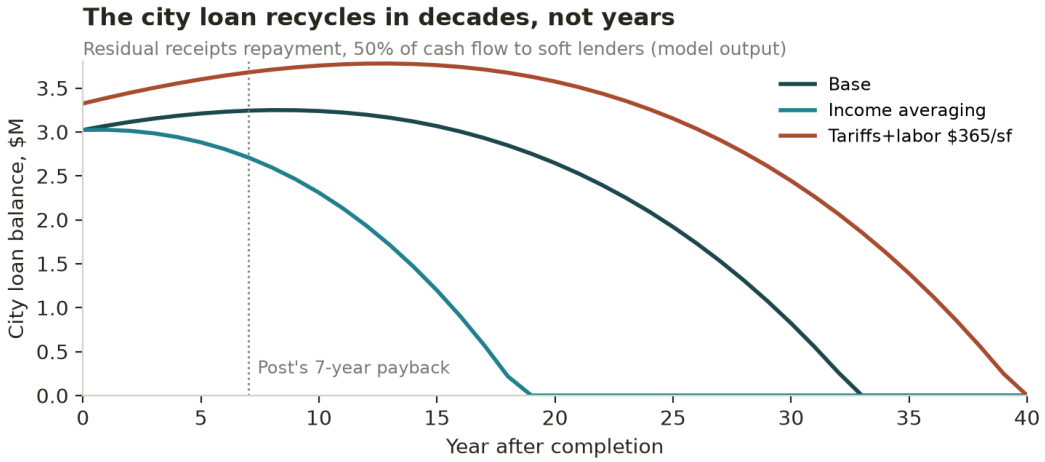


Figure 3. City loan balance under residual receipts repayment (model output).

The city loan is $3.02M per cluster, so the $10 million fund seeds about 3.3 clusters, or 210 lower-income homes, before any repayment. Under a typical 50/50 residual receipts split with 3% simple interest, the base-case loan is repaid in about 33 years, 19 with income averaging, and 40 at $365 per sf. The post's 7-year recycling and 6,864-home projection are not supported. The city could recycle faster by taking a larger share of residual receipts, by being repaid first from a refinancing in year 15, or by lending only during construction.

9. Synergy with state and local mandates

Mandate	Requirement	This cluster
Fountain Valley inclusionary housing	15% low-income units in projects of 10+ homes, or an in-lieu fee[44,45]	70 of 78 homes are lower-income, about 5.8 times the 12 required
State Density Bonus Law	15% very-low-income units earn a 50% bonus plus concessions and reduced parking[2]	+26 homes; 8 of the voucher units designated at or below 50% AMI
RHNA lower-income need	2,093 very low- and low-income homes[7]	70 per cluster, about 3.3% of the need
LIHTC affordability	Average of 60% AMI or less; income averaging allows 20% to 80%[36]	Base 60% AMI; averaging case 59.3%
Voucher rent exception	PBV rent can exceed the LIHTC limit[3]; owner can't charge above the contract rent[46]	25 units at reasonable rent
Streamlining (AB 2011)	Affordability and prevailing wage conditions[47]	Prevailing wage may raise costs; not modeled
Zoning and approvals	2023 General Plan update replaced the HO overlays with current residential zoning[48]; SB 684/SB 1123 give ministerial approval only up to 10 units[49]	A 78-home cluster needs AB 2011 or density bonus review, not SB 10 or SB 684; approval time is not yet documented

Table 9. How the cluster lines up with rules it must meet anyway.

10. Risks

Risk	Why it matters	Mitigation
Bond allocation	California bond demand exceeded the ceiling in 2026[40]	Pool several clusters into one application; use set-asides
Voucher award	OCHA PBV offers mostly target homeless and supportive projects[50]	Offer supportive units; model the no-voucher case (owners short by about $1.8M)
Voucher funding	HUD 2026 funding guidance signals tight voucher budgets[51]	Contract terms; reserves
Construction cost	Tariffs[25] and labor[27]	Standardized modules; fixed-price factory contracts
Supplier failure	Modular factory closures[31]	Completion guarantees; more than one vendor
Reassessment	Transfers can be changes in ownership[20]	Tax counsel; welfare exemption on the rental parcel

Table 10. Key risks.

11. Recommendations

1. Update the post to name the bond and 4% credit layer. That is what makes a land-equity co-op financeable at scale.
2. Start with one pilot cluster on land zoned for housing in the 2023 General Plan[48], partnered with an experienced nonprofit tax-credit developer.
3. Confirm the DDA/QCT status of candidate sites early. It is the single biggest swing in owner outcomes.

4 Standardize on three unit types and bid a multi-cluster modular order to reach the $300 per sf range.

5 Talk with OCHA about a voucher commitment before land is pooled. Set some voucher units aside for supportive housing if needed.

6 Structure the city loan for faster recycling: a larger share of residual receipts or repayment at the year 15 refinancing.

7 Publish this model so residents and the Planning Commission can test it.

Methodology and limitations

This is a stabilized, single-year snapshot with a 55-year repayment simulation for the soft loans. Owner homes are allocated cost by net square footage and are kept outside LIHTC basis. Land is valued at $1 million per lot, and the rental parcel's share is based on unit count. The model does not include construction-period cash flows, state or county gap funds, prevailing wage, or enhanced state credits. Scenario values are model outputs, not quotes. This is not tax, legal or investment advice.

Sources

Superscript numbers in the text link to the sources below. All figures labeled ASSUMPTION are modeling choices, not sourced facts, and can be changed in the companion Excel workbook.

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