DoubleUp
ADU–Backed Securities

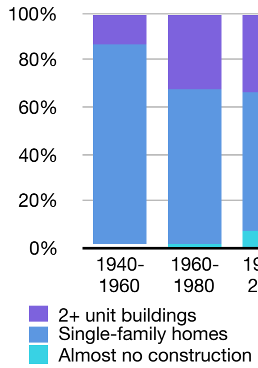
Helping finance ADUs to make high-cost urban areas denser– **and more affordable for all.**

Strong economies, unaffordable housing

In big cities across North America, rapid job creation has contributed to sharp increases in housing costs. The San Francisco Bay Area is a showcase for both phenomena: home to many fast-growing tech companies, the region built only 125,000 new homes while adding over 500,000 jobs between 2011 and 2017.[1] With demand for housing significantly outstripping supply, people are forced to devote more and more of their budgets to shelter. The median home price in San Francisco rose 91% to $1.6M from 2013 to 2018.[2] In 2015, more than 40% of California households faced unaffordable housing costs—defined as spending more than 30% of income on shelter.[3]

These rising housing costs constrain regional economies and run counter to environmental goals. Rising costs push people to live in suburban outskirts further from work, increasing their reliance on carbon-intensive transportation. These myriad negative impacts tend to fall most heavily on low-income and minority individuals.

Bay Area census tracts by dominant housing types built



See note 13 for source.

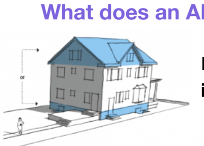
Similar affordability crises have exploded around the continent, from Seattle to Toronto. A necessary piece of the solution to this complicated problem is to build more housing. Corporations, foundations, and governments are awakening to this fact. In January 2019, Microsoft announced $500M in funding for Seattle-area affordable housing[4] while a Facebook-led coalition of regional employers and private foundations made a $500M commitment to fighting the Bay Area's housing crisis.[5] Many city and state governments with the most pressing crises have turned to accessory dwelling units (ADUs) as part of their solution, passing proactive legislation and revising antiquated planning and building regulations to spur ADU development.

The promise and potential of ADUs

ADUs are secondary housing units added to lots containing single-family homes. Four key benefits help ADUs stand out as one partial solution to housing crises:

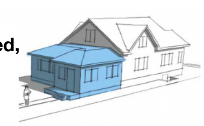
1. ADUs are smaller in size, so rent for less per month—creating affordable housing without the need for government subsidization.
2. ADUs provide homeowners who build them with a new stream of income; in high-cost cities, this can keep vulnerable households in place by offsetting rising expenses.
3. ADUs are built in existing single-family neighborhoods, making them denser and more environmentally efficient—especially contrasted with new urban-sprawl construction.
4. ADUs share land—plus street, transit, and utility networks—with existing houses in established neighborhoods, leveraging existing infrastructure to house more people (and saving taxpayers money).

What does an ADU look like?

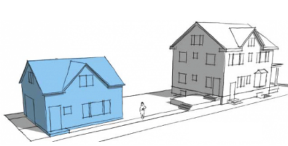


It might be **internal,** in a

It might be **attached,** built on to the



But most are **detached,** many newly built and some converted, to maximize



Market failure

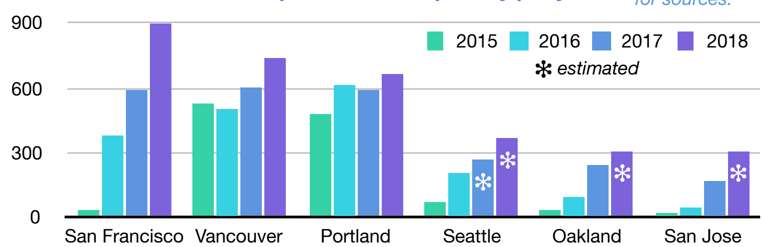
Despite the potential of ADUs, not enough are getting built. A survey of ADU early adopters suggests that it costs upwards of $200K to build an ADU, a high bar for many homeowners to cross from their personal resources. As such, most homeowners would need to finance the construction of their ADU. In theory, financing should be simple because ADUs are valuable—they both add to the resale value of a home and generate rental income. Yet, underwriting standards make it difficult for most banks to recognize this value. To recognize the resale value of the home, then there must be a comparable home with an ADU in the neighborhood which has sold recently. To recognize the rental income, the borrower must have two years of documented rental income on their tax returns. Because of this market failure, the construction of the majority of ADUs built to date has been funded by homeowners' cash resources.[6]

Strategic opportunity

A handful of mission-driven, locally-focused lenders—mostly small credit unions (CUs) and community development financial institutions (CDFIs), such as the Housing Trust of Silicon Valley and Portland's Consolidated Community Credit Union—have launched small-scale, ADU-specific loan products. These loans cover construction costs with payments over a short term, typically 3 years, which fills a key gap for the homeowner by providing one year to build the ADU and two years to operate the ADU and document rental income. These loans are repaid by refinancing the primary mortgage on the home to include the balance once rental income has been established. These institutions lend with strict underwriting standards—such as requiring a contractor with experience building ADUs, form leases to protect landlords and tenants, and compliance with specified construction draw timelines.

ADU permits issued per city per year

See note 14 for sources.



Investment thesis

These lending institutions have limited resources which means they have limited ability to move the needle on the housing crisis. To infuse the market with liquidity, DoubleUp plans to purchase ADU loans from these lending institutions to create private securities backed by said loans. Securitization allows lenders to sell loans otherwise held on their balance sheets to a secondary investor market, unlocking liquidity to enable further lending.

In addition to the societal benefits of ADU proliferation outlined above, we believe that DoubleUp ADU-backed securities can:

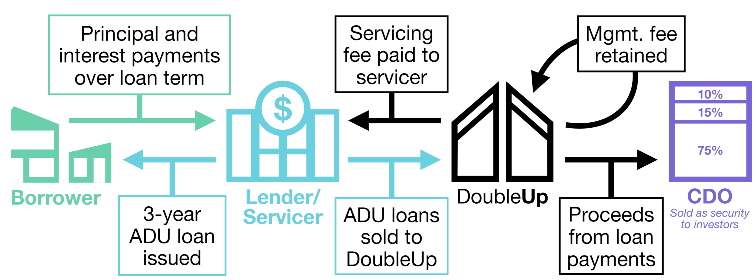
1. Provide a wider range of investors access to high-performing rental markets without requiring large-scale participation
2. Create a mission-driven, return-generating short-term strategy for large, cash-rich corporations (such as tech companies) to manage their liquid investments
3. Prove the existence of a market for ADU lending, attracting larger institutions to the space and further enabling wider ADU penetration
4. Kickstart ADU-centric start-up ecosystems to support new jobs

Financial instrument

DoubleUp ADU-backed securities will be based on a standard asset-backed security structure, closely resembling that of private-label mortgage-backed securities. DoubleUp will utilize a special purpose vehicle (SPV) managed by our team of real estate finance experts. It will then work with CUs/CDFIs to purchase their existing asset-backed ADU construction loans. DoubleUp will package these loans into collateralized debt obligations (CDOs) to sell onwards to institutional investors.

DoubleUp has standard underwriting criteria for these second mortgages it plans to purchase that are in-line with recent regulation of CDOs. Underwriting criteria will include:

1. Interest rate of 6.75%
2. Up to $250,000 and 90% loan to cost
3. 3-year term on a 15-year amortization schedule
4. Homeowner must work with an approved ADU contractor
5. Minimum FICO score of 620-680, depending on loan amount and LTV



Market opportunity

DoubleUp's securitization platform can easily scale with market growth. We project a multi-billion dollar total addressable market, limited initially by the size of lending programs. Initially, we would capture a fraction of total ADU construction, but we expect to scale aggressively over the next 5-10 years as the financing market grows.

McKinsey estimates that California could add up to 790,000 housing units through ADU creation.[7] A Bay Area poll suggests that 25% of homeowners would be open to an ADU—which could lead to an estimated 400,000 housing units.[8] Assuming an average loan size of $200K in line with reported ADU construction costs, California alone would have a ***$158B addressable construction lending market for CUs and CDFIs to serve.***

The prospects for ADU expansion beyond California are robust. Other states, including Connecticut, Illinois, Massachusetts, Oregon, Vermont, Florida, Washington, D.C. and Washington State as well as several high-cost Canadian cities have adopted strategies to facilitate urban and suburban ADU growth. DoubleUp's securities, like mortgage-backed securities, will be location-agnostic, allowing them to take in loans from around the country and thus participate in the expansion and diversification of the market over time.

Program

DoubleUp would focus initially on partnerships with CDFIs and CUs providing ADU loans in Seattle, Portland, San Francisco, Oakland, and San Jose. All five cities have large areas of single-family zoning,[9] regulations and governmental support enabling and encouraging ADU construction, and demand sufficient to warrant lender participation.

We aim to purchase $100M worth of ADU loans in our pilot fund. We are flexible in pilot fund size based on the available loan base and investor appetite at time of execution, but believe this is achievable based on the following assumptions:

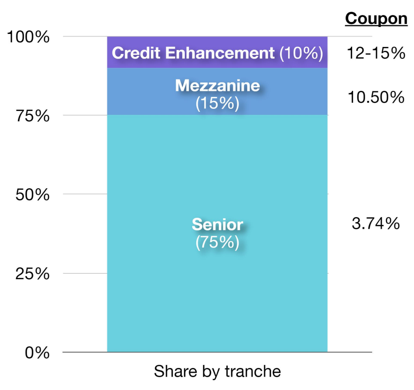
- Average loan size: $200K
- Total permitted ADUs in pilot cities: 600 / city / year[10] *(see bar chart on prior page)*
- Share of market: 16.7% (500 ADU loans worth $100M)

DoubleUp will enter into an agreements with partner CU/CDFIs to purchase their ADU construction loans once they have amassed enough to construct each round of the security, thus avoiding costly investment banking warehouse fees. Given the strength of the market, we expect to be able to construct the first security in about 6-8 months, eventually declining to 2-4 months as the market matures.

DoubleUp will pay a small servicing fee of 0.25% of outstanding principal per month to the CUs/CDFIs to cover the cost of servicing the loans. DoubleUp will make its money in one of two ways. First, it will pay itself a management fee of 0.50% on outstanding principal. Second, DoubleUp will co-invest in 5.0% of each tranche to align DoubleUp's incentive with the success of the project and to meet Frank-Dodd Act requirements. This co-investment is projected to generate $280,000 in the first year of operations.

Capital structure, pricing, and target investors

- **Senior tranche** (targeting $75M, offered at $106, 3.74% interest): This tranche will be structured to meet the needs of firms seeking alternatives for secure management of liquid investments and will be particularly attractive to large firms in high-cost cities (e.g., $1B+ tech firms such as Apple's Braeburn Capital and Microsoft/PFBF) that stand to benefit from association with support of solutions to their local housing crises. The payments will follow a standard payment waterfall and will benefit from around $25 million of credit enhancement from the lower tranches more than enough to cover conservative assumptions regarding default, prepayment, and other risks.[11] Additionally, this tranche will benefit from covenants that will accelerate cash flows towards the senior and junior tranches, in the case cash flows fall below the contracted rates, including an interest coverage test and over-collateralization tests.



Positive social, environmental, and economic impacts and key metrics

Type	Positive impact	Measurement approach
Social	Expand the supply of affordable rental housing in high-cost urban areas seeing job growth	# of ADUs financed and built
Social	Help state and local governments meet affordable housing goals	# of ADUs financed and built
Social	Serve renters that may have been otherwise priced out; preserving and increasing socio-economic diversity	Median income of renters
Social	Increase income of homeowners in areas where home prices have skyrocketed, helping them to stay in their homes	Median rental income to borrowers
Environ-mental	Infill development through ADUs reduces the environmental impact of greenfield housing development	Vehicle Miles Traveled (VMT) avoided and acres of land of greenfield development saved as calculated by # of ADUs financed and built
Economic	Create a mission-driven, return-generating short-term cash-management strategy for large, cash-rich corporations (such as tech)	Total dollar amount of investment by large corporations and other institutional investors

Capital structure, pricing, and target investors (cont'd.)

- **Mezzanine tranche** (targeting $15M, offered at $101, 10.5% interest). This tranche will have priority on receiving payments over subordinate tranches. While it will be protected from the majority of default and prepayment risk, given the untested nature of the product, the potential risk will drive a higher interest rate. The target investor for this category is hedge funds or market-rate impact investing funds.
- **Credit-enhancement grant / Junior tranche** (targeting $10M, offered at $104, 12-15%): This tranche will receive the residual cash flow and assume initial loses. In the pilot round, the target investor will be large LLC foundations with an interest in housing that can invest directly (e.g., Chan-Zuckerberg Initiative) or institutional foundations with program areas in housing that have active program- and mission-related investment arms (e.g., Ford Foundation, MacArthur Foundation). At maturity, this will be replaced by a junior tranche with a 14-18% interest rate to compensate for increased risk. Target investors for this group will be traditional investors who will consider holding a small stake of this pool as part of a balanced portfolio.

As discussed above, the credit enhancement tranche in the pilot phase of the program will be supported by first-loss capital. As the success of the strategy is proven out in the pilot phase, we believe we will attract additional sources of capital and that the investor mix will shift over time to become more institutional, as shown below:

Tranche	Pilot	Maturity
Senior	Tech investment management	Pension funds/tech investment management
Mezzanine	Hedge/impact funds	Private equity
Credit Enhancement	Foundations	Hedge/impact funds

Conclusion

DoubleUp ADU-backed securities will create a new investment vehicle that will stimulate the development of ADUs as urban infill affordable housing for high-cost cities, creating social good while providing institutional investors with a secure financial product, diversified across the risk-return spectrum, that allows them access high-performing rental markets and participate in this social, environmental, and economic good.

Risks and mitigations

Type	Risk	Mitigation strategy
Financial	Real estate market volatility in high-cost regions that could result in decrease in increased loan default. Correlation of defaults.	Diversification to markets in different geographic regions, including multiple West Coast cities in the pilot, and expanding nationally thereafter. Tranching based on risk/return profiles, specifically consolidating risk in mezzanine tranche for investors that have that risk appetite.
Policy	Cities are slow to adopt zoning and regulatory changes to expand ADU feasibility.	Start pilot in multiple cities simultaneously that have recently adopted ADU-friendly regulations and programs; expand thereafter as regulatory barriers in other cities are reduced (dozens are in the process).
Market	Assessors of houses after ADU construction do not account for full value of ADU, hurting the homeowner's ability to refinance.	CU/CDFIs provide short-term loans that allows homeowners to build and begin leasing ADUs, which provides a bridge to meeting the two-year rental income standard that Fannie Mae requires to include ADU rental cash flow in primary mortgage financing. Home appraisal standards may similarly shift as ADU market grows.
Market	High appraisal values of homes after ADU construction result in significant property tax increases, disincentivizing production.	SPV can work with other interested parties to advocate for property tax exemptions at the state level that excuse or delay properties from being reassessed for tax purposes after building an ADU (modeled after California property tax exemptions for solar upgrades or earthquake retrofitting).[12]
Market	Market demand for ADUs is below projection; CU/CDFI loan issuance is slower than expected.	Work with established lenders first in our pilot program; in scaling, we are protected by large, multi-billion-dollar TAM and we can enter cities as markets make sense. Additionally, as part of our agreement with CUs/CDFIs, we will purchase loans only when a minimum aggregate loan amount is met.
Opera-tional	Successful construction of ADUs relies too much on individual homeowner's ability to implement.	The underwriting standards of CUs/CDFIs mitigate this risk. We have reviewed a term sheet from a prospective partner CDFI; their requirements included that the borrower contract with an experienced ADU designer/builder, successfully complete an ADU workshop and property management class (or engage a third-party PM), and have permitted plans.
Opera-tional	There is little renter protection considering this new dwelling type and new landlords.	Similar to the standards mentioned above, homeowners might be required by loan terms to use a standard lease and are restricted from setting the ADU lease above 100% AMI (including utilities) during term of loan. Additionally, underwriting criteria could require the homeowners add additional, specific insurance to cover the ADU, a product that is increasingly available.

NOTES

1. https://www.biabayarea.org/san-francisco-bay-area-jobs-housing-imbalance
2. https://www.stanforddaily.com/2018/10/02/me-asl-the-not-so-radical-case-for-de-zoning-san-francisco/
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5. https://www.baysfuture.org/press-release-bay-area-philanthropy-business-and-community-advocates-unite-to-launch-landmark-regional-housing-partnership/
6. http://www.buildinganadu.com/cost-of-building-an-adu/
7. Woetzel, Mischke, Peloquin, and Weisfield, "A Tool Kit to Close California's Housing Gap: 3.5 Million Homes by 2025," McKinsey Global Institute, 2016 (October); Exhibit A3 outlines assumptions: California single-family housing = 7.41 million per 2013 ACS; In-home ADU uptake = 5%; Detached ADU uptake = 1%; In-home ADU unit uplift = +1 unit; Detached ADU unit uplift = +1.5 units.
8. http://www.bayareacouncil.org/community_engagement/new-poll-finds-that-25-of-homeowners-would-add-an-in-%c2%adlaw-unit-creating-400000-new-and-affordable-housing-units/
9. www.citylab.com/equity/2018/11/single-family-zoning-home-prices-affordable-housing-nimby/575659/
10. LA has seen a boom in permit applications: ~4,000 in 2018, per https://planning.lacity.org/Documents/ExternalAffairs/HousingProgressRpt/Q3_2018/Q3.pdf.
11. We assume similar default/prepayment behavior to 2nd-lien HELOCs and mortgages. Default rates for these products since 2003 averaged 2.93% according to the American Bankers Association Consumer Credit Delinquency Bulletin. Even with add'l assessment risk, we believe 10% credit enhancement will be more than enough to cover potential losses.
12. https://www.acgov.org/assessor/decreasetax/exclusions/new-construction.htm
13. https://www.buildzoom.com/blog/pockets-of-dense-construction-in-a-dormant-suburban-interior
14. https://data.vancouver.ca/datacatalogue/issuedBuildingPermits.htm; http://www.sfexaminer.com/city-easing-onerous-approval-process-accessory-dwelling-units/; https://accessorydwellings.org/2019/01/14/adu-permit-trends-in-portland-in-2017-and-2018/; Terner Center