

Strategies to Help Homeowners Finance Accessory Dwelling Units in Austin

A report on findings from a student-led research project

May 20, 2016

Course: CRP 386: Financing Real Estate Projects: Nonprofit and For-Profit

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The idea for this project came from a realization from Elizabeth Mueller, one of my faculty colleagues in the Community and Regional Planning program in the School of Architecture here at the University of Texas at Austin. When the Austin City Council passed legislation this past November to make it possible for more homeowners to build detached Accessory Dwelling Units (ADUs)—basically, backyard cottages that could serve as a separate home behind the main house—she wondered, **“will anyone be able to afford to build them?”**

That simple question—along with a quick realization that, in all too many cases at least, the answer will be “no”—became the basis for the work that the students of my Financing Real Estate Projects class have done as their capstone for the course. During the semester they organized themselves into groups that tackled four interrelated questions:

- What problem concerning the financing of ADUs, exactly, are we most concerned with addressing?
- What have been some promising precedents from other cities?
- What are some promising institutional partnerships and already existing financing tools that could be used to help more Austin homeowners build ADUs?
- What is the potential for one particular, ambitious type of funding mechanism—a revolving loan fund—that could be initiated by a partnership led by the City of Austin?

These questions are not easy ones to answer, not least because little research, to my knowledge, has been done on this topic. What the students have done, and by extension what the City of Austin may elect to do in the future, necessarily requires a certain amount of groping in the dark. But they have produced valuable information that I hope will be of use to City of Austin staff and elected officials and other stakeholders including everyday citizens.

No such project can be done without outside help. The students built on the solid foundation of pioneering work launched in 2008 as part of the Alley Flat Initiative (AFI), a partnership between UT-Austin’s School of Architecture, Guadalupe Neighborhood Development Corporation (GNDC), and the Austin Community Design and Development Center (ACDDC). We thank Nicole Joslin and Michael Gatto of ACDDC for their extensive input into the students’ work. We are also grateful for the input of staff members for Austin City Councilmembers, including Jason Lopez (Coun. Ann Kitchen), Ashley Richardson (Coun. Sabino Renteria), and John Lawler (Coun. Gregorio Casar). And Elizabeth Mueller herself, who sparked the original idea behind this project, continued to provide valuable advice and feedback throughout.

Above all, the biggest thanks go to the students. Drawing on their life and professional experiences and education in a variety of disciplines, they worked hard and with unflagging enthusiasm and good humor. I provided some guidance here and there, but ultimately this project is theirs and theirs alone. They did good work—and at the end of the day, that’s really what it’s all about.

Jake Wegmann

The Accessory Dwelling Unit Problem

Housing Costs in Austin

Population Increases, Vacancy Rates, and Housing Cost Burden

Austin has attracted many newcomers over the last decade. In 2010, Austin had an estimated 354,241 housing units, and the total number of housing units increased by 28% from 2000 to 2010.¹ It has been one of the country's fastest growing cities with about 165 new people moving into the region every day, contributing to a population growth rate of 3.2% for 2014.² This is not a new trend. Between 2000 and 2010, Austin's population grew by 20%.³ This can be attributed to the city's climate and surrounding landscapes, job opportunities, and the presence of a major university.

The influx of people has created additional demand for housing for rental and ownership. Rental prices have increased as a result of increased demand and low vacancy rates, as well as the fact that apartment construction has not kept pace with demand during and after the 2008 recession.⁴ Figure 1 illustrates the low apartment vacancy rates within Austin in recent years. The increasing population and rent prices with concomitant slower increases in incomes and apartment construction have resulted in an affordability gap. According to the 2014 Comprehensive Housing Market Analysis, there is a 48,000 unit affordable housing shortfall in Austin.⁵ As illustrated in Figure 2, a shrinking share of housing units are within reach of the lower income residents of Austin.

¹ City of Austin, *Imagine Austin*, June 15, 2012, 28.

² Michael Theis, "Austin, Surrounding Counties, Among Fastest-Growing in U.S. in 2014, Census Data Confirms," September 17, 2015, <http://www.bizjournals.com/austin/news/2015/09/17/austin-surrounding-counties-among-fastest-growing.html>.

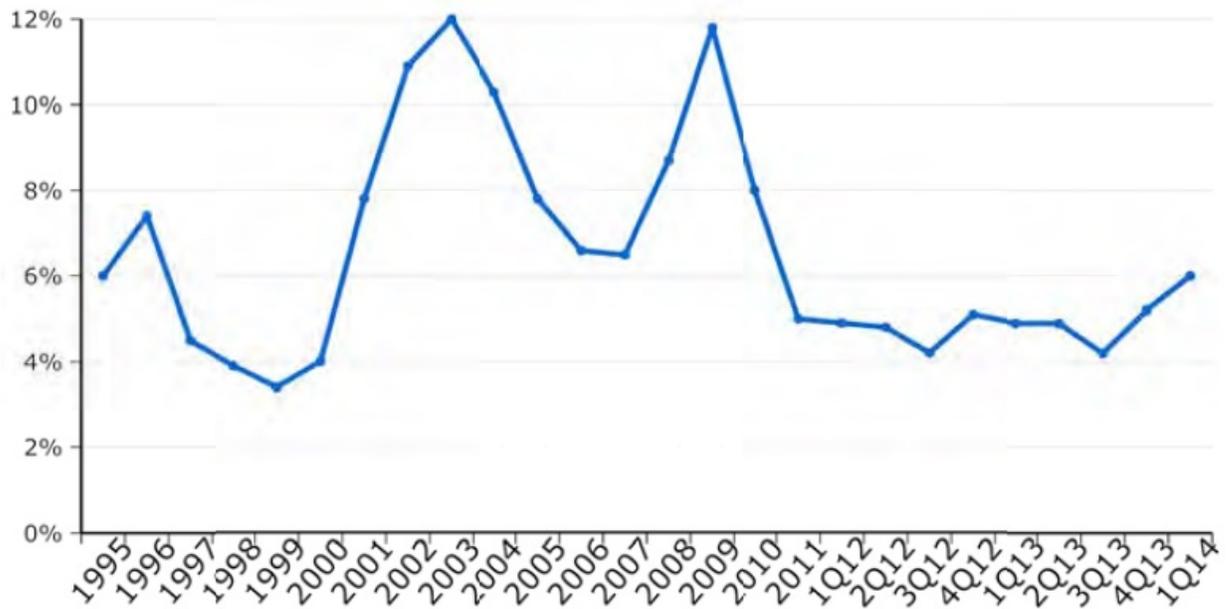
³ City of Austin, *Imagine Austin*, June 15, 2012, 22. About two-thirds of the 20% population increase is due to natural growth and new arrivals. The other approximately one-third is the result of annexation.

⁴ City of Austin, *Imagine Austin*, June 15, 2012, 28.

⁵ City of Austin, Neighborhood Housing and Community Development Department, "2014 Comprehensive Housing Market Analysis," July 31, 2014, 8, http://austintexas.gov/sites/default/files/files/NHCD/2014_Comprehensive_Housing_Market_Analysis_-_Document_reduced_for_web.pdf.

Figure 1. Multifamily Vacancy Rates, Austin MSA, 1995-1Q14.⁶

Multifamily Vacancy Rates, Austin MSA, 1995-1Q14



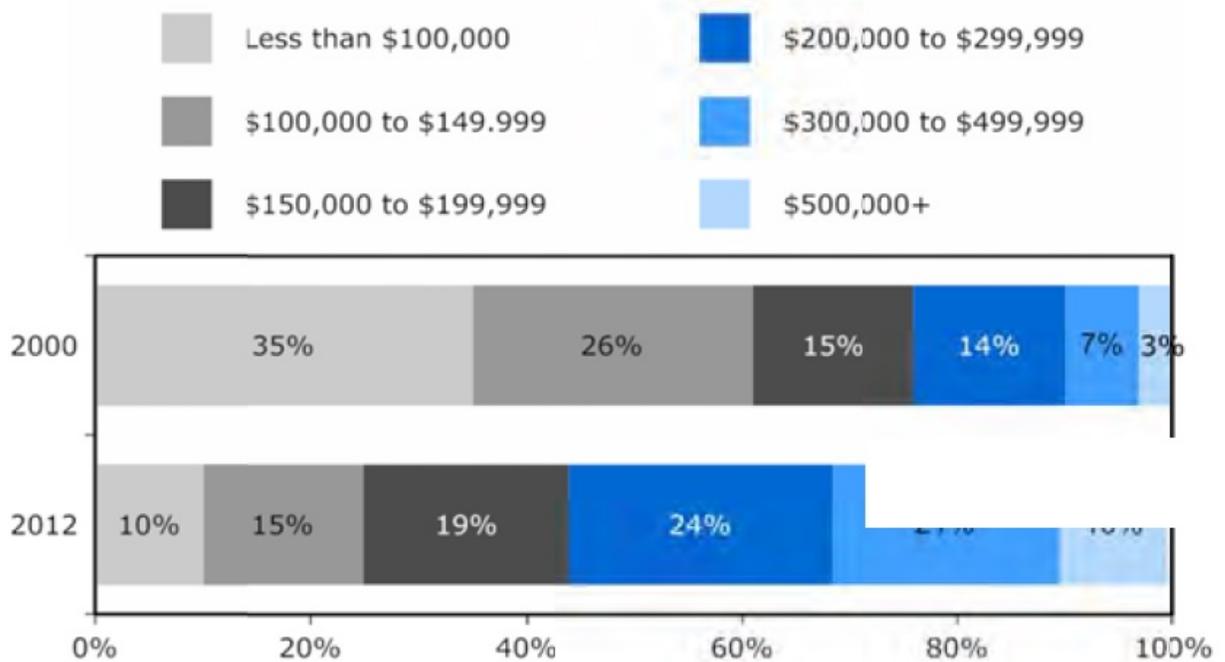
Source: Austin Investor Interests.

Note: Austin MSA Rental vacancy rates have fluctuated around 5 percent since 2011 after peaking in 2009 (Source: 2014 Comprehensive Housing Market Analysis).

⁶ City of Austin, Neighborhood Housing and Community Development Department, "2014 Comprehensive Housing Market Analysis," July 31, 2014, 7, http://austintexas.gov/sites/default/files/files/NHCD/2014_Comprehensive_Housing_Market_Analysis_-_Document_reduced_for_web.pdf.

Figure 2. Shifts in Home Values, Austin, 2000 and 2012.⁷

Shifts in Home Values, Austin, 2000 and 2012



Source: U.S. Census, 2000, and 2012 ACS.

Between 2002 and 2012, median housing costs increased by 85 percent, while household incomes grew at a much lower rate.⁸ Between 1998 and 2008, the median single-family house price increased by almost 90 percent (\$129,900 to \$240,000) while the percentage of all single-family houses considered affordable declined from 42 to 28 percent.⁹ During the same period, Austin’s median family income increased by only 36 percent.¹⁰

The gravity of household affordability in Austin can be captured by the degree to which Austinites are cost burdened. Individuals are considered cost burdened if they are paying more than 30 percent of their gross income on housing. According to the 2014 Comprehensive Housing Market Analysis, “half of renters and 28 percent of owners pay more than 30 percent of their gross income toward housing costs and are ‘cost burdened.’”¹¹ Cost burden is higher for

⁷ City of Austin, Neighborhood Housing and Community Development Department, “2014 Comprehensive Housing Market Analysis,” July 31, 2014, 7, http://austintexas.gov/sites/default/files/files/NHCD/2014_Comprehensive_Housing_Market_Analysis_-_Document_reduced_for_web.pdf.

⁸ City of Austin, *Imagine Austin*, June 15, 2012, 28.

⁹ City of Austin, *Imagine Austin*, June 15, 2012, 28.

¹⁰ City of Austin, *Imagine Austin*, June 15, 2012, 28.

¹¹ 8.

low-income residents, with 53 percent of owners, and 69 percent of renters burdened by housing costs.¹²

What is an ADU? Why are we Proposing ADUs as a Solution?

ADU Defined

An ADU or accessory dwelling unit is a living unit added to property containing a single-family home. It can be attached to the existing unit or it can be a freestanding structure. However, city regulations in Austin only recognize free-standing units as ADUs. For the purpose of this report, an ADU or accessory dwelling unit is a small, detached house built in the backyard of a single-family lot. It is also sometimes referred to as a secondary dwelling unit, granny flat, alley flat, or backyard cottage. Accessory dwelling units may be built as an additional unit for a family member, such as an aging parent, or as a source of additional income to the homeowner via collecting rent from the unit. From a city planning point of view, ADUs help by providing infill development and increasing residential density, and by reducing sprawl and the related environmental and economic stresses that come with it.

Austin's ADU Ordinance

In order to address issues of affordability, on November 19 2015, the City of Austin passed an ordinance amending requirements for ADU developments.¹³ The changes are promoted as a way to facilitate ADU construction, which was seen as too restrictive prior to the ordinance. For instance, from 2007 to mid-2015 only 230 ADUs were constructed.¹⁴ The ordinance is designed to promote construction of ADUs in the city. As per the new regulations, the new minimum lot size is reduced to 5,750 square feet for SF3 zoned lots.¹⁵ The maximum size of an ADU has been increased to 1,100 square feet or 0.15 FAR (Floor Area Ratio), whichever is smaller. The City reduced minimum distance from the main structure to 10 feet from 15 feet, while eliminating the requirement of the ADU entry being 10 feet behind the property line. While there is a one parking space requirement in addition to the parking of the main structure, parking requirements are eliminated for parcels within a 1/4 mile of activity corridors as identified by the *Imagine Austin* comprehensive plan. ADUs cannot be used for type 2 rentals (non-owner occupied single-family or duplex rental), and short-term rentals are limited to 30 days per year. The new ordinance also eliminated driveway requirements for ADUs.¹⁶

Benefits of ADUs

The potential benefits of ADUs are numerous. In addition to increasing a community's tax base and providing for housing with lower per unit infrastructure costs, ADUs offer the opportunity to increase the number and variety of housing units throughout the community, with potential affordability implications.

¹² City of Austin, Neighborhood Housing and Community Development Department, "2014 Comprehensive Housing Market Analysis," July 31, 2014, http://austintexas.gov/sites/default/files/files/NHCD/2014_Comprehensive_Housing_Market_Analysis_-_Document_reduced_for_web.pdf.

¹³ City of Austin, Ordinance 20151119-080, <http://www.ci.austin.tx.us/edims/document.cfm?id=243658>.

¹⁴ AURA, "ADU City: How Granny Flats & Garage Apartments Can Help Save Austin," June 2015, https://d3n8a8pro7vhm.cloudfront.net/aura/pages/29/attachments/original/1438459715/AURA_ADUCity_060615_web.pdf?1438459715.

¹⁵ City of Austin, "Accessory Dwelling Units," <http://www.austintexas.gov/page/adu>.

¹⁶ City of Austin, "Accessory Dwelling Units," <http://www.austintexas.gov/page/adu>.

For the purposes of this report the rental income that can be captured by homeowners is of particular interest. According to Figure 3, even after debt servicing and any increases in property taxes resulting from ADU construction, ADUs offer a source of additional income to help offset increasing housing costs in Austin.

Figure 3. Cash Flow for an ADU.

Assumptions:

1. We looked at potential project costs for zero, one, or two bedroom units.
2. Financed with a 30 year mortgage at 4.5%
3. Tax appraisal at project cost with tax rate at 2.4%
4. Rental income based on median backyard cottage rents from Austin’s MLS for the past 12 months.

	Zero Bedroom	1 Bedroom	2 Bedroom
Project cost	\$75,000	\$100,000	\$150,000
Debt service	\$380.01	\$506.69	\$760.03
Taxes	\$150	\$200	\$300
Insurance & utilities	\$75	\$100	\$150
Total costs	\$605.01	\$806.69	\$1,210.03
Rental income	\$950	\$1,072.50	\$1,500
Monthly cash flow	\$344.99	\$265.81	\$289.97

Source: ADU City: How Granny Flats & Garage Apartments can help Save Austin.¹⁷

Barriers to ADUs

Barriers to Finance

In 2015 Austin adopted zoning changes permitting accessory dwelling units throughout much of the city.¹⁸ This addressed land use barriers associated with ADU construction and has facilitated a doubling of ADU construction in Austin in 2016 from 2015 levels.¹⁹ However, it is likely that the increase in ADU construction is driven not by homeowners, but rather by developers who have easier access to financing. Because the construction costs for an 850 square foot detached ADU are approximately \$150,000,^{20,21} financing remains a major barrier to low and middle-income

¹⁷ AURA, “ADU City: How Granny Flats & Garage Apartments Can Help Save Austin,” June 2015, https://d3n8a8pro7vhm.cloudfront.net/aura/pages/29/attachments/original/1438459715/AURA_ADUCity_060615_web.pdf?1438459715.

¹⁸ City of Austin, Ordinance 20151119-080. <http://www.ci.austin.tx.us/edims/document.cfm?id=243658>.

¹⁹ John Lawler, Austin City Council Aide, personal communication, May 5, 2016.

²⁰ Michael Gatto, President, Austin Community Design & Development Center, personal communication, May 5, 2016.

²¹ Austin Community Design and Development Center, “Financing,” http://thealleyflatinitiative.org/?page_id=13. Construction costs are approximately \$150 per square foot not including professional fees and utility connections which could be an additional \$10,000-\$30,000.

homeowners wishing to build an ADU. Three problems exist for individuals seeking private financing:

- 1.) **Debt to Income.** Generally, individuals are unable to secure loans that would increase their monthly debt beyond 35% to 45% of their monthly income. Freddie Mac now allows for a signed lease to contribute to monthly income. However, it is unlikely that a signed lease will be secured prior to ADU construction.
- 2.) **Equity.** Securing a private loan requires substantial equity or collateral to borrow against. The effect of this is that a low or middle-income individual must have substantially paid back their original home mortgage before a cash-out refinance or home equity line of credit (HELOC) would provide sufficient financing to construct an ADU.
- 3.) **Credit.** A good credit score is necessary to qualify for a loan and to secure preferable interest rates. Typically, prime rates are available to individuals with a credit score above 740, while higher interest rates will accompany a loan for an individual with a credit score below 740.²²

Many homeowners seeking to build an ADU will not meet the private financing thresholds for income, equity, or credit. Later, this report will address opportunities for alternative financing options likely necessary to maximize the benefits of ADUs.

Property Tax Implications

In addition to the financial barriers to constructing ADUs, there are potential property tax effects once an ADU is constructed. ADUs are regarded as a potential tool to address affordability issues in Austin by enabling homeowners to generate additional income. However, the construction of an ADU can increase property values, thereby increasing the homeowner's property taxes.²³

According to Marya Crigler, Chief Appraiser for the Travis Central Appraisal District, property appraisals are required to be determined according to the market value.²⁴ As such, if the market views the presence of an ADU (or the potential to build), with increased square footage of livable space and potential rental income, as a good thing, taxes could increase. On the other hand, if the market views ADUs as contributing to greater density, a loss of privacy, or generating additional traffic or parking frustrations, there could be a negative effect on property value.²⁵ The general consensus is an ADU will increase property taxes.^{26,27} For example, Table 1 illustrates the property taxes at 1616 Canterbury Street in Austin increasing from \$5,698 in 2013

²² Austin Community Design and Development Center, "A Grassroots Affordable Housing Program," 2015.

²³ A rented ADU is not eligible for inclusion under the homestead exemption.

Marya Crigler on City of Austin panel, "Affordability in Austin: Understanding the Potential Impact of Secondary Dwelling Units," April 16, 2015, <http://austintx.swagit.com/play/04222015-970>.

²⁴ Marya Crigler on City of Austin panel, "Affordability in Austin: Understanding the Potential Impact of Secondary Dwelling Units," April 16, 2015, <http://austintx.swagit.com/play/04222015-970>.

²⁵ Marya Crigler on City of Austin panel, "Affordability in Austin: Understanding the Potential Impact of Secondary Dwelling Units," April 16, 2015, <http://austintx.swagit.com/play/04222015-970>.

²⁶ AURA, "ADU City: How Granny Flats & Garage Apartments Can Help Save Austin," June 2015, https://d3n8a8pro7vnm.cloudfront.net/aura/pages/29/attachments/original/1438459715/AURA_ADUCity_060615_web.pdf?1438459715.

²⁷ Martin John Brown, "How do ADUs Contribute to the Local Economy? (Or, will Building an ADU Raise my Property Taxes?)," <https://accessorydwellings.org/2014/07/30/how-do-adus-contribute-to-the-local-economy-or-will-building-an-adu-raise-my-property-taxes/>.

to \$9,755 in 2015. This increase reflects some general property tax increase, but it is largely attributable to the \$151,295 non-homesite valuation.

Table 1. 1616 Canterbury Street Property Taxes.²⁸

Year	Property Value Categories	Property Values (\$)	Taxes (rounded to whole \$)
2013	Improvement Homesite	108,839	5,698
	Land Homesite	143,000	
	Appraised	251,839	
2014	Improvement Homesite	161,541	6,187
	Improvement Non-Homesite	4,442	
	Land Homesite	181,500	
	Appraised	347,483	
2015	Improvement Homesite	167,580	9,755
	Improvement Non-Homesite	151,295	
	Land Homesite	220,000	
	Appraised	538,875	

Focus of Report

This report is written with full knowledge that it is not comprehensive. Given time constraints, we were unable to consider needed financial resources for all segments of homeowners and renters within Austin wishing to benefit from ADUs. We, therefore, chose two key goals for the report. Our primary aim is to focus on the need for constructing as many ADUs as possible throughout Austin. Our work assesses the financial tools needed to provide for construction of ADUs within the current regulatory framework for ADUs in Austin. We do not, in this report, offer recommendations for further revisions to Austin’s current ADU ordinance. However, it should be noted the current requirements for parking and omission of more lenient regulatory treatment for attached ADUs have financial consequences.

²⁸ Texas Central Appraisal District, property search, <http://propaccess.traviscad.org/clientdb/?cid=1>.

A secondary goal of our report is to address the needs of low-income renters wanting to rent an ADU. Currently, as described above, Austin is suffering a confluence of three undesirable conditions: relatively flat wage increases, housing production outpaced by population growth, and increasing housing prices. The result is an affordability crisis. In order for Austinites of low and very-low incomes to find affordable housing, it is necessary to provide financial and program assistance.

Given the rise of the affordability crisis and ADUs as a housing option in Austin, it is tempting to pair the two; this is especially true because ADUs offer the benefit of lower rents. But, we are of the opinion that the pairing is unnecessary, and possibly counterproductive. The need for additional housing units, generally, and the need for greater assistance for housing affordability, while both good goals, are distinct and at times contradictory. For instance, a homeowner wishing to construct an ADU might wish to generate additional income, and/or may be preparing for an elderly relative to move in. In any case, they desire flexibility for the unit for which they have expended considerable financial resources. Requirements for homeowners to rent their personally financed ADUs to satisfy affordability goals serves to disincentivize the construction of ADUs and consequently negates the affordability goals.

Successful ADU Precedents

Portland

Figure 4. An ADU in Portland, 650 square feet.²⁹



Since the 1990s, Portland experienced a slow pace of accessory dwelling unit construction, with an average of 22 permits issued a year between 1995 and 2009.³⁰ Currently, Portland boasts 580 attached ADUs, and 720 detached ADUs.³¹ One percent of single-family homes have an ADU on their site.³² To increase the production of ADUs, the City of Portland made two important policy changes that drastically heightened the growth of these units: the City removed development fees and relaxed land use regulations.

The development fees fell under the category of System Development Charges (SDCs), normally charged to developers as a buy-in to existing infrastructure. The City found this fee was required from both developers of 300 square foot ADUs, which one person occupies, and 3,000 square foot homes that could potentially accommodate a family of six. For some ADUs, SDCs could cost up to \$10,000.³³ An ADU case studies project found that homeowners found this fee waiver a reason for homeowners to move ahead with construction of their ADUs.³⁴

The relaxing of regulations was another positive policy change and a contributing factor in the increase of ADUs built. The regulatory changes include:

1. Allowance of ADUs by right. Homeowners can now build an ADU as long as it follows the ADU Guidelines. They no longer need to obtain a conditional use permit, approval of neighbors, or conduct a traffic analysis, and they no longer require a large lot.
2. Increased square footage allowance to 75% of the size of the primary dwelling.

²⁹ Lina Menard, "Kristy Lakin's ADU Community: Woodstock Gardens," *Accessory Dwellings*, 2014, <https://accessorydwellings.org/2014/10/22/kristy-lakins-adu-community-woodstock-gardens/>.

³⁰ Portland Bureau of Planning and Sustainability, 2013, <https://docs.google.com/spreadsheets/d/1348j4hzU1noWmSWSIFKK-XaJrxdhugP12gmFz9jw6R8/edit#gid=0>.

³¹ Dan Bertolet, "Why Vancouver Trounces The Rest Of Cascadia In Building Adus," *Sightline Institute*, 2016, <http://www.sightline.org/2016/02/17/why-vancouver-trounces-the-rest-of-cascadia-in-building-adus/>.

³² Dan Bertolet, "Why Vancouver Trounces The Rest Of Cascadia In Building ADUs," *Sightline Institute*, 2016, <http://www.sightline.org/2016/02/17/why-vancouver-trounces-the-rest-of-cascadia-in-building-adus/>.

³³ Lina Menard, "Kristy Lakin's ADU Community: Woodstock Gardens," *Accessory Dwellings*, 2014, <https://accessorydwellings.org/2014/10/22/kristy-lakins-adu-community-woodstock-gardens/>.

³⁴ *Case Study Accessory Dwellings*, *Accessorydwellings.org*, 2016, <https://accessorydwellings.org/category/projects/case-study/>.

3. Increased height limits to allow 2 full stories.
4. Reduction of design requirements.
5. Elimination of parking restrictions. Additional off-street parking is not required.
6. Removal of owner occupancy. The owner is not required to live in either the primary dwelling house or the ADU.³⁵

Due to these policy changes, Portland saw a 400% increase between 2009 and 2013 of ADU permits pulled within the city’s inner neighborhoods. The popularity of ADUs in these neighborhoods could be due to the neighborhoods’ close proximity to the downtown area and accessibility to bus lines.

In 2013, the State of Oregon Department of Environmental Quality (DEQ) conducted an ADU survey for Portland, Eugene, and Ashland, Oregon. In the interpretation report released in 2014, it was found that Portland ADU occupants were less likely to own cars; they owned 0.93 vehicles per household.³⁶ It can be assessed that occupants of ADUs enjoy inner neighborhood locations in part because of their accessibility to alternative modes of transportation.

The top four neighborhoods in Portland with the most ADUs built were in the following areas:

Table 2. Neighborhoods with the most amount of permits between 2010-2013.

Neighborhood	Number of ADU Permits Between 2010-2013	Median Age	Median Income
Alberta (Humboldt)	63	34.6	\$55,750
Hawthorne	54	36.6	\$63,099
Interstate (Overlook)	56	36.3	\$61,155
Hollywood	27	40	\$70,653

The DEQ survey also captured finance questions, including, “How did you finance the construction cost?” 59.6 percent of respondents used their cash savings. 27.5 percent used a home equity line of credit, while 12.9 percent used a loan from a family member.³⁷

As far as affordability, Portland found through the DEQ survey that 18 percent of Portland ADUs are occupied for free or extremely low cost and 80 percent of ADUs rent for market rates, or for a slight premium.³⁸ The occupants of these units are not included in the survey but when asked what their alternative housing option would be, the following information was recorded:

³⁵ Lina Menard, “Kristy Lakin’s ADU Community: Woodstock Gardens,” *Accessory Dwellings*, 2014, <https://accessorydwellings.org/2014/10/22/kristy-lakins-adu-community-woodstock-gardens/>.

³⁶ State of Oregon Department of Environmental Quality, *Accessory dwelling units in Portland, Oregon Evaluation and interpretation of a survey of ADU owners, 2014*, 24, <http://www.deq.state.or.us/lq/sw/docs/SpaceEfficient/adusurveyinterpret.pdf>.

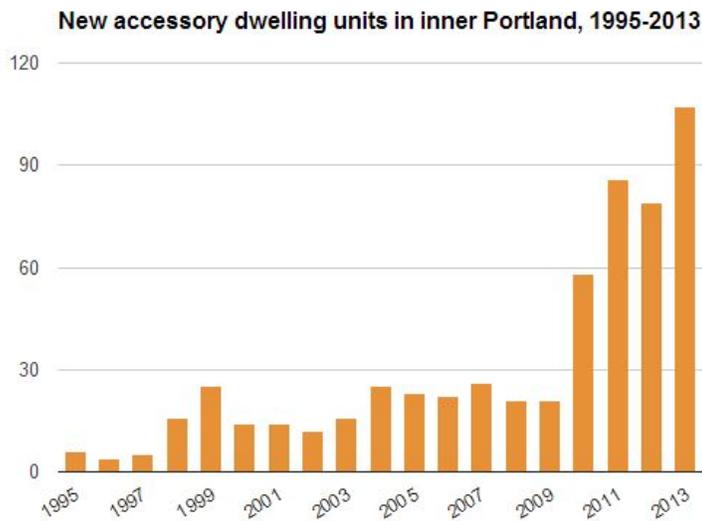
³⁷ State of Oregon Department of Environmental Quality, *Accessory Dwelling Unit Survey for Portland, Eugene, and Ashland, Oregon, 2013*, <http://www.deq.state.or.us/lq/sw/docs/ADUReportFRev.pdf>.

³⁸ State of Oregon Department of Environmental Quality, *Accessory dwelling units in Portland, Oregon Evaluation and interpretation of a survey of ADU owners, 2014*, <http://www.deq.state.or.us/lq/sw/docs/SpaceEfficient/adusurveyinterpret.pdf>.

Table 3. DEQ’s ADU survey for Portland, question 10 with 6 respondents.

If there was not an ADU on your property, where would the current occupant(s) most likely live?	Frequency
Dorm	1
In an assisted living community	1
Milwaukie or Wilsonville	1
Salem	1
Senior Assisted Living	1
With Family Elsewhere	1

Figure 5. Portland saw a 400% increase in permits between 2009 and 2013.³⁹



³⁹ Portland Bureau of Planning and Sustainability, 2013, <https://docs.google.com/spreadsheets/d/1348j4hzU1noWmSWSIFKK-XaJrxdhugP12gmFz9jw6R8/edit#gid=0>.

Seattle

Seattle was not always favorable toward ADUs. While units were in existence since the 1950's in both attached and detached forms, backyard cottages lost popularity and were eventually discontinued. It was not until 1994 when the City of Seattle revitalized accessory dwelling units to help offset housing affordability. ADUs were allowed as attached (AADUs), inside the main residence and within single-family zoning.

Detached accessory dwelling units (DADUs) were introduced in 1998 through an ordinance and contest called the Demonstration Program for Innovative Housing Design. The City called for proposals of affordable, "neighborhood-appropriate," housing types that would otherwise be impossible to build under existing land codes.⁴⁰ Backyard cottages on single-family zones were the most suggested ideas. Through the City's ordinance, the existing land use code was allowed to change to accommodate up to 10 DADUs as products of the Demonstration Program.⁴¹

In 2006, the City passed another ordinance allowing a pilot program of DADUs in Seattle's southeast area. The pilot program gained widespread appeal, which encouraged the City to formally legalize backyard cottages through an ordinance that allowed both AADUs and DADUs.

One percent of single-family homes share their lots with ADUs and with 1,184 AADUs currently in existence, as well as 212 DADUs constructed, Seattle is experiencing robust growth of accessory dwelling units.⁴² Additionally, with the assistance of Seattle's Housing Affordability and Livability Agenda (HALA), relaxed regulations and clemency for undocumented ADUs are suggested to help increase the inventory of ADUs.⁴³

While Seattle has a healthy growth of AADUs, DADUs are not quite up to speed with Portland. Suggestions for Seattle to help spark growth are to:

1. Not require owner occupancy
2. Not require additional off-street parking⁴⁴

As mentioned, Portland included these relaxed regulations and found public approval through increased permit applications.

Figure 6. Constructed accessory dwelling units between 2006 and 2014.⁴⁵

⁴⁰ City of Seattle, *Removing Barriers to Backyard Cottages: DPD Report and Analysis*, 2015, http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/s010013.pdf.

⁴¹ City of Seattle, *Removing Barriers to Backyard Cottages: DPD Report and Analysis*, 2015, http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/s010013.pdf.

⁴² Dan Bertolet, "Why Vancouver Trounces The Rest Of Cascadia In Building Adus," *Sightline Institute*, 2016, <http://www.sightline.org/2016/02/17/why-vancouver-trounces-the-rest-of-cascadia-in-building-adus/>.

⁴³ Dan Bertolet, "Why Vancouver Trounces The Rest Of Cascadia In Building Adus," *Sightline Institute*, 2016, <http://www.sightline.org/2016/02/17/why-vancouver-trounces-the-rest-of-cascadia-in-building-adus/>.

⁴⁴ Kol Peterson, "To DADU or NOT to DADU – Seattle's ADU Debates," *Accessory Dwellings*, 2016, <https://accessorydwellings.org/2016/01/19/to-dadu-or-not-to-dadu-seattles-adu-debates/>.

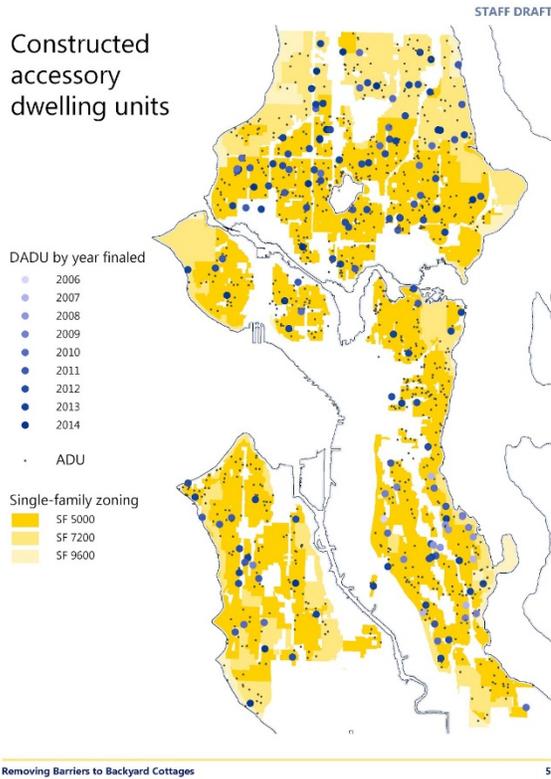


Figure 7. DADUs permitted in Seattle between 2012 and 2014.⁴⁶

DADUs in Seattle	
Number of final permits	159
Average size	632 sq ft
Range of sizes	138-800 sq ft
Average height	18 ft
Average size of lot	6,770 sq ft
DADUs with alley access	42%
Average construction cost	\$55,000
Data from 2012-2014 reporting period	

Note: Reasons why construction costs are so low in the data reported between 2012 and 2014:

1. Regulations are not very strict in terms of the size, parking, unit distance, etc., which allow ADU construction to be easier and less expensive.

⁴⁵ City of Seattle, *Removing Barriers to Backyard Cottages: DPD Report and Analysis*, 2015, http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/s010013.pdf.

⁴⁶ City of Seattle, *Removing Barriers to Backyard Cottages: DPD Report and Analysis*, 2015, http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/s010013.pdf.

2. One third of ADUs are constructed on top of an existing garage. This makes the construction cheaper. Garage conversions are also an affordable way to utilize an existing structure to create an AADU.^{47,48}

Even so, it appears that construction costs for detached ADUs in Seattle are reported to have been considerably lower than what we have heard from informants in Austin. Although we did not get to the bottom of the exact reason for this discrepancy, further follow-up with the City of Seattle in the future might be helpful.

Vancouver

Figure 8. Example of a Laneway Home in Vancouver.⁴⁹



With a population of over 603,000 people and a 2015 projected growth of 18,700 housing units in the Vancouver area, affordable housing is an imminent threat to the city.^{50,51} Thirty-five percent of single-family houses have ADUs and, similar to Seattle, are categorized as either AADUs or DADUs. To promote production, Vancouver has undone regulations that were considered barriers to production.

⁴⁷ City of Seattle Department of Planning and Development, *Backyard Cottage Annual Report*, December 2014, http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/s010014.pdf.

⁴⁸ City of Seattle Department of Planning and Development, *A Guide to Building a Backyard Cottage*, June 2010, <http://www.seattle.gov/Documents/Departments/SeattlePlanningCommission/BackyardCottages/BackyardCottagesGuide-final.pdf>.

* In this case study detached can also point out units that are built adjacent or on top of a parking garage (detached from the principle unit).

⁴⁹ Small Works, "Sara & Leo's Arbutus," 2016, <http://www.smallworks.ca/gallery/arbutus/?portfolioID=57>.

⁵⁰ City of Vancouver, "Population," 2016, <http://vancouver.ca/news-calendar/population.aspx>.

⁵¹ Canada Mortgage and Housing Corporation, *Housing Market Outlook*, 2015, http://www.cmhc-schl.gc.ca/odpub/esub/64363/64363_2015_B01.pdf.

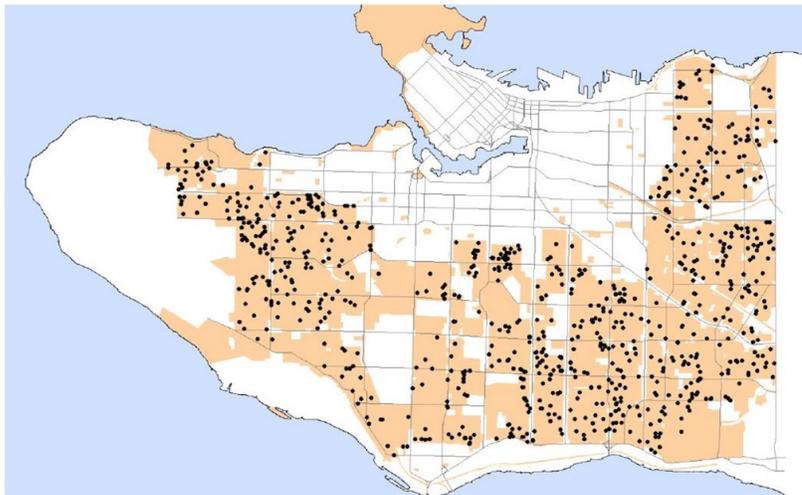
Vancouver, BC:

- Does not require an off-street parking spot for each ADU.
- Does not require the owner to live on site.
- Allows single-family lots to host both an AADU and a DADU.
- Awards additional occupancy limits for each dwelling on a property.
- Provides great latitude to property owners in terms of size, height, and placement of each ADU.⁵²

Vancouver has built over 25,000 attached ADUs since the 1970's. Most were illegal before laws were put in place, which could be the reason why only 4,500 are actually registered.⁵³ Once regulations were established, former illegal attached ADUs were considered legal. Detached ADUs (laneway houses) are a more recent concept that gained popularity in 2009 when they were made legal. Seventy thousand single-family lots could potentially hold two forms of ADUs, one inside the house, and one outside. As of 2013, Vancouver saw 1,350 laneway homes built throughout the city.⁵⁴

Additionally, Vancouver legalized secondary suites inside of condos, at a minimum of 200 square feet, within multifamily structures. This allows condo owners to build a separate entrance complete with kitchen and bathroom and yet still satisfy building code regulations.⁵⁵

Figure 9. Approved Laneway homes in RS-1and RS-5 through February 2013.⁵⁶



⁵² Dan Bertolet, "Why Vancouver Trounces The Rest Of Cascadia In Building Adus," *Sightline Institute*, 2016, <http://www.sightline.org/2016/02/17/why-vancouver-trounces-the-rest-of-cascadia-in-building-adus/>.

⁵³ The University of Texas at Austin School of Architecture, *The Alley Flat Initiative: Topics in Sustainable Development 2008 Report*, 2008, <http://www.soa.utexas.edu/files/csd/AFI.pdf>.

⁵⁴ Dan Bertolet, "Why Vancouver Trounces The Rest Of Cascadia In Building Adus," *Sightline Institute*, 2016, <http://www.sightline.org/2016/02/17/why-vancouver-trounces-the-rest-of-cascadia-in-building-adus/>.

⁵⁵ Alan Durning, "In-Law—And Out-Law—Apartments," *Sightline Institute*, 2013, <http://www.sightline.org/2013/03/07/in-law-and-out-law-apartments/>.

⁵⁶ CBC News, *Vancouver laneway housing to be reviewed by council*, 2016, <http://www.cbc.ca/news/canada/british-columbia/vancouver-laneway-housing-to-be-reviewed-by-council-1.1308659>.

ADU Financing Precedents

Santa Cruz

The City of Santa Cruz has a population of 63,364.⁵⁷ Median value of an owner-occupied housing unit is \$645,600 and median gross rent was \$1,547 from 2010 to 2014.⁵⁸ It is considered one of the most expensive cities in the U.S.

Back in 2006, when the median price of a single family home was \$746,000, only 6.9% of city residents could afford to purchase a home. However, housing demand for Santa Cruz has been increasing due to its proximity to Silicon Valley, and the University of California, Santa Cruz. In order to accommodate the growing population, promote public transportation, and increase the supply of affordable housing within the area, the city adopted an ADU ordinance in 2003. According to this ordinance, ADUs were permitted in designated residential zones with a lot size of at least 5,000 square feet.

The city also established an ADU development program, which consists of technical assistance, a wage subsidy, an apprentice program, and an ADU loan program.⁵⁹ The funding for the loan program was received as a competitive grant from the California Pollution Control Financing Authority's Sustainable Communities Grant and Loan Program.

The City of Santa Cruz runs this affordable Housing Program with the following two components:⁶⁰

Fee Waiver Program

Under this program, the homeowner can receive a waiver from paying fees as long as the Accessory Dwelling Unit is rented at restricted rents to tenants earning below income targets. Fees are partially waived if the homeowner rents their ADU to a renter whose income is at or below 60% of Area Median Income (AMI). Planning and Building Fees are fully waived if the renter's income is at or below 50% of AMI.⁶¹

According to a 2015 estimate, the fee for a 500 square foot ADU is \$13,157. Under this program, a very low-income (50% AMI) renter will need to pay \$839 in rent for a one- person studio, and \$959 for a two-person one bedroom ADU. A low-income (60% AMI) renter will need to pay \$914 for one-person studio, and \$1044 for a two-person one bedroom ADU.⁶²

Loan Program

The City of Santa Cruz and the Santa Cruz Community Credit Union (SCCCU) initiated a Loan Program to encourage the development of ADUs that have an affordability agreement. The purpose of the Loan Program was:

⁵⁷ U.S. Census, 2015.

⁵⁸ U.S. Census, "Quick Facts Santa Cruz City, California," <http://www.census.gov/quickfacts/table/PST045215/0669112,06087>.

⁵⁹ Sage Computing Inc. *Accessory Dwelling Units: Case Study*. Rep. N.p.: n.p., 2008. Print. Prepared for HUD's Office of Policy Development and Research

⁶⁰ City of Santa Cruz, *ADU Manual*, 2003.

⁶¹ City of Santa Cruz, *ADU Manual*, 2003, 47-48.

⁶² City of Santa Cruz. *2015 Accessory Dwelling Units Fee Waiver Information and Application*, <http://www.cityofsantacruz.com/home/showdocument?id=44916>.

(1) To leverage City funds to create access to low interest loans for construction of ADUs to increase the number of low or very low-income rental units in the City.

(2) To assist moderate/low-income residents in becoming homeowners.

(3) To create scenarios that would allow elderly residents to remain in their homes.

According to the City of Santa Cruz ADU Manual published in 2003, the loan program consisted of the following conditions:

- **Loan Term:** 15- and 20-year loans based on a 15- and 20- year affordability requirement.
- **Borrower's Eligibility:** Loans are provided to low-income homeowners whose income is at most 80% of AMI, who build their ADUs and rent it as an affordable unit for 15 or 20 years.
- **Loan Amount:** The qualified borrowers could get a loan of up to \$70,000 at 4.5% interest in 2003. But to be qualified, they needed to live in the same address as the proposed ADU, have 50% of loan amount as equity in their home, and agree to rent only to low or very-low income tenants.⁶³
- **Interest Rate:** Interest rates are at 3% for very low-income (50% median) renters and at 4.5% interest rate for low income (80% median) renters.

The loan program was a partnership among the City of Santa Cruz, Community Ventures Inc. (CVI), and SCCCU, and together they worked as either a 2 tier or 3 tier loan programs. The funds came from the City of Santa Cruz as it carried a loan pool to be used as a partial guarantee for ADUs. CVI was a non-profit organization that was linked to SCCCU to administer the program. CVI received charitable donations. But SCCCU is a state chartered credit union that is responsible to and governed by its members as a financially self-sufficient Community Development Financial Institution (CDFI). SCCCU made loans at cost, processed the loan applications, initially provided 50% of funds for each loan, and recorded affordability agreements on the property. In the two tier loan program, CVI helped the City of Santa Cruz to seek additional funding and no additional credit union/bank fund was required if the loan pool was fully funded. Alternative funding sources that provided or could provide funds to the City of Santa Cruz were: Community Development Block Grants (CDBG), the HOME Investment Partnership Program (HOME), and the California Housing Finance Agency (CHFA) HELP Program.⁶⁴

Our understanding is that Santa Cruz's loan program had poor usage, in part because it operated prior to the Great Recession, when mortgage credit for homeowners was readily available. We suggest that the City of Austin contact Santa Cruz staff to learn more about the reasons for the poor usage of the program.

⁶³ City of Santa Cruz, *City of Santa Cruz Application*, <http://www.cityofsantacruz.com/home/showdocument?id=8872>.

⁶⁴ City of Santa Cruz, *ADU Manual*, 2003.

Vancouver

Financing

While the City of Vancouver does not provide financial assistance for homeowners to build ADUs, local banks have stepped in and dedicated tailored programs to assist developers. Vancity and Prospera Credit Union are the two primary banks that offer a Laneway Homeowner's Bundle, which includes \$750 in closing costs and appraisal services, plus a preferred interest rate and the potential to earn up to 1% cash back when a homeowner transfers an existing mortgage. Homeowners can apply for a 5-year, 7-year, or 10-year fixed rate mortgage.⁶⁵

However, the City of Vancouver itself appears to do little to ensure the availability of credit. The Housing Review Branch supervisor from the City of Vancouver's Planning & Development Services stated:

"Given the current state of Vancouver's real estate market, no incentives or assistance is required. We receive a significant percentage of applications to demolish existing houses and construct new homes with basement rental suites and laneway houses on the site – resulting in a significant increase in density."⁶⁶

Vancouver's development of ADUs is completely market driven without the need of financial backing or additional promotion by the City.

⁶⁵ Vancity Laneway Mortgages, 2016, <https://www.vancity.com/Mortgages/TypesOfMortgages/HomeRenovationOptions/LanewayHousing/>.

⁶⁶ Personal communication, May 2, 2016.

Funding Sources and Financing Mechanisms

Funding Sources Overview

Establishing alternative financing mechanisms is essential to successfully scaling the production of ADUs for low and moderate-income homeowners in Austin. This section identifies alternative sources for capital that may be more conducive to financing ADUs in Austin. We have chosen to emphasize financing sources tied to affordability due to this report's interest in creating affordable rental units and making ADU development accessible to moderate and low-income homeowners.

There are three categories of financing partners: public, private, and public-private partnerships. Public capital sources range from federal Community Development Block Grants (CDBG) and HOME funds to municipal general obligation bonds (GO Bonds), Homestead Preservation Reinvestment Funds, and Austin's Affordable Housing Trust Fund. However, public funds in Austin are generally distributed by Austin's Rental Housing Development Assistance (RHDA) program. In addition, the City of Austin also offers an affordable housing incentive program called SMART Housing. Rather than providing funds, SMART Housing works to lower development costs for projects that provide affordable rental or for-sale units. On the private side, funding partners may include private lending institutions, private charitable foundations, and investors (either individuals or trusts, i.e. a Real Estate Investment Trust).

Public Funding Sources: The City of Austin

RHDA

The Rental Housing Development Assistance Program (RHDA), established by Austin Housing Finance Corporation, creates a series of guidelines for utilizing both Federal funds, such as HOME Funds and Community Development Block Grants, and local funds, including the Housing Trust Fund and the general fund. The RHDA program allows for up to \$2.5 million to be used for the acquisition, rehabilitation, or new construction of affordable housing in compliance with the city's S.M.A.R.T (Safe, Mixed-Income, Accessible, Reasonably Priced, Transit Oriented) program.⁶⁷ In addition, the City of Austin's S.M.A.R.T. program provides development fee waivers and fast-track application review to participants.⁶⁸ Moving forward, the RHDA program could be amended to aid low- to moderate-income homeowners in financing the construction of ADU rental units, thereby introducing new affordable housing at 80% Median Family Income (MFI) or less for lower-income renters for up to 99 years.

Affordable Housing Trust Fund

The City of Austin's Affordable Housing Trust Fund was established in 1999 to create a consistent financing source to help provide affordable housing throughout Austin. As amended by City Council in February of 2016, all City property tax revenues collected from previously city-owned land will now be placed within the trust fund. The existing fund is divided into three sections: 40% is allocated to rehabilitation and new housing in homestead preservation districts (HPDs), 20% is dedicated to affordable housing in "high-opportunity areas," and 40% remains in

⁶⁷ Austin Housing Finance Corporation, *Rental Housing Development Assistance Program*, Jan 12, 2013, https://austintexas.gov/sites/default/files/files/Housing/Application_Center/RHDA/FY_13-14/RHDA_Guidelines_FY_14-15_rev_10-1-14.pdf.

⁶⁸ City of Austin, *SMART Housing Policy Resource Guide*, June 2008, https://www.austintexas.gov/sites/default/files/files/Housing/Application_Center/SMART_Housing/smart_guide_0708.pdf.

the fund.⁶⁹ Given this framework, these funds could be used to finance ADUs in both homestead preservation districts and “high-opportunity areas,” serving as a vital resource for low-income homeowners in these economically strained areas of Austin, while simultaneously creating new affordable units for low-income renters.

Homestead Preservation Reinvestment Zones

Homestead Preservation Reinvestment Zones (HPRZs) allow for Tax Increment Reinvestment Zones (TIRZs) to be created in a Homestead Preservation District (HPD). TIRZs in an HPD use tax increment financing (TIF) to provide affordable housing in that HPD.⁷⁰ The use of tax increment financing means that the City of Austin can capture the increased property tax revenue generated from increasing land values in the HPD from the time the district is established. The revenue can then be used to provide and preserve affordable housing in an effort to mitigate further gentrification. All revenue from an HPRZ must be used to benefit households making 70% MFI or less. At least 50% of these funds must be dedicated to households making 50% MFI or less, and at least 25% must be dedicated to households making 30% MFI or less.⁷¹ Therefore, HPRZ funds could effectively help to finance ADU construction for lower-income homeowners. In addition, rental income from ADUs would supplement household income, making it less likely that homeowners would be forced out of the neighborhood due to rising property taxes.

However, it is also important to remember that TIF districts are only allowed to capture up to 5% of the aggregate tax base in the city of Austin. TIRZs are allowed to be created outside of an HPD. While this offers greater geographic flexibility (given the socio-economic conditions required for HPDs), TIRZs outside of an HPD are not allowed in areas in which more than 30% of the property in the district can be used for “residential purposes,” as defined in Section 311.006 of the Austin City Code, and their funds are not required to be put towards affordable housing. Another unintended consequence of dedicating tax increment funds for affordable housing development is that the overall property tax rate may increase as well, thereby further burdening already strained households.

The University of Texas at Austin

Given UT’s current graduate student housing project in East Austin, our class desired to explore the possibility of establishing an affordable housing partnership with the University. One of the study’s authors conducted interviews with: Michael Uyeda, Project Manager for Graduate Student Housing for the UT system; Tom Dison, Senior Associate Vice President for Student Affairs & Director of Recreational Sports; and Hemlata Jahvari, Executive Director of Housing and Food Services.

Essentially, what we discovered was that it is not possible under current system policy to partner with landowners to finance and/or construct an ADU with UT funds (State-allocated monies) on another’s private property, nor can UT provide loans or grants through its own loan

⁶⁹ Jo Clifton, “More Funding for Homestead Districts,” *Austin Monitor*, February 22, 2016,

<http://www.austinmonitor.com/stories/2016/02/council-oks-more-funding-for-homestead-districts/>.

⁷⁰ City of Austin Neighborhood Housing and Community Development, *Homestead Preservation District: Policy and Program Overview*, March 25, 2015,

https://austintexas.gov/sites/default/files/files/Housing/Reports_and_Publications/Presentations/HPD_Overview_for_CouncilHousingCommittee_032515_final.pdf.

⁷¹ City of Austin Housing and Community Development Committee, *Use of Tax Increment Financing Zones for Affordable Housing*, April 29, 2015, <http://www.austintexas.gov/edims/document.cfm?id=230050>.

program or through an NGO to build on another's property. While our exploration did not produce any current opportunities, this could be an excellent partnership to further develop through policy updates in the future.

Private Lending Institutions

Portfolio Lending for CRA Compliance

Private lending institutions may still be a viable financing partner even for low-income homeowners. National banks are required by the Community Reinvestment Act (CRA) to help meet the credit needs of communities in which they operate. CRA compliance is measured in total aggregate assets, which may disincentivize making small loans with their high administrative burden. Still, partnering with large banks to offer ADU loans through portfolio lending could help fulfill CRA requirements while offering a wider variety of homeowners access to capital unfettered by federal mortgage lending guidelines.

Private Foundations

Program-Related Investments (PRIs)

Private foundations can engage in Program-Related Investments (PRIs) to meet their 5% payout requirements regarding their tax-exemption status with the IRS. These investments are similar to other grants made by the foundation, but they often offer a greater opportunity for the foundation to achieve a better rate of return.⁷² The increased number of investments, resulting in a significant growth of available capital, can then be leveraged to construct ADUs in Austin. For example, a non-profit like Guadalupe Neighborhood Development Corporation (GNDC) or Foundation Communities, or a for-profit such as Community Wheelhouse, could manage a trust fund that raises capital based on PRIs from various private entities. The money from that fund could be used for construction loans, loan guarantees, down payment assistance, loan application partnerships with first-time homeowners or other ways that could work to assist low- or moderate-income homeowners to finance and build ADUs.

Financing Mechanisms: Low Income/Equity/Credit Tools

Community Land Trusts

The City of Austin and other local, private organizations currently operate community land trusts.⁷³ While homeowners maintain ownership of built structures under the community land trust model, the organizational entity holds a land lease for the property, thereby working to promote housing affordability by excluding land value in property value assessment. For this model to apply to ADUs, homeowners would need to strike an agreement to offer their land to a CLT, which would finance and build the ADU. The homeowner and the CLT would then share the cash flows generated based on their equity share in the arrangement.

Section 8

Dan Mosley, Compliance Manager for the Housing Choice Voucher Program for the Housing Authority of the City of Austin (HACA), told us that HACA provides Section 8 grants as rental

⁷² Nicole Motter, "Why Program-Related Investments Are Not Risky Business," *Forbes*, February 21, 2013, <http://www.forbes.com/sites/ashoka/2013/02/21/why-program-related-investments-are-not-risky-business/#40f2f1bf1f8e>.

⁷³ City of Austin, "Community Land Trust," <http://www.austintexas.gov/department/community-land-trust>.

assistance, but does not have the authority to change the current system by allocating Section 8 monies to homeowners to build ADUs. However, the aforementioned scenario could be a viable alternative if both HUD and the landlord engage in an affordability covenant.⁷⁴ Based on this opportunity, in the next section, we articulate a creative application that combines two key ideas:

Combined Fee-Waiver Program

Given that ADU development fees are generally low in Austin, the idea would be to combine a fee waiver program with SMART Housing and Section 8. SMART Housing and Section 8 both require the homeowner to be at 80% MFI. However, this reality presents two major hurdles. First, since property taxes are assessed at market rates like other single-family residential units (not like multi-family apartment complexes where income, rather than resale, is considered), renting at affordable rates often requires that ADU homeowners take a net loss for their 5-year SMART Housing affordability period.

The system can work, however. In Santa Cruz, fees were waived as long as the unit was rented at an affordable rate. In Austin, homeowners can waive their fees in two stages. First, the homeowner can agree to five years of affordability through the SMART Housing program to have their development fees waived. Then, the homeowner can place a tenant with a Section 8 voucher while also receiving a market rate rent, generating a modest cash flow at the very least. Austin could also commit to waiving all ADU development fees if, for tenant selection, the homeowner agrees to not discriminate based on source of income, in this case, Section 8 vouchers.

Moderate Income/Equity/Credit

Shared Appreciation Mortgages

The City of Austin's Down Payment Assistance Program (DPA) facilitates an opportunity for first-time, low-income (80% MFI or below) homebuyers to purchase their home using a second mortgage in the form of a 0% interest loan covering the home's down payment cost. In exchange for this loan, the City holds a share of the equity in the home purchased. The standard program will loan up to \$14,999, and the shared equity DPA option offers a shared appreciation loan of up to \$40,000.⁷⁵ This shared appreciation mortgage model could also be used by public or private, non-profit entities to supply moderate-income homeowners with a new financial tool to promote the construction of ADUs.

Revolving Loan Funds

Revolving Loan Funds (RLFs) are pools of capital that regenerate themselves through the payback of previously issued loans. Since loans must be paid back before new loans can be issued, RLFs have most commonly been used for small or micro-business loans due to their short

⁷⁴ Personal communication, April 28, 2016.

⁷⁵ City of Austin, *Down Payment Assistance*, <http://www.austintexas.gov/department/down-payment-assistance>.

payback periods as compared to a standard 30-year home mortgage.⁷⁶ However, a strategically formulated capitalization mechanism for an RLF could allow the fund to efficiently operate for homeowners seeking to finance and construct ADUs.

RLF funding could be capitalized from a variety of sources including some of the previously discussed sources such as HPRZs or the Affordable Housing Trust Fund. The City could also explore using money from the General Fund dedicated to affordable housing and general obligation (GO) bonds for affordable housing. These public funds could compensate, in part, for the longer loan turnover rates associated with mortgage loans, or could also be used as credit enhancement mechanisms to encourage private financial institutions to provide a percentage of the loan to the homeowner wishing to construct an ADU.⁷⁷ Alternatively, these funds could be offered as construction loans with an additional period of funding to allow homeowners constructing ADUs to qualify for a permanent loan under the new Fannie Mae and Freddie Mac stipulations. This latter model could permit a shortening of the repayment period, thus allowing the Revolving Loan Fund to issue loans more frequently. The Revolving Loan Fund model will be further explored in the following section, envisioning a newly created fund that could be used to finance, in part, the addition of new, affordable housing units through the construction of ADUs in Austin.

⁷⁶ Council of Development Finance Agencies, “CDFA Spotlight: Revolving Loan Funds,” <http://www.cdfa.net/cdfa/cdfaweb.nsf/ordredirect.html?open&id=rlffactsheet.html>.

⁷⁷ Office of Energy Efficiency and Renewable Energy, “Revolving Loan Funds,” <http://energy.gov/eere/slsc/revolving-loan-funds>.

ADU Financing Model

Financing an ADU

In order for an ADU to be financed by a traditional mortgage, payments and expenses will need to be lower than the revenue created from renting the ADU to justify building an ADU for a homeowner. If expenses are low enough, revenue from the ADU has the potential to assist with an existing property tax burden. The model created (which evaluates costs to build an ADU and revenue generated from renting out an ADU) shows that the project can pay for itself. Terms of the loan can be adjusted to provide more or less property tax assistance.

For purposes of illustration, the model includes an 800 square foot ADU; and cost of construction was assumed to be \$147 per square foot, with an additional 10% added for soft costs, making the total cost of building the ADU \$129,360. Annual cash flow for the ADU includes:

- Revenue: monthly rent x 12 (increasing by .5% annually)
- Vacancy allowance: one month's rent
- Operating expenses: 2% of revenue
- Capital replacement reserve: 2% of revenue – vacancy allowance – operating expenses
- Property tax on ADU: cost of construction x 2.5% tax rate (increasing by 1% annually)
- Debt service: monthly payment x 12
- Annual Income: revenue – vacancy allowance – operating expenses – capital replacement reserve – property tax on ADU – debt service

Monthly rent is set at \$1.20 per square feet, or \$960 a month, lower than market rate in many areas of Austin. Monthly payments will depend on loan terms, and will greatly affect annual income generated from the ADU. The owner can use surplus income to offset property taxes on their main home. Table 4 shows the change in income as the loan to value (LTV) rate, interest rate, and loan term changes. What we define as *property tax assistance*, or the share of property taxes on the main house that can be defrayed by leftover revenue from the ADU, is based on a home value of \$350,000, and a 2.5% tax rate. Annual income and property tax assistance values represent the average of the first 15 years of renting the ADU.

Table 4. Change in ADU income as LTV, interest rate, and loan term change.

LTV	Interest Rate	Loan Term	Annual Income	Property Tax Assistance
80%	3%	30 years	\$2,094	24%
80%	3%	20 years	\$443	5%
80%	4%	30 years	\$1,401	16%
80%	4%	20 years	-\$195	-2%
95%	3%	30 years	\$1,113	13%
95%	3%	20 years	-\$849	-10%
95%	4%	30 years	\$290	3%
95%	4%	20 years	-\$1,606	-18%

Note-

For more information on the ADU financing model, see the Appendix.

As the LTV increases, interest rates increase and loan terms decrease, the ADU begins to fall short of paying for itself. In order for a revolving loan fund to gauge how much property tax assistance loans should provide to homeowners, surveys can be conducted to see which

population would be interested in a loan fund for ADUs and what income and property tax burdens those individuals have.

Modeling a Bridge Loan Fund

The raw number of ADU loans a revolving loan fund can support can be expanded if the fund is designed to offer only short-term “bridge” loans. A bridge loan acts as an initial means of financing a project before the loan is refinanced at a traditional bank under, market-rate lending terms. A revolving loan fund is modeled below to show the maximum loan potential in two different scenarios. Scenario 1: the fund is financing 30-year, fixed-rate mortgages throughout their full term. Scenario 2: the fund is granting three-year bridge loans, using the same terms as Scenario 1, with the expectation that the owner will refinance at a traditional bank after three years. Such an arrangement is possible due to recent changes in federal lending regulations allowing a homeowner to count projected income from an ADU toward loan qualification, if the owner can demonstrate income from rent in the form of a lease. Bridge loans may be 3-5 years, for our example we chose to model a three-year loan.

Shown in Table 5, the revolving loan fund can grant a maximum of 105 loans, over 30 years, if the loans carry through a full 30-year mortgage term. If the fund only finances loans for three years, requiring the owner to refinance in year 4, the fund can support a total of 257 loans over 30 years. Scenario 2 creates a 144% increase in lending capacity, which comes from the majority of the principal payment “revolving” back to the fund at an earlier period. Moreover, Scenario 2 would be a better use of the initial public or philanthropic seed-funding.

In Scenario 1, the public sector would be paying approximately \$9 million over 30 years to fund 105 loans. This amounts to an investment of approximately \$86,000 per ADU. In Scenario 2, the public sector would have to spend more on loan administration costs, homeowner literacy efforts, and financial education in order to help homeowners navigate through the bridge loan process. The public sector would expend just over \$11 million, \$5 million in seed funding plus administration costs, which amounts to approximately \$43,000 per ADU.

Table 5. Revolving Loan Model and Bridge Loans.

Revolving Loan Fund Assumptions		ADU Loan Assumptions	
Year 1 Seed Funding (City)	\$5,000,000	ADU Loan Amount (Yr 1)	\$103,488
Annual Cost Increase	2%	Amortization Period	30 years
Annual Administration Cost		Loan Interest Rate	3%
30-Year Loan	\$100,000		
Bridge Loan	\$150,000		
	Scenario 1: Full 30-year Loans	Scenario 2: 3-Year Bridge Loans	
Maximum Loan Capacity	105	257	
30-year Costs Assumptions (Admin + Seed Funding)	\$9,056,808	\$11,085,212	
Public Cost per Loan	\$86,255	\$43,133	

Note: For more information on the ADU financing model, see the Appendix.

Tables 6 and 7 show the loan distribution and cash flow analysis for the two scenarios. Results are displayed for the first five years of operation. Note “suggested number of loans” is the total number of loans the model suggests granting in a given year, based upon predicted cash inflows and outflows. The financial model used automatically recalibrates the “suggested number of loans” based on the actual number of loans made in the previous year. Distribution can be altered based on policymakers’ discretion. It may be a more efficient use of fixed annual administration costs to grant a more consistent number of loans year-to-year, or increase the number of loans made over time, granting a number of loans that falls below the “suggested capacity.” In Year 4 of Scenario 1, the fund receives only \$280,000 in cash inflow from principal, interest, and risk-free interest on money not spent. In year 4 of Scenario 2 the fund receives \$4.7 million in principal repayment from the first 48 loans made in Year 1. This makes it possible for the fund to make another crop of 41 loans in Year 5.

Table 6. Loan Administration and Cash Flow Analysis –Scenario 1.

Loan Distribution	Year				
	1	2	3	4	5
Available Fund Amount	\$5,000,00	\$189,73	\$245,81	\$200,16	\$264,82
Individual Loan Amount	0	0	2	5	4
Suggested Number of Loans		\$105,55	\$107,66	\$109,82	\$112,01
Liquidity Test	\$103,488	8	9	2	9
	48	1	2	1	2
	OK	OK	OK	OK	OK
Cash Flow Analysis					
Cash Outflow					
Total ADU Loans	\$4,967,42	\$105,55	\$215,33	\$109,82	\$224,03
Loan Fund Administration Cost (Annual)	4	8	8	2	7
		\$102,00	\$104,04	\$106,12	\$108,24
	\$100,000	0	0	1	3
Total Cash Outflow	\$5,067,42	\$207,55	\$319,37	\$215,94	\$332,28
	4	8	8	3	1
Cash Inflow					
Principal Repayment		\$109,76	\$117,58	\$123,41	\$131,82
Interest Payment	\$104,412	3	2	8	9
Interest on Remaining Cash		\$149,05	\$152,22	\$151,99	\$155,01
	\$149,023	7	4	2	0
	\$3,720	\$4,820	\$3,925	\$5,193	\$4,388
Total Cash Inflow		\$263,64	\$273,73	\$280,60	\$291,22
	\$257,154	0	1	2	7

Note: For more information on the ADU financing model, see the Appendix.

Table 7: Loan Administration and Cash Flow Analysis –Scenario 2.

Loan Distribution	Year				
	1	2	3	4	5
Available Fund Amount	\$5,000,000	\$138,730	\$141,772	\$145,204	\$4,628,128
Individual Loan Amount	\$103,488	\$105,558	\$107,669	\$109,822	\$112,019
Suggested Number of Loans	48	1	1	1	41
Liquidity Test	OK	OK	OK	OK	OK
Cash Flow Analysis					
Cash Outflow					
Total ADU Loans (\$)	\$4,967,424	\$105,558	\$107,669	\$109,822	\$4,592,768
Loan Fund Administration Cost (Annual)	\$150,000	\$153,000	\$156,060	\$159,181	\$162,365
Total Cash Outflow	\$5,117,424	\$258,558	\$263,729	\$269,003	\$4,755,133
Cash Inflow					
Principal Repayment	\$104,412	\$109,763	\$115,319	\$115,319	\$200,015
Interest Payment	\$149,023	\$149,057	\$148,994	\$9,488	\$144,101
Interest on Remaining Cash	\$2,720	\$2,780	\$2,847	\$90,748	\$4,342
Total Cash Inflow	\$256,154	\$261,600	\$267,160	\$4,751,928	\$348,458

Note: For more information on the ADU financing model, see the Appendix.

Challenges of the Bridge Loan Model

Terms under which the owner will be able to refinance their ADU mortgage will vary upon market conditions—this introduces some risk and vulnerability into the process for the homeowner, as well as for the fund. If interest rates increase sharply, or an ADU owner suffers damage to their credit in the three years following the granting of the loan, it may be difficult to refinance under favorable terms or, in a worst-case scenario, it may not be possible to refinance at all. The owner is taking the risk of being unable to obtain a desirable refinance deal when their principal comes due in Year 4, following the expiration of the bridge loan. The fund is taking the risk if these conditions occur, if the owner cannot refinance at all, the owner defaults on their loan, or the fund is unable to recoup the expected principal that year. If the fund has lent its full capacity prior to any such scenario occurring, the sustainability of the fund could be compromised.

Rather than suggesting Scenario 2 as a panacea for challenges associated with financing long-term mortgages with a revolving loan fund, its effects are shown to demonstrate design scenarios and mortgage products that may be offered by a revolving loan fund. Policymakers may select a hybrid model, and elect to prioritize volume of loans, or stability of loan terms for a

fewer number of customers, for example. In the future, policymakers can choose to model a variety of more complex fund design scenarios.

Appendix:

Revolving Loan Fund Model

For this project, we adapted a revolving loan fund model provided by the Environmental Finance Center at the University of North Carolina, Chapel Hill. We adapted its use for real estate finance, including a long-term thirty-year mortgage product as well as a three-year bridge loan.

Model Parameters

The loan fund model is built upon assumptions regarding:

- 1) initial seed funding for the loan fund
- 2) ADU loan parameters
- 3) other financial parameters.

Seed Funding Assumption: \$5 million

ADU Loan Parameters: We took these from our model of an individual ADU loan, financed under terms approximating a traditional thirty-year, fixed-rate mortgage that you might get at a bank for a non-ADU. See more about this model in Tables 4 and 5.

Other financial parameters: We assumed a risk-free savings rate for funds not spent of 2%, as well as an annual cost increase rate (i.e. inflation) of 2%.

Model Components:

The model creates its loan distribution recommendations by performing a cash flow analysis, which is informed by the principal and interest payment schedule from the loan amortization calculations, as well as a month-to-month liquidity analysis, which demonstrates whether the fund will have sufficient cash flow on a monthly basis to continue to break even.

Additional Assumptions:

We made the following assumptions in order to provide the findings in this report.

1. A uniform loan amount for each ADU loan (informed by the single-ADU loan assumptions referenced in Table 5)
2. A constant loan interest rate over the lifetime of the fund modeled (i.e. the same interest whether the loan is granted in year 1 or 30).
3. Loans paid out to ADU owners in full from the fund in January of each year (i.e. for liquidity analysis, all loans are distributed in lump sum in January)
4. Annual loan administration is paid monthly (i.e. the cost of loan administration paid on a monthly basis, for the liquidity analysis)
5. Interest and principal are paid annually (for the purposes of the amortization schedule)
6. Annual interest and principal are divided by 12 for the purposes of the monthly liquidity analysis
7. Interest on funds not spent, cash is paid in full in December, which may overstate the amount of risk-free interest the fund is earning since in actuality it would earn interest on a monthly basis on cash accruing throughout the year.

Table 8. Model Parameters.

Inputs			
1.1 Year 1 Sources of Funds			1.2 Loan Types
Year 1 Seed Funding (City)	5,000,000		ADU Loan Amount (Yr 1) \$103,488
Other Funding Source 1	0		Percent Grant Financed 0%
Other Funding Source 2	0		Amortization Period (Years) 30
Total Sources of Funds	5,000,000		Loan Interest Rate 3.0%
			Monthly Payment (Yr 1) \$436
			1.3 Financial Paramters
			Risk free Interest Rate (Savings Rate) 2.0%
			Yearly Cost Increase (Inflation) 2%
			Loan Fund Administration Cost (Yr 1, Annual) \$100,000

Table 9. Model Excerpt – Cash Flow and Loan Distribution.

	Year					
	1	2	3	4	5	6
2. Loan Distribution						
2.1 Available Total Amount	5,000,000	189,730	245,812	200,165	264,824	223,771
Individual Loan Amount	103,488	105,558	107,669	109,822	112,019	114,259
Suggested Number of Loans	48	1	2	1	2	1
Liquidity Test*	OK	OK	OK	OK	OK	OK
Actual Number of Loans	48	1	2	1	2	1
Maximum Systems	105	Total Number of Loans is feasible!				
3. Cash Flow Analysis						
3.1 Cash Outflow						
Total ADU Loans	4,967,424	105,558	215,338	109,822	224,037	114,259
Loan Fund Administration Cost (Annual)	100,000	102,000	104,040	106,121	108,243	110,408
Total Cash Outflow	5,067,424	207,558	319,378	215,943	332,281	224,667
3.2. Cash Inflow						
3.2.3 Principal Repayment**	104,412	109,763	117,582	123,418	131,829	138,186
3.2.4 Interest Payment**	149,023	149,057	152,224	151,992	155,010	154,483
3.2.5 Interest on Remaining Cash***	3,720	4,820	3,925	5,193	4,388	5,835
3.2.6 Additional Capital Contributions	0	0	0	0	0	0
Total Cash Inflow	257,154	263,640	273,731	280,602	291,227	298,504

(*) If it says "OK" liquidity is fine; if it says "Fail", then you have a liquidity problem and number of loans in that year needs to be reduced.

(**) Assumes that interest and principal are paid once per year; for liquidity analysis, annual payment is divided by 12

(***) Remaining cash is the money left after loans have been distributed every year, earning interest at risk-free rate paid annually at end of year

Color Explanation:

Blue: Data to be entered, can be changed

Black: Automatically calculated data; do not change.

Red: Important Results

Green: Data from Single Loan Worksheet

Table 10. Model Excerpt – Liquidity Analysis and Amortization Schedule.

Miscellaneous Calculations						
Liquidity Analysis	1	2	3	4	5	6
1. Month	45,362	97,241	44,288	104,451	55,670	124,700
2. Month	45,362	97,241	44,288	104,451	55,670	124,700
3. Month	45,362	97,241	44,288	104,451	55,670	124,700
4. Month	45,362	97,241	44,288	104,451	55,670	124,700
5. Month	45,362	97,241	44,288	104,451	55,670	124,700
6. Month	45,362	97,241	44,288	104,451	55,670	124,700
7. Month	45,362	97,241	44,288	104,451	55,670	124,700
8. Month	45,362	97,241	44,288	104,451	55,670	124,700
9. Month	45,362	97,241	44,288	104,451	55,670	124,700
10. Month	45,362	97,241	44,288	104,451	55,670	124,700
11. Month	45,362	97,241	44,288	104,451	55,670	124,700
12. Month	49,082	102,061	48,213	109,643	60,057	130,535
Liquidity Test (Min. monthly liquidity)	45,362	97,241	44,288	104,451	55,670	124,700
Principal Repayment Calculation						
System Loans	4,967,424	105,558	215,338	109,822	224,037	114,259
Total Repayable Principal	4,967,424	105,558	215,338	109,822	224,037	114,259
Yearly Princ. Repayment	\$ 104,412	\$ 109,763	\$ 117,582	\$ 123,418	\$ 131,829	\$ 138,186
Year	1	2	3	4	5	6
1	104,412					
2	107,544	2,219				
3	110,770	2,285	4,526			
4	114,093	2,354	4,662	2,308		
5	117,516	2,424	4,802	2,378	4,709	
6	121,042	2,497	4,946	2,449	4,850	2,402
7	124,673	2,572	5,094	2,522	4,996	2,474
8	128,413	2,649	5,247	2,598	5,146	2,548
9	132,265	2,729	5,405	2,676	5,300	2,624
10	136,233	2,811	5,567	2,756	5,459	2,703
11	140,320	2,895	5,734	2,839	5,623	2,784
12	144,530	2,982	5,906	2,924	5,792	2,868
13	148,866	3,071	6,083	3,012	5,965	2,954
14	153,332	3,163	6,265	3,102	6,144	3,042
15	157,932	3,258	6,453	3,195	6,329	3,134
16	162,670	3,356	6,647	3,291	6,518	3,228
17	167,550	3,457	6,846	3,390	6,714	3,324
18	172,576	3,560	7,052	3,492	6,915	3,424
19	177,754	3,667	7,263	3,596	7,123	3,527
20	183,086	3,777	7,481	3,704	7,337	3,633
21	188,579	3,891	7,706	3,815	7,557	3,742
22	194,236	4,007	7,937	3,930	7,783	3,854
23	200,063	4,128	8,175	4,048	8,017	3,970
24	206,065	4,251	8,420	4,169	8,257	4,089
25	212,247	4,379	8,673	4,294	8,505	4,211
26	218,615	4,510	8,933	4,423	8,760	4,338
27	225,173	4,646	9,201	4,556	9,023	4,468
28	231,928	4,785	9,477	4,692	9,294	4,602
29	238,886	4,928	9,761	4,833	9,573	4,740
30	246,053	5,076	10,054	4,978	9,860	4,882
Total	4,967,424	100,329	194,316	93,973	181,550	87,562