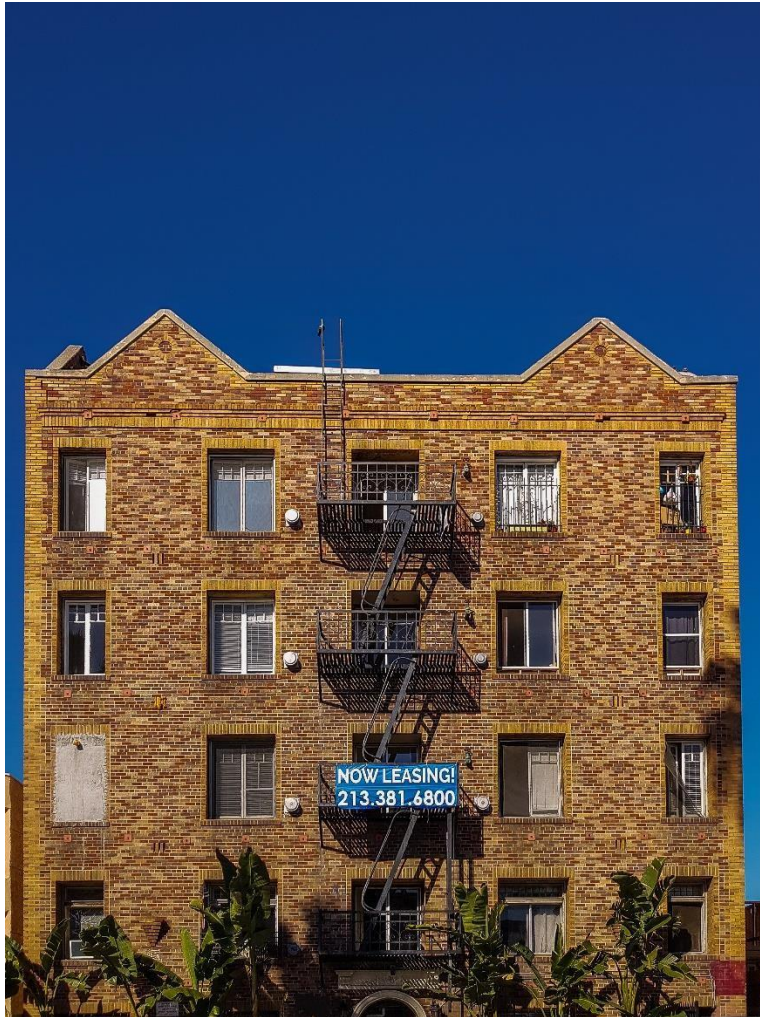


Normandie Lofts and the Los Angeles County Naturally Occurring Affordable Housing (NOAH) Impact Investment Fund



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Executive Summary

Los Angeles County, like urban regions nationwide, is going through a housing crisis that is largely the product of rising rents and insufficient housing supply. Thousands of severely rentburdened households pay over half of their incomes toward rent, and thousands more people unable to afford rents are left chronically homeless. Naturally Occurring Affordable Housing (NOAH) presents a solution to the housing affordability crisis that is both quicker and cheaper than constructing new housing units and does not rely on government subsidies that tend to lengthen the development process. NOAH investments allow for rehabilitation of housing units with minimal displacement and provide tenants with cleaner and greener residences.

NOAH projects are multifaceted social impact investments. Most importantly, reducing overbearing rent burdens allows households to invest more of their own incomes in healthcare, education, and retirement; and for many individuals a more affordable rent can be the deciding factor in whether or not they can meet their basic need for shelter. NOAH developments furthermore allow the opportunity to replace old and outdated utilities with more energy-efficient alternatives. Small investments in new lighting, plumbing, and painting all produce environmental and societal returns, especially as compared to the energy-intensive alternative of demolishing and reconstructing a residential structure.

This case study will examine a Normandie Lofts building in Los Angeles's Koreatown neighborhood as an initial example of a potential NOAH project. The financial and social returns for this 50-unit residence are shown before we expand on the significance of NOAH in Los Angeles County's housing market. The second half of our analysis seeks to make the case for a broader portfolio of NOAH investments to meet affordable housing needs countywide. We highlight regions throughout the county where old residences and high rent burdens present opportunities for additional NOAH developments. A countywide scope for a NOAH impact investment fund magnifies the expected financial and social returns on investment, providing Los Angeles renters with more affordable and stable housing and happier and healthier lives.

Table of Contents

Executive Summary 3

Introduction..... 5

 Strategy 6

 Local Market Analysis 7

 Local Risk Assessment 8

Normandie Lofts 9

 Business Strategy 11

 Ownership Structure..... 11

 Normandie Lofts as a Social Impact Investment 12

 Financial Analysis of Normandie Lofts Project..... 13

 Seven Year Pro Forma 15

NOAH Investment Fund’s Context and Returns across Los Angeles County 17

 Context 17

 Social Returns in Education and Health..... 17

Conclusion 18

Appendix..... 20

Introduction

Many of the largest metropolitan areas across the U.S. are in the midst of a housing affordability crisis, as the number of rent-burdened households nationwide increased by 19% between 2001 and 2015.¹ In Los Angeles County, 56.5% of renters—over 1 million households—pay more than 30% of their income toward rent, including 544,000 severely rent-burdened households paying more than 50% of their income toward rent.² An additional 55,000 Los Angeles County residents are homeless, over 40,000 of them living unsheltered on any given night.³ As of September 2018, 15% of Californians cited housing affordability or homelessness as the most important policy issue facing the state.⁴ Naturally Occurring Affordable Housing (NOAH) presents an opportunity for investment that remediates the housing affordability crisis across Los Angeles County while also providing social impact returns in the form of improved housing stability, energy consumption, public health, and education outcomes.

Investments in NOAH are foremost social impact investments at the individual level. Reductions in rent burden allow families to invest more in their healthcare and their children’s education; and housing affordability is associated with other outcomes including neighborhood density, transportation access, and commute time.⁵ NOAH redevelopment furthermore serves as a social impact investment on a broader scale in the form of energy savings, reduction in water usage, and improved public health.

We believe that being visionaries who seek a paradigm shift disrupting the typical models of real estate investment will give us an opportunistic and strategic position within future affordability trends. Historically, capital searches for higher returns regardless of the social and environmental returns embodied by impact investing. The needed change to obtain a common good without compromising financial returns is becoming a reality and seemingly varying how flows of capital can target more socially purposeful investments. The NOAH fund’s approach in generating dignified affordable housing through an impact investing structure hopes to achieve housing stability, decrease the rent burdened population, and increase quality of life while enabling upward mobility for school-age tenants. Normandie Lofts is an example of how this can be achieved. Taking this approach one step further and seeking larger capital returns, we explore the idea of creating an investment fund that develops Los Angeles’s NOAH as a social impact investment.

¹ The Pew Charitable Trusts. (April 2018). American Families Face a Growing Rent Burden. Retrieved 10 December 2018 from: https://www.pewtrusts.org/-/media/assets/2018/04/rent-burden_report_v2.pdf

² United States Census Bureau. 2011-2016 American Community Survey (5-Year Estimates). Retrieved 9 December 2018 from: SocialExplorer

³ Los Angeles Homeless Services Authority. (May 2018). *2017 Greater Los Angeles Homeless Count - Data Summary*. Retrieved 9 December 2018 from: <https://www.lahsa.org/documents?id=1353-2017-greater-los-angeles-homeless-count-data-summary-losangeles-county.pdf>

⁴ Public Policy Institute of California. (September 2018). *Californians & Their Government*. Retrieved 8 December 2018 from: <https://www.ppic.org/wp-content/uploads/ppic-statewide-survey-september-2018.pdf>

⁵ Painter, Gary & Stuart Gabriel. 1 July 2018. “Why affordability matters.” *Regional Science and Urban Economics*, 1-6.

Los Angeles's NOAH Fund

Strategy

To meet financial challenges and achieve social and environmental impact, the LA NOAH Fund's strategy allows financially capable investors to address the distressed contract between society and business through a triple bottom line business model that can attain worthy financial returns while undertaking positive action across the region. Nonetheless, as in any investment, risks are overt. Economic cycles in the real estate industry, absorption rates, management, construction, asset management, and legal framework are among these. The fund's institutional approach to underwriting mitigates the aforementioned risks through local and regional market analysis, macroeconomic trends and, if the project achieves the expected risk adjusted returns, the fund proceeds with the investment with all the additions through subsidies. Another variable that affects the investment decision in NOAH properties is the physical condition, ideally supporting renovation and revitalization within the pro forma-based budget and timeline.

Once invested in the NOAH properties, the fund will manage the improvement process without displacing tenants (using natural rent roll to achieve the renovations)⁶ and seeking to keep the same tenant profile, therefore reducing rent roll risk while achieving a mixed-income tenant base. This mixed-income tenant base will provide a basis to encourage mixed-income communities that will help preserve the current affordable housing stock and housing stability with infill at NOAH developments across Los Angeles County.

As noted before, a central part of the strategy is that the investments consider subsidies to achieve triple bottom returns, especially the financial returns. The subsidiary structures that the fund's model explores can be broken in two. The first group used by the fund's model are the supply side subsidies involving tax abatements, and loans—senior and mezzanine—with below-market interest rates. Through our research, we recognized that the tax exemption that the largest impact in the business model is the Property Tax Reduction.⁷ This Californian supply side subsidy allows low-income housing development trusts, with a nonprofit organization on board, which substantially reduces the yearly tax payment. The second supply side subsidy used by our models are low interest rate loans. These loans are potential Program Related Investments (PRIs) structured for investments to catalyze private sector investment driven by impacts broader than solely financial returns. Regarding demand side subsidies, the fund is structuring a strategy inspired by governmental rent vouchers—for example, supplementary vouchers for low-income tenants. These vouchers have the possibility to be structured as PRIs as well, giving more exposure to impact investors in the affordable housing market and particularly in the NOAH sector. The supplementary vouchers will fill the gap between the actual rent payment and the market or rent control rate, depending on each project's context. The analysis for all projects start at a base case, with no

⁶ Modelled vacancy at 5%, to stay under industry standards.

⁷ Similar to the legal structures of a typical LIHTC project.

subsidies at all, and during the financial modelling all possible additions of different subsidy scenarios seek higher returns for investors.

Additional strategy criteria to be considered as a tax exemption under the supply side subsidies are opportunity zones. These aim to reduce the impact taxes have on the financial returns of the projects. This strategy is project-specific, as opportunity zones have strict geographic limitations.

Local Market Analysis

The rental market in Los Angeles County is one of the ripest countrywide for affordable housing. This is evident in analyzing the rent-burdened population of all income levels, “drive until affordability,” and the ubiquitous homelessness crisis. While fueled by sky-high rents, the underlying layers of financial pressure on the capital structures of new rental developments across the county have a major impact. The systematic approach to increase returns on invested capital has brought the rental market to unprecedented levels. A clear example of this is the crash of the housing bubble in the previous decade, where aggressive underwriting paired with floating rate mortgages and questionable approaches to several subsets of the real estate industry triggered what many local renters and homeowners experienced too intimately.

All romance aside today, the late cycle feel is ubiquitous, especially with historically high values across the country and especially in Los Angeles County, part of the Major Markets defined by HFF being 41.7% above the previous peak (2008) and 88% above the previous valley (2010).⁷ These values are driven by the once again historically low cap rates for Class B multifamily properties in Los Angeles at a 4.25-5.00% range, only above San Francisco and San Jose (4.00-4.50% and 4.00-4.25%, respectively).⁸ These trends only highlight the existing need for affordable housing in Los Angeles, as household incomes are not increasing at the same pace as rent increases. Affordable housing development, redevelopment, and preservation, as exemplified by NOAH, should be encouraged from all possible fronts. This complex metropolitan area has all the good and bad of any major city, but it is in the demographics where we can see the key concern: 800,000 renter households would be eligible for affordable housing if there was enough supply, and current countywide supply is at 300,000.⁹ This leaves a gap of approximately half a million households unable to find affordable rents. These numbers paired with increasing rents, stagnating income levels, and slow development exacerbate the need for quick development or preservation. The latter is what NOAH is aiming for—namely avoid a decrease in affordable housing units.

⁷ HFF Q3 2018 HFF Inc. Earnings Conference Call Presentation, retrieved from <http://phx.corporateir.net/phoenix.zhtml?c=205281&p=irol-presentations>

⁸ CBRE North America Cap Rate Survey - First Half 2018 - US Multi-Family, retrieved from <https://www.cbre.us/research-andreports/Multifamily-Cap-Rate-Survey-First-Half-2018>.

⁹ Chiland, Elijah. How much affordable housing does LA need?. LA Curbed. May 2018. Retrieved from: <https://la.curbed.com/2018/5/17/17362084/affordable-housing-shortage-los-angeles-units-needed>

Local Risk Assessment

As documented above, Los Angeles County is a strong market for affordable housing with growing demand backed up by demographics and economic trends. As of Q3 2018, Los Angeles has a pipeline of 33,000 market rate units in construction.¹⁰ Today, development of affordable housing is burdened by bureaucratic procedures and the increasing need for affordable housing is far from being met. The use of old, repurposed buildings as part of the supply for affordable housing is one of the ways to meet current demand, especially if the candidate buildings for NOAH are attractive for market rate developments, which would only decrease the supply of affordable housing. Our risk assessment is analyzed through the following thesis: *how will the project achieve the proposed impact through the renovation of neglected and underperforming buildings.* The common risks associated with market rate projects such as vacancy of 5% to 8 % and turnovers from 20% to 30% on a yearly basis and market metrics do not generally apply to NOAH, due to the principal difference of rent levels. As NOAH projects are expecting rents below market, the absorption tends to be immediate and vacancy rates tend to be zero, with unusually low turnover. On the other hand, an identified risk comes more on the subsidy and capital stack structures; “Rent Bump Dashboard”: (A) Subsidized Property Tax, (B) Low Interest Rate Senior Loan, (C) Low Interest Rate Mezzanine, (D) Supplementary Vouchers – Mark to Market Class B RSO, (D) Voucher Grant Repayment. The following table discusses the individual risks and their mitigations.

Identified Risk	Risk	Mitigation
(A) Subsidized Property Tax	(1) Under the current tenantship - undocumented immigrants that won't share their personal details due to fear of deportation – it is uncertain to obtain the property tax, as the 100% of the tenantship needs to be registered as low income households. (2) The ownership structure must have a Non – Profit Member, meaning that the member's interests need to be aligned between the General Partner - GP, Limited Partner - LP and Non Profit (which could be a part of either GP or LP).	(1) Use immigrant support groups that can shield the undocumented immigrants' details. Maybe procedural innovation is needed. (2) The Non Profit Member could
(B) Low Interest Rate Senior Loan	The market as is today, is not supporting “soft” loans, especially if provided by traditional lenders and intended as a for profit project.	There are a handful of lenders that are channeling philanthropic and public monies to for profit developments. Generally are

¹⁰ CBRE Los Angeles Multifamily MarketView Figures Q3 2018, retrieved form: <https://www.cbre.us/research-and-reports/Los-Angeles-Multifamily-MarketView-Figures-Q3-2018>

		mandated by rationality, but if the development meets its criteria, the low interest rate loan can be successful. One example is the San Francisco Housing Accelerator Fund, or SFHAF , an Impact Lender that is well established in the regional banking community of SF, CA.
(C) Low Interest Rate Mezzanine	Similar to risk (B).	Similar to the mitigations under risk (B), the additional comment is that this loan structure could be pursued by an individual, high net worth, impact investor.
(D) Supplementary Vouchers – Mark to Market Class B RSO	Under the current law, this could only happen if the household to be subsidized has no additional public vouchers, as Section 8 Vouchers. In other words, there cannot be doubled vouchers.	If there are no public vouchers, this specific demand side subsidy could be provided also by impact investors. One example of such work is the newly formed Lotus Campaign . They essentially guarantee the rent payment for the tenant, therefore also reducing rent collection risk.
(D) Voucher Grant Repayment	This risk is would happen in the case of a Supplementary Voucher structure that requires repayment upon refinance or sale.	The direct mitigation of this risk would be to not accept supplementary vouchers that could require repayment.

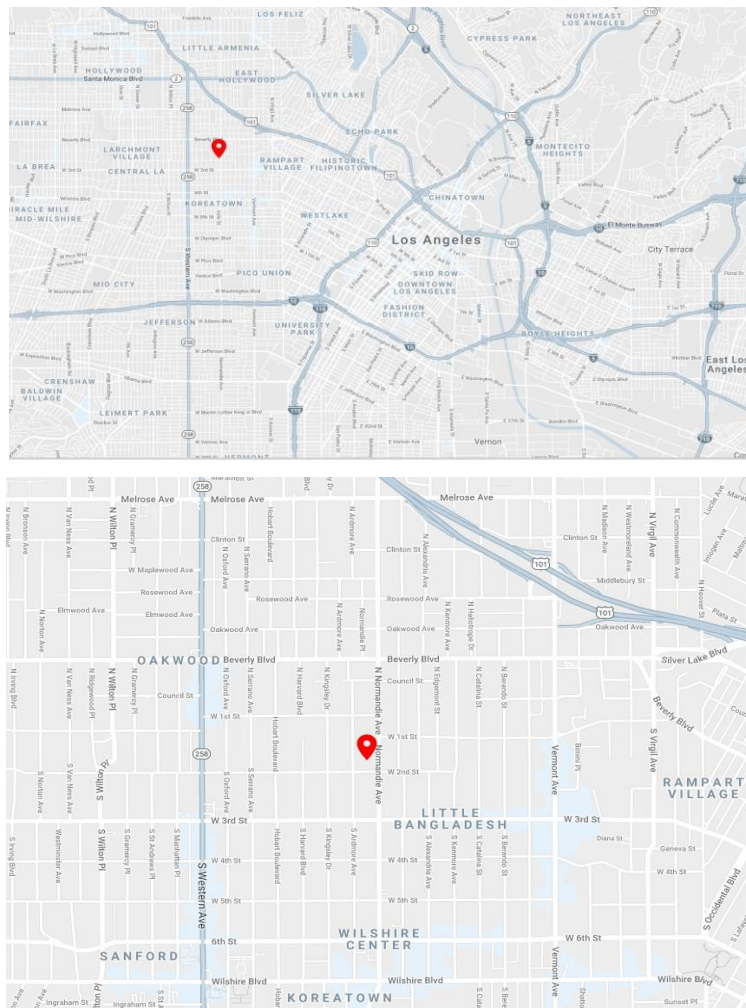
An additional capital rising risk-mitigation is through the use of impact underwriting, for the purpose of this document, the underwriting is done with the Impact Multiple of Money, IMM; Impact evaluation method implemented by Bridgespan Group and TPG Growth¹¹.

Normandie Lofts

Normandie Lofts is located in the heart of Los Angeles’s Koreatown neighborhood, just to the northwest of Little Bangladesh. It is the tallest building on its block at a modest five stories. Banners on each brick wall advertise that the building is now leasing, as are several other multi-

¹¹ Addy, Chris. Chorenge, M. Collins, M. Etzel. M. January-February 2019. "Calculating the Value of Impact Investing" Harvard Business Review from <https://hbr.org/2019/01/calculating-the-value-of-impact-investing>

unit residences up and down the street. Along the side of the building, the brick is tagged with graffiti, and the only available parking for residents is shared curbside. A small bike rack toward the back of the property has room for six bicycles. In the census tract where the Normandie Lofts project is located, 82.6% of housing units are renter-occupied, and the median rent is \$1,010.¹² Nearly one-third of the neighborhood’s renter’s pay over 50% of their household income toward rent, and another quarter pay between 30 and 50% of their incomes toward rent.¹³ Over half of the residences in the census tract were built prior to 1940; and so the old age and dilapidated condition of residential structures in combination with the area’s rent burden concerns makes the location ideal for investment in NOAH projects.¹⁴ Many residents rely on nearby bus lines for transit, and the red and purple metro lines connect the neighborhood to Hollywood and Downtown Los Angeles.



Normandie Lofts Location in a Regional Los Angeles Context

Source: Snazzy Maps

¹² United States Census Bureau. *2011-2016 American Community Survey (5-Year Estimates)*. Retrieved 9 December 2018 from: SocialExplorer

¹³ Ibid.

¹⁴ Ibid.

Business Strategy

Thesis:

Acquire neglected NOAH projects, improve quality of life of tenants and tenant profile through well thought out renovations and improved management that will positively affect the properties' physical state and reduce the operating costs; and through project upgrades, impact the tenantship (upgrades and modernization of outdated or never built amenities—for example, rooftops). Investments under the fund's projects, as Normandie Lofts, are secure and triple-bottomline real estate investments with overall high occupancy rates (low vacancy rates) and with downside protection from real estate cycles, in addition to risk reduction for low vacancy periods as it is expected to have a pre-qualified tenant waiting list and therefore lower loss to lease and collection loss due to the tenant selection process.

Investment objectives:

- Preferred Return: 8% annual rate
- Investment horizon: 5 to 7 years
- Asset Leverage <75% LTC
- Annual Cash on Cash: 5% to 9%

The Normandie Lofts NOAH Business Model is the first in its kind in the City of Los Angeles. This project allows investors to impact the workforce housing community through an immediate supply of dignified infill housing with rents accessible to low income households (below 80% area median income—AMI). We strongly believe that giving supportive housing to the urban community generates attachment to the project, which in turn creates a commitment, beyond the contractual, to make payments on time and positively impact the neighborhood's word of mouth reputation. To achieve the expected level of service to the project's tenants, a low-cost value-add improvement plan is budgeted in the first twelve months of operation. These improvements will not increase the rents and they will not displace a single tenant throughout the implementation of the plan. The improvements include energy-saving efforts, unit renovations in equipment, improved shared spaces such as landscaping, hallways and façade, and a partnership with the HAPI Foundation to encourage social activities and community inclusion. This business strategy allows Normandie Lofts to be a triple bottom line investment and be among the highest quality Class B properties in the market.

Ownership Structure

The current Ownership Structure in the General Partnership holding the Normandie Lofts project is as follows:

- Equity investor: 70%
- Sponsor: 30%
- Nonprofit HAPI Foundation: 0.01%

This specific structure aims to achieve a maximum investment by the equity partner of \$1M, currently investing \$990,000 (as seen in the Uses and Sources Section further below). This

is to provide certainty for the investor and to reduce risk exposure on a new business structure. The foundation is needed to obtain tax benefits, such as social welfare exemption provided by the City of Los Angeles.

Normandie Lofts as a Social Impact Investment

Normandie Lofts is a social impact investment with implications for housing affordability, educational achievement, health outcomes, and a cleaner environment. Compared to the U.S. Department of Housing and Urban Development's fair market rents (FMR) in Los Angeles County, an affordable unit at Normandie Lofts represents a 15% reduction in rent, or a 5.3% reduction in rent burden, for someone earning 80% AMI.¹⁵ For a resident earning 50% AMI, rent burden at Normandie Lofts is 14% lower in studio units and 20% lower in one bedroom units than local FRM.¹⁶ In a survey of Normandie Lofts residents, 70% of tenants said that their affordable rents had helped them avoid homelessness. We view this as the principal social impact of investment in affordable housing considering several tenants had previously experienced homelessness.

Normandie Lofts redevelopment improves energy efficiency by replacing existing traditional incandescent lightbulbs with LEDs. Based on 370 lightbulbs on site used an average of 6 hours per day, annual cost savings total \$4,218 project-wide, or over \$84 per unit. The bulb life of LEDs is also 25 times longer than that of incandescent bulbs, further reducing long-term maintenance costs.^{17,18} With a discount rate of 3%, these savings total over \$24,000 over the seven year life of the project. We also propose installing low-flow toilets in each unit in order to conserve water. Using 1.8 fewer gallons per flush than the existing fixtures, low-flow toilets result in 9 gallons of water saved per unit per day—equivalent to 164,362 gallons saved annually and a water bill reduced nearly \$1,400.^{19,20,21} Over seven years, the discounted cost-savings of reduced water usage total nearly \$8,000. These modest alterations combined save \$112.30 per unit per year, approximately \$32,000 over the full life of the project, and contribute to a more environmentally conscious residence and neighborhood.

Further social impact returns can be seen in educational achievement and public health outcomes as reduced rent burden enables families to spend more on their children's cognitive

¹⁵ United States Department of Housing and Urban Development. (2018). FY 2018 Fair Market Rent Documentation System. Retrieved 10 December 2018 from: <https://www.huduser.gov/portal/datasets/fmr.html#2018>

¹⁶ Ibid.

¹⁷ United States Department of Energy. (2018). How energy-efficient light bulbs compare with traditional incandescents. *Office of Energy Efficiency & Renewable Energy*. Retrieved 8 December 2018 from: <https://www.energy.gov/energysaver/saveelectricity-and-fuel/lighting-choices-save-you-money/how-energy-efficient-light>.

¹⁸ Ibid.

¹⁹ Epic Services, Inc. (27 January 2017). *3 Benefits of Low Flow and Dual Flush Toilets for Homeowners*. Retrieved 10 December 2018 from: <https://www.epicservices.com/3-benefits-low-flow-dual-flush-toilets-homeowners/>

²⁰ Rastogi, Nina Shen. (25 August 2009). The green lantern goes to the bathroom: How to do your business green. *Slate.com*. Retrieved 10 December 2018 from: <https://slate.com/technology/2009/08/what-kind-of-environmental-impact-do-toilethave.html>

²¹ Los Angeles Department of Water and Power. (2018). *Water Rates: Schedule B - Multiple Unit Residential*. Retrieved 10 December 2018 from: https://www.ladwp.com/ladwp/faces/wcnav_externalId/a-fr-schedul-b-multi-uresi?_adf.ctrlstate=17qrn0m7wg_4&_afLoop=823935388933241

development and healthcare. These social impacts are analyzed further below, as the impacts will multiply with the number of projects in the NOAH fund.

Financial Analysis of Normandie Lofts Project

As talked about at the fund level strategy, the modelling for the analyzed projects begin with a base case scenario, which determines where to focus further work. For the Normandie Lofts aside from the Base Case scenario, our sensitivity additions were the following:

- A. Property Tax Exceptions
- B. Low Interest Rate Senior Loan
 - A hopeful but unreal approach with today’s capital markets strategies
 - Could be substituted by PRI funds, B-Corporation’s investments, or high net worth impact investors (as the low interest mezzanine loan structure)
- C. Low Interest Rate Mezzanine Loan
 - High net worth individual with an impact investing interest
 - Could be substituted by PRI funds or B-Corporation’s investments in further ventures by the fund
- D. Supplementary Vouchers
 - Could be funded by PRI funds, B-Corporations or impact investors
 - Function as a typical Section 8 project-attached voucher—covers the rent up to a market level rent and, for simplicity, are attached to HUD’s county amounts
 - Designed to be payable, if desired
 - i. Payable after the investor has received the preferred return
 - ii. Could have an applied interest rate

The following two tables represent the project’s valuation in different situations and after having a sense of the achievable structures for Normandie Lofts. For additional scenarios and exit cap rate sensitivity for each, refer to the Appendices section. The chosen scenarios are at a 4.0% and a 5.0% exit cap rate and a 7-year hold:

[FIGURE ON NEXT PAGE]

% Exit Cap Rate during 18 months/stepped absorption	Unlevered Cash Flows		Levered Cash Flows		Comments
	IRR	Profit Return on Costs*	IRR	Profit Cash on cash**	
Base Case	6.15%	4,837,597 4.70%	8.49%	1,360,760 0.00%	The Exit Cap Rate is 80bps lower than the entry cap rate. This is an ideal scenario where the project renovations create additional value. The project's location is also expected to push for lower Cap Rates.
A) Tax Abatement	9.64%	8,205,908 5.72%	22.49%	4,729,071 3.37%	Having an unlevered Return on Costs lower than the interest rate of the Senior Loan (4.7% vs 5.7%) creates the a negative leverage created by the Senior Loan generates the only positive cash flow upon exit, therefore generating a projected positive IRR.
A) Tax Abatement + (C) Low Interest Mezzanine	9.64%	8,205,908 5.72%	25.28%	5,170,071 7.53%	The tax abatement is central to the project's profitability, since the unlevered Return on Costs is slightly higher than the Senior Loan Interest rate.
A) Tax Abatement + (C) Low Interest Mezzanine + (D) Supplementary Vouchers	11.07%	9,330,606 7.66%	33.12%	6,294,769 23.27%	While the unlevered returns remain constant due to the Tax Abatement, the low interest mezzanine has a positive impact on the levered cash flow and returns. This ideal scenario is to what the NOAH fund is picturing, being benefited by Supplementary Rent Vouchers that are tied per unit to a Class B market rate while providing tenants with low exposure to rent burdened situations, and all it's social benefits.
% Exit Cap Rate during 18 months/stepped absorption	Unlevered Cash Flows		Levered Cash Flows		Comments
IRR	Profit Return on Costs*	IRR	Profit Cash on cash**		
Base Case	3.29%	2,357,222 4.70%	0.00%	(1,119,615) 0.00%	The Exit Cap Rate is 20bps higher than the entry cap rate. Though this approach might be counter intuitive in an urban Infill Value Add project located in a high barrier of entry market, there is an ubiquitous late-cycle sense. The project's location is expected to push for lower Cap Rates.
A) Tax Abatement	6.72%	5,196,018 5.72%	11.62%	1,719,180 3.37%	Having an unlevered Return on Costs lower than the interest rate of the Senior Loan (4.7% vs 5.7%) creates the a negative leverage created by the Senior Loan generates the only positive cash flow upon exit, therefore generating a projected positive IRR.
A) Tax Abatement + (C) Low Interest Mezzanine	6.72%	5,196,018 5.72%	14.89%	2,160,180 7.53%	The tax abatement is central to the project's profitability, since the unlevered Return on Costs is slightly higher than the Senior Loan Interest rate.
A) Tax Abatement + (C) Low Interest Mezzanine + (D) Supplementary Vouchers	8.28%	6,352,547 7.66%	24.27%	3,316,709 23.27%	While the unlevered returns remain constant due to the Tax Abatement, the low interest mezzanine has a positive impact on the levered cash flow and returns. This ideal scenario is to what the NOAH fund is picturing, being benefited by Supplementary Rent Vouchers that are tied per unit to a Class B market rate while providing tenants with low exposure to rent burdened situations, and all it's social benefits.

Notes

* Return on Costs upon stabilization: Total Development Costs / Unlevered NOI

** Cash on cash upon stabilization: Invested Equity / Equity CF

Table 1. Return Scenarios

It is no surprise that the 100bps reduction on the exit cap rate has a strong impact on the IRR and profit. Comparing both tables, we can see that the IRR sensitivity to a cap rate drop is dramatic, increasing approximately by 20% in all scenarios. Low exit cap rates, rent increases, and absorption are three of the easiest-to-miss project level variables, specifically when comparing original underwriting and actual performance; it is hard to predict the future. The projection of these metrics are the art that fuels pro formas—even with the highest quality qualitative and quantitative analysis, all projects are exposed to macroeconomic risks which in turn affect returns for investors and developers.

To mitigate the risks associated with underwriting it is crucial to develop a sophisticated model that can measure impacts of small changes in the project’s context. As previously described, the built scenarios for this particular project develop from the base scenario without any use of subsidies. Going forward from the base case, it is easy to measure the impact on returns once we add subsidies or change variables, accounting for the sensitivities that these simple changes in the strategy or market have on the expected returns.

The worst case scenario for Normandie Lofts is the levered base case at 5% exit cap rate, with a loss of \$1.12 million caused by the negative impact debt has upon a 3.3% unlevered IRR. Nonetheless, as seen in *Table 1*, only by using the tax abatement the returns shift to positive numbers. It is reasonably expected to use the tax abatement, due to the low-income housing nature of the project. Adding to this scenario, the low-interest rate mezzanine loan (\$2 million at 2.25% interest rate, as explained below) is already negotiated as part of the capital stack for the project. This loan comes from a high net worth individual with a social impact focus, though the structure is currently not a PRI or B Corporation investment as such. The ideal scenario for future NOAH is to use either of the latter structures.

Seven Year Pro Forma

The pro forma shown below is the expected case for the Normandie Property, using tax abatement and low interest mezzanine as the only two subsidies. Further scenarios are shown in the appendices.

[FIGURE ON NEXT PAGE]

Normandie Lofts Yearly Cash Flow

Year	0	1	2	3	4	5	6	7	8
Rent Income - Tenants									
POTENTIAL GROSS INCOME		723,540	742,622	762,276	782,520	803,371	824,848	846,969	-
Vacancy & Bad Debt									
Subtotal		(36,177)	(37,131)	(38,114)	(39,126)	(40,169)	(41,242)	(42,348)	-
Subtotal		687,363	705,491	724,162	743,394	763,203	783,605	804,620	-
Concessions & Bad Debt									
Subtotal		(2,388)	(2,451)	(2,516)	(2,582)	(2,651)	(2,722)	(2,795)	-
Subtotal		684,975	703,040	721,647	740,812	760,551	780,883	801,825	-
Other Income									
Subtotal		34,368	35,399	36,461	37,555	38,682	39,842	41,037	-
Supplementary Voucher - Income									
EXTRA INCOME		-	-	-	-	-	-	-	-
EFFECTIVE GROSS INCOME		719,343	738,439	758,108	778,367	799,233	820,726	842,863	-
Expenses									
Subtotal		(187,300)	(192,713)	(198,285)	(204,021)	(209,977)	(216,007)	(222,267)	-
NET OPERATING INCOME		532,043	545,727	559,823	574,345	589,306	604,718	620,596	-
Sales Proceeds									
Total Net Sale Proceeds		-	-	-	-	-	-	-	-
Total Net Revenues - Unlevered		532,043	545,727	559,823	574,345	589,306	604,718	620,596	-
Acquisition & Closing Costs									
Subtotal		(10,103,410)	-	-	-	-	-	-	-
Capital Expenditures									
Subtotal		(313,336)	(161,368)	-	-	-	-	-	-
Total Development Costs - Unlevered		(10,103,410)	(313,336)	(161,368)	-	-	-	-	-
NET CASH FLOW - Unlevered		218,707	384,359	559,823	574,345	589,306	604,718	620,596	-
Senior & Junior Loan									
FINANCING CASH FLOW		(903,410)	(484,762)	(484,762)	(484,762)	(484,762)	(484,762)	(484,762)	(9,252,410)
NET CASH FLOW - Levered		(684,703)	(100,403)	75,061	89,584	104,544	119,957	340,748	-
Funding Gap - Interest Coverage During Stabilization									
Total Investment									
Cash on Cash		0.0%	0.0%	5.8%	6.9%	8.0%	9.2%	262.1%	0.0%
Sources									
Equity		1,300,351							
Equity Investor		910,246							
Sponsor Investment		390,105							
Debt		9,200,000							
Senior Loan, First TD - Acquisition (atypical loan)		7,200,000							
Junior (Mezzanine) Loan - Acquisition & CapEx (low interest private "Impact" lender)		2,000,000							
Total		10,500,351	130,886	-	-	-	-	-	-

Figure 1. Seven-Year Proforma. Scenario (A + C). 5.00% Exit Cap Rate

NOAH Investment Fund's Context and Returns across Los Angeles County

Context

Los Angeles County is an especially appropriate location for a NOAH investment fund and has a particular need for many of the social impacts that result from NOAH redevelopment. In 1,774 of the county's 2,238 census tracts, the median renter spends over 30% of their household income on rent, including 148 tracts where the median renter is severely rent-burdened, spending over 50% of household income on rent²². Many of these rent burdened areas align with regions where residential structures tend to be over 50 years old. In 138 census tracts, the median year in which the residential structures were built was before 1940, and another 979 census tracts had median construction years between 1940 and 1960²³. These old residences in rent-burdened areas make ideal candidates for NOAH investment and development. As noted above, opportunity zones present another layer of investment incentive that may overlap with regions where NOAH projects are ideal. Maps of median rent burdens and median age of residential structures by census tract across south Los Angeles County are included in the Appendices, as well as local opportunity zones. The same social impacts measured at the individual level and the Normandie-project level can be extrapolated and magnified as the NOAH investment fund expands to additional projects throughout Los Angeles County.

Social Returns in Education and Health

As shown above, inexpensive renovations to lighting and plumbing across each NOAH project are forecasted to save over \$112 per unit per year. Broader and more socially impactful returns are seen in public education and public health as the number of developments in the fund increases. There are at least 5 school-age children residing in Normandie Lofts—in 10% of the building's units—and we presume this is representative of NOAH developments across similar neighborhoods countywide. Returning to our foremost social impact, avoided homelessness, we know that homelessness in childhood increases the later likelihood of unemployment and incarceration. Improved housing stability is associated with improvements in education outcomes as students are less likely to switch schools and their number of absences is reduced.²⁴ Reducing a tenant's severe 60% rent burden to 30%, for example, improves their children's reading and math test scores—equivalent to 7% of the change predicted by a mother having a college degree.²⁵ Educational development subsequently brings higher expected lifetime earnings for children growing up in low-income households.

²² United States Census Bureau. *2011-2016 American Community Survey (5-Year Estimates)*. Retrieved 9 December 2018 from: SocialExplorer

²³ Ibid.

²⁴ Cunningham, Mary & Graham MacDonald. (May 2012). Housing as a platform for improving education outcomes among low-income children. *Urban Institute*. Retrieved 9 December 2018 from: <https://www.urban.org/sites/default/files/publication/25331/412554-Housing-as-a-Platform-for-Improving-Education-Outcomesamong-Low-Income-Children.PDF>

²⁵ Newman, Sandra J. & C. Scott Holupka. (2015). Housing affordability and child well-being. *Housing Policy Debate*, 25(1), 116-151.

NOAH projects across Los Angeles County also present an opportunity to ameliorate incidences of lead poisoning. Because lead paint was not made illegal until 1978, 87% of residences built before 1940 and 69% of residences built between 1940 and 1960 still contain lead paint.²⁶ An estimated 40 percent of lead poisoning cases in Los Angeles County are the result of exposure in the home, and an additional figure in the Appendix shows that youth lead poisonings are most frequent in the south Los Angeles neighborhoods with older residential structures and higher rent burdens.²⁷ Eliminating lead paint hazards before age 6 has implications for future education, criminality, and lifetime earnings. A thorough literature review has estimated the value of avoided special education expenditures at \$14,317 per child for 3 years and reduced medical treatment costs and parental leave costs at \$684 per child per year. The reduced social costs of crime and reduction in welfare use across TANF, SNAP, and housing assistance are valued at \$399 and \$691 per child, respectively. Furthermore, improvements in IQ, test scores, graduation rates, and worker productivity that result from avoiding lead paint exposure have a lifetime earnings impact of an additional \$723,300 per child.^{27,28} In sum, the return on investment for lead paint removal is between \$17 and \$221 for each dollar spent on rehabilitation.²⁹

NOAH developments countywide can be an appropriate and effective solution to this public health concern as they target the older residences where lead exposure is most common. With lead paint abatement affecting an estimated 5 children residing at Normandie Lofts in combination with the aforementioned environmental impacts affecting every unit, the total estimated social impact of Normandie Lofts redevelopment is estimated at over \$3.7 million through the 7 year life of the project. In other words, the social impact is valued at 2.87 times the equity invested in the project's development.

Conclusion

Impact investing is a relatively recent trend in the world of capital markets. This paradigm shift is starting to make a difference in wealth distribution while it aids inequality reduction—not to mention financial returns and social and environmental impacts across the globe. The Normandie Lofts development and the proposed Los Angeles County NOAH Impact Investment

²⁶ Fernandes, Deepa. (23 September 2015). Harm at home: Lead poisoning of children persists in South Los Angeles. *Southern California Public Radio*. Retrieved 9 December 2018 from: <https://www.scpr.org/news/2015/09/23/54126/harm-at-home-leadpoisoning-of-children-persists-i/> ²⁷ Ibid.

²⁷ Muennig, Peter. (7 September 2009). The social costs of childhood lead exposure in the post-lead regulation era. *Archives of Pediatrics and Adolescent Medicine*, 163(9), 844-849. Retrieved 1 April 2019 from: <https://jamanetwork.com/journals/jamapediatrics/article-abstract/382153>

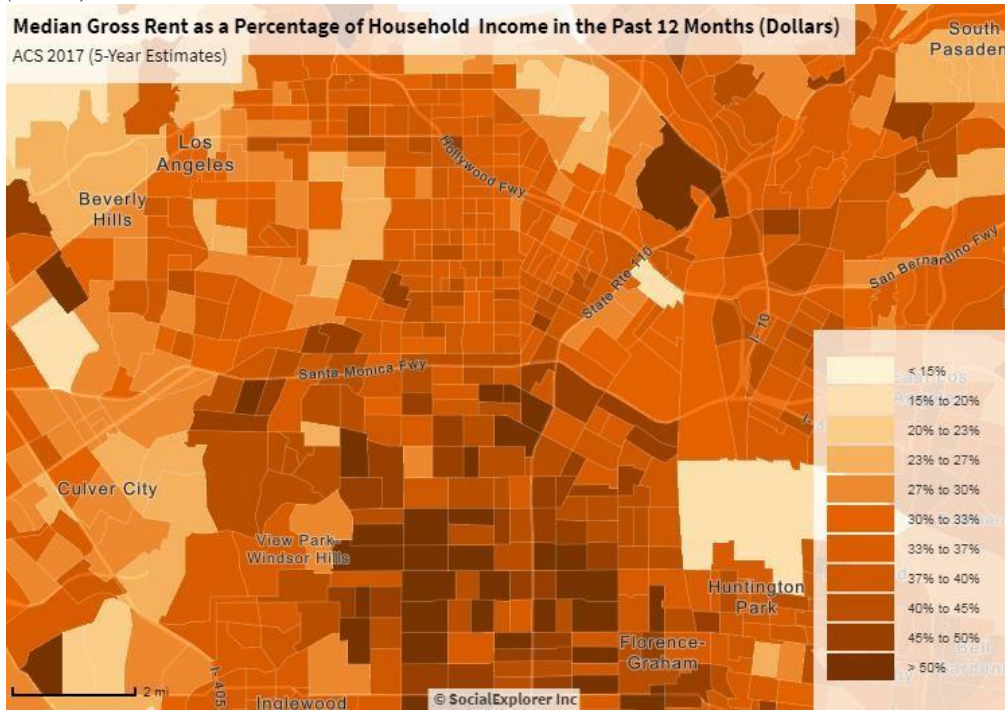
²⁸ Grosse, S.D., T.D. Matte, J. Schwartz, & R.J. Jackson. (June 2002) Economic gains resulting from the reduction in children's exposure to lead in the United States. *Environmental Health Perspectives*, 110(6), 563-569. Retrieved 1 April 2009 from: <https://www.ncbi.nlm.nih.gov/pubmed/12055046>

²⁹ Gould, Elise. (1 July 2009). Childhood lead poisoning: Conservative estimates of the social and economic benefits of lead hazard control. *Environmental Health Perspectives*, 117(7), 1162-1167. Retrieved 1 April 2009 from: <https://ehp.niehs.nih.gov/doi/pdf/10.1289/ehp.0800408>

Fund will have an immediate impact in the preservation for affordable housing in Los Angeles County, as well as environmental and regional impacts through simple renovations. The housing affordability, educational achievement, public health improvement, and cleaner environment that are encouraged by projects such as Normandie Lofts are always relevant—the impact is real and substantial. This binary approach to social and environmental impact has many implications. One affordable unit is at least one person or family without rent burden—with more stable housing and a happier and healthier household. Statistics, financial metrics, and costs aside, the impact of such projects has immeasurable human capital returns. However, we urge the need for a unified measuring system that can deliver metrics to aid impact investors in any decision process, and keep encouraging entrepreneurs across all industries to seek equality, justice, and environmental consciousness.

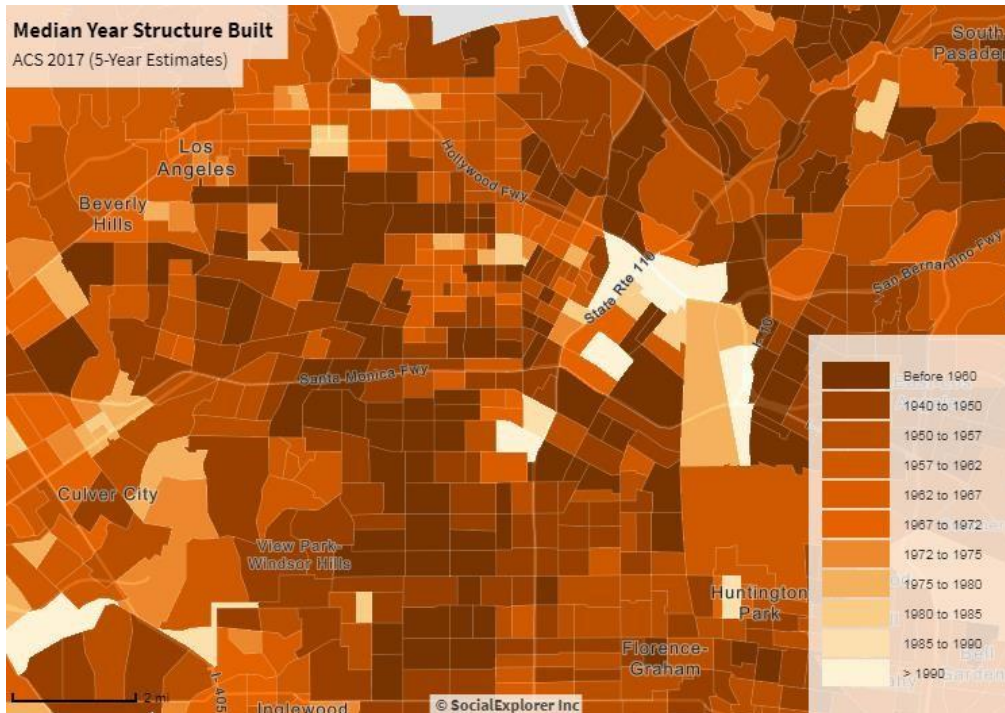
Appendix

Figure 1: Median Gross Rent as a Percentage of Household Income in South Los Angeles County (2016)



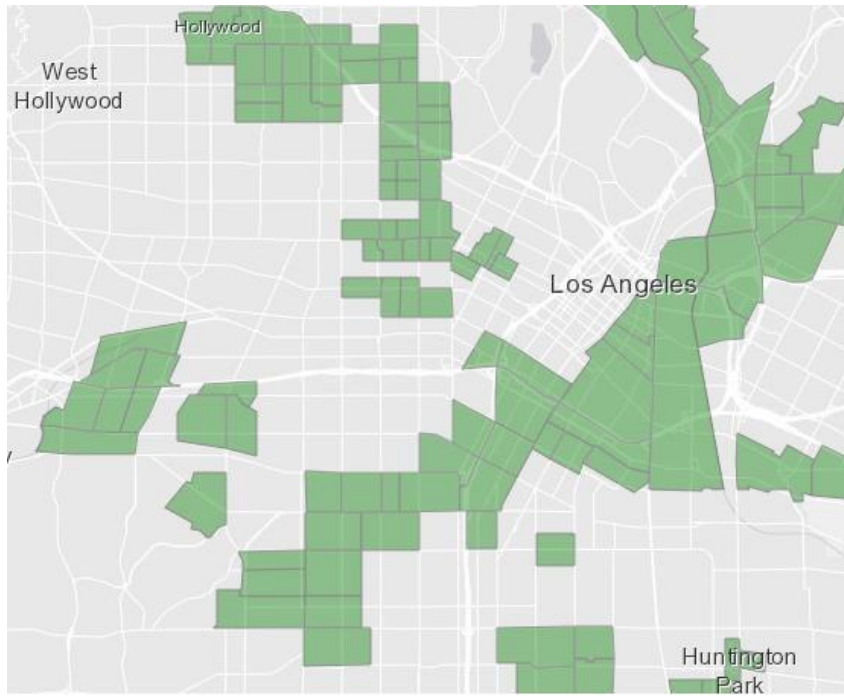
Source: American Community Survey, Social Explorer

Figure 2: Median Year Residential Structure Built in South Los Angeles County (2016)



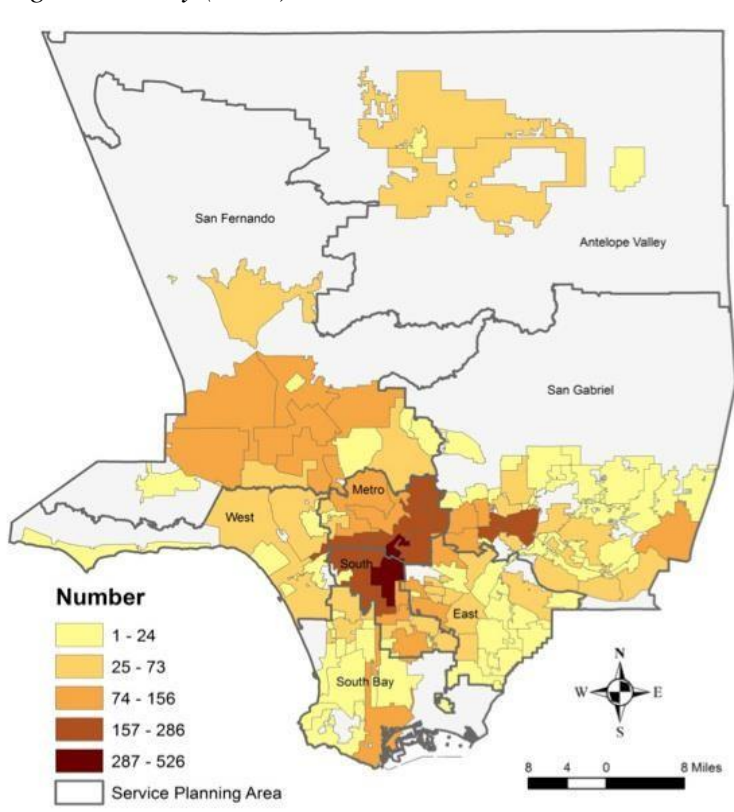
Source: American Community Survey, Social Explorer

Figure 3: Department of Finance Designated Opportunity Zones in Los Angeles County (2017)



Source: Department of Finance, opzones.ca.gov

Figure 4: Incidences of Persons Under 21 Reporting Elevated Levels of Lead in Blood in Los Angeles County (2011)



Source: Southern California Public Radio

Figure 5: Scenario (A + C) Assumptions:

Loan Structure & Voucher Grant

Senior Loan, First TD - Acquisition (atypical loan)

LTC	80%	7,200,000
Financing Fee	1.00%	
Lender Fee	2.50%	
Annual Interest Rate	5.40%	
Amortization Period	40 years	
Term	7 years	

Loan Type **Fully Amortizing**
 Payment Type Balloon Payment

Junior (Mezzanine) Loan - Acquisition & CapEx (low interest private "impac

Loan Sizing (per unit)	40,000	2,000,000
Fee	1.00%	
Annual Interest Rate	2.25%	
Amortization Period	20 years	Not Applicable
Term	7 years	

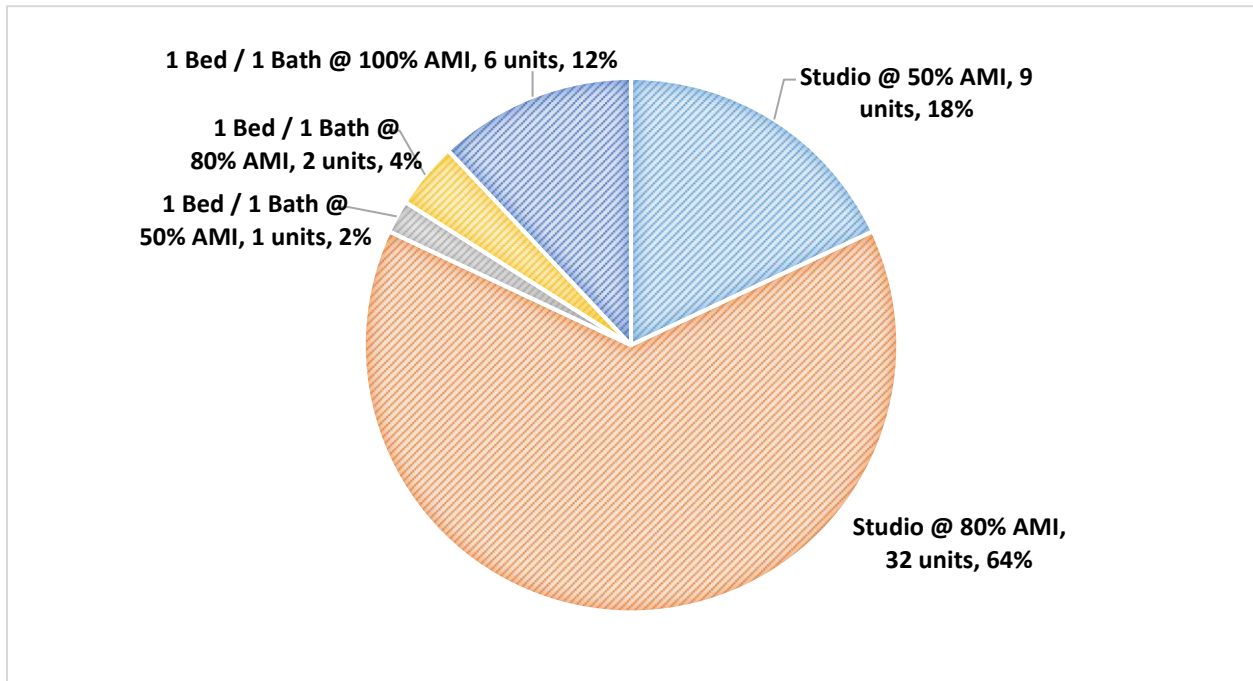
Loan Type **Interest Only**
 Payment Type Bullet Payment

Voucher Grant ** Repayable after 8% pref. return of Tier 1

Rate	2.25%
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Unit Mix

Unit Type	Unit Economics	Unit mix (#)	Unit Mix (%)	Unit Area (SF)	Total Area (SF)	Area (%)	Montly rent (\$)	\$/SF
Studio	50% AMI	9	18.0%	375	3,375	15.8%	810	2.16
Studio	80% AMI	32	64.0%	375	12,000	56.3%	1,226	3.27
1 Bed / 1 Bath	50% AMI	1	2.0%	660	660	3.1%	857	1.30
1 Bed / 1 Bath	80% AMI	2	4.0%	660	1,320	6.2%	1,295	1.96
1 Bed / 1 Bath	100% AMI	6	12.0%	660	3,960	18.6%	1,721	2.61
Studio	Vacant 80% AMI	-	0.0%	660	-	0.0%	1,302	1.97
1 Bed / 1 Bath	Vacant 100% AMI	-	0.0%	660	-	0.0%	1,674	2.54
Total / Average		50	100%		21,315	100%		2.83



Expenses

Expenses		Yearly Expense	PSF	% of EGI
RE Taxes	13,220 Per Year	13,220	0.62	1.7%
Insurance	275 Per Unit Per Year		0.65	1.8%
Utilities	900 Per Unit Per Year		2.11	5.9%
R&M	500 Per Unit Per Year	13,750	1.17	3.3%
Payroll	525 Per Unit Per Year		1.23	3.5%
General & Administrative Management Fee	150 Per Unit Per Year	45,000	0.35	1.0%
Advertising	3.0% EGI		0.12	0.0%
Replacement Reserves	50 Per Unit Per Year		0.12	0.3%
Monitoring Fee	500 Per Unit Per Year	25,000	1.17	3.3%
	7,500 Per Year		0.35	1.0%
		26,250		
		7,500		
		2,500		
		25,000		
		7,500		
Total				22%

CapEx

CapEx Summary	Cost/Unit	# Of Units	Total	PSF
Exterior Paint	500	50	25,000	1.17
Interior Upgrades	3,000	50	150,000	7.04
Gates/Security	300		15,000	0.70
Roofs/Gutters/Windows/Façade	1,000		50,000	2.35
Landscaping/Common Areas/Exterior General	200		10,000	0.47
Clubhouse/Common Areas/Hallways	300		15,000	0.70
Recreational Amenity Upgrades	400		20,000	0.94
Hvacs/Water Heaters/Plumbing/Mechanical	500		25,000	1.17
Signage Upgrades	500		25,000	1.17
Miscellaneous/Contingency	2,168		108,400	5.09
Construction Management Fee	6% of total costs		26,604	1.25
Total			470,004	22.05

Scenario Manager

Retrun Bump Dashboard	
(A) Subsidized Property Tax	Yes
(B) Low Interest Rate Senior Loan	No
(C) Low Interest Rate Mezzanine	Yes
(D) Supplementary Vouchers Mark to Market for Class B	No
(D) Voucher Grant Repayment	N/A

Figure 6: Scenario (A + C) Returns and Exit Cap Rate Investor IRR Sensitivities

Return Summary	Profit	IRR	Equity Multiple	Return On Costs	Cash on Cash
NET CASH FLOW - Unlevered	5,488,007	7.20%		5.72%	
NET CASH FLOW - Levered	2,452,170	18.58% 17.39%			9.22%
Investor's Returns	1,593,652	21.10%			
Sponsor's Returns	933,373		2.75x 3.39x		

NOAH Normandie Lofts Equity Returns		
	Dollar Amount	Return Metrics
<i>Equity Investor</i>		
Investment	\$ 632,387	IRR = 17.39%
Profit	\$ 1,593,652	Multiple = 2.75x
<i>Sponsor Investment</i>		
Investment	\$ 271,023	IRR = 21.10%
Profit	\$ 933,373	Multiple = 3.39x

Exit Cap Rate	4.50%	4.75%	5.00%	5.25%	5.50%	5.75%	6.00%
IRR = 17.39%	22.33%	19.88%	17.39%	14.81%	12.11%	9.23%	5.77%

Figure 7: Scenario (A + C) Uses and Sources

Uses	Total	Per Unit	PSF	%
Acquisition & Closing Costs	10,103,410	202,068	474	96%
Capital Expenditures	474,704	9,494	22	5%
Funding Gap - Interest Coverage During Stabilization	(77,763)	(1,555)	4	-1%
Total Uses	10,500,351	210,007	493	100%
Sources	Total	Per Unit	PSF	%
Equity	1,300,351	26,007	61	12%
Senior Loan *	7,200,000	144,000	338	69%
Junior (Mezzanine) Loan **	2,000,000	40,000	94	19%
Total Sources	10,500,351	210,007	493	100%
Notes - Uses & Sources				

* Atypical Senior Loan Lending structure due to the long term amortization period (40 yrs) and the fixed interest rate (amortization rate) of 5.40%

** Mezz loan provided by private lender (high net worth individual) with an impact investing thesis with low financial return rates.

Figure 8: Other Financial Scenarios

Scenario	A) Subsidized Property Tax	B) Low Interest Rate Senior Loan	C) Low (Interest Rate Mezzanine	D) Supplementary Vouchers	Unlevered Return on Costs	Levered Return on Costs	Exit Cap Rate	Unlevered IRR	Levered IRR	Levered Profit
Base Scenario	No	No	No	No	7.70	0.00	5.00	7.70	9.16	(827,626)
Base Scenario Cap Rate Sensitivity	7.50	7.70	7.00	7.00	7.70	7.50	7.70	7.00	7.00	7.00
IRR	7.82	IRR N/A	IRR N/A	IRR N/A	IRR N/A	IRR N/A	IRR N/A	IRR N/A	IRR N/A	IRR N/A
Scenario A	Yes	No	No	No	7.70	0.00	5.00	7.70	11.03	2,011,170
Scenario A Cap Rate Sensitivity	7.50	7.70	7.00	7.00	7.70	7.50	7.70	7.00	7.00	7.00
IRR	10.13	10.13	16.50	13.00	11.30	0.44	6.02	0.06	IRR N/A	IRR N/A
Scenario A + C	Yes	No	Yes	No	7.70	0.33	5.00	7.70	10.50	2,452,170
Scenario A + C Cap Rate Sensitivity	7.50	7.70	7.00	7.00	7.70	7.50	7.70	7.00	7.00	7.00
IRR	11.33	10.00	17.30	14.01	12.11	1.21	0.32	7.77	1.51	IRR N/A
Scenario A + C + E	Yes	No	Yes	Yes	7.66	21.61	5.00	7.00	21.16	3,686,615
Scenario A + C + D Cap Rate Sensitivity	7.50	7.70	7.00	7.00	7.70	7.50	7.70	7.00	7.00	7.00
IRR	12.42	11.24	20.24	22.12	24.04	23.60	23.60	20.21	17.76	14.00
Scenario A + B + C + E	Yes	Yes	Yes	Yes	7.66	54.63	5.00	7.00	66.63	5,262,361
Scenario A + B + C + D Cap Rate Sensitivity	7.50	7.70	7.00	7.00	7.70	7.50	7.70	7.00	7.00	7.00
IRR	17.40	16.61	23.04	23.41	26.00	25.30	25.30	23.00	26.36	24.02

Figure 9: Impact Multiple of Money

Normandie Lofts Impact Multiple of Money		7 years	
Hold Period	Value	IMM	
Equity	1,300,351		
Environmental Return on Investment	31,952	0.02x	
Social Return on Investment	3,706,291	2.85x	
Total Impact Return on Investment	3,738,243	2.87x	

Impact Source	Category	Unit	Impact Value per Unit	Normandie Population	First Year Impact Value	Discount Rate	Impact Value over 7-Year Life of Project
1 Incandescent Lightbulb Replacement	Environmental	\$ per bulb per year	\$11.40	370	\$4,218.00	3%	\$24,007.34
2 Low-Flow Toilet Installation	Environmental	\$ per unit per Year	\$27.92	50	\$1,395.90	3%	\$7,944.95
3 Saved Special Education Costs	Social	\$ per child per year	\$14,317.00	1	\$14,317.00	3%	\$39,306.25
4 Reduced Medical Treatment Costs	Social	\$ per child per year	\$684.00	5	\$3,420.00	3%	\$19,465.41
5 Reduced Social Costs of Crime	Social	\$ per child per year	\$399.00	5	\$1,995.00	3%	\$11,354.82
6 Reduced Welfare Costs	Social	\$ per child per year	\$691.00	5	\$3,455.00	3%	\$19,664.62
7 Increased Productivity, Lifetime Earnings	Social	\$ per child per year	\$723,300.00	5	\$3,616,500.00	3%	\$3,616,500.00
Total							\$3,738,243.39