GOOD DEEDS:

Community - minded intervention to strengthen the Detroit housing market is working, according to U-M analysis

An Analysis of the Rehabbed & Ready Program

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Introduction

The mortgage crisis of 2008-2009 hit the nation hard. It hit Detroit harder.

The real estate meltdown effectively removed mortgage-backed buyers from the already declining Detroit market. The median sales price plummeted by 82.2% between 2006 and 2008. Cash sales surpassed mortgage sales, and distressed properties flooded the market, forcing appraisers to compare fully renovated, move-in-ready houses with vacant and foreclosed properties. This practice made it increasingly difficult for buyers to secure financing in the city, even in Detroit's stronger neighborhoods.

Between 2009-2013, the market bottomed out. The median selling price remained below $10,000 and fewer than 375 mortgages were issued each year.

A scalable strategy that addressed deteriorating residential neighborhoods was needed quickly. Civic and philanthropic entities combined resources to devise a variety of methods and strategies. This report explores the effectiveness and adaptability of one particular effort: the Detroit Land Bank Authority's Rehabbed & Ready Program, which was co-founded by the Rocket Community Fund (formerly known as the Quicken Loans Community Fund.)

"The subprime mortgage crisis of 2008-2009 affected everyone," says Chris Mueller of the University of Michigan's Stephen M. Ross School of Business, and the lead author of this report. "The collapse of the subprime mortgage market," Mueller explains, "set in motion a series of dominos that made it extremely difficult to give or receive any type of mortgage in Detroit for the better part of a decade."

"For most communities, the market did what a market is supposed to do in 2008-2009," says Mueller. "Supply suddenly exceeded demand and prices fell. So long as conventional mortgages were still available, as the oversupply of foreclosed houses cleared, supply and demand stabilized, and values rebounded. But Detroit's housing values have remained low because the absence of mortgage-backed buyers has suppressed demand, delaying the recovery that most other communities have experienced."

Detroit's median housing values are still only a little more than half what they were before the subprime mortgage market collapse. "Detroit averaged less than 300 mortgages annually or roughly 6% of total sales, causing values to be slow to rebound," Mueller explains. Before the bubble burst, Detroit averaged more than 3,000 mortgages. A healthy Detroit residential real estate market cannot exist without a robust set of mortgage-backed buyers.

"A market failure of this magnitude required intervention," Mueller adds. "The market is not going to fix itself. Only the coordinated efforts of public and philanthropic partners can establish the conditions that will allow the market to function effectively again."

Paul Fontaine, of the University of Michigan's Ginsberg Center and coauthor of this report, puts it more starkly: "Not a single neighborhood in Detroit was left untouched by the mortgage crisis of 2008 and 2009, further complicating the revitalization of a city that has lost more than a million residents, and that continues to emerge from the largest municipal bankruptcy with the highest rate of residents living in poverty in the United States."

The Rocket Community Fund and the Detroit Land Bank Authority engaged the University of Michigan's Ginsberg Center to write this case study and measure the effectiveness of the Land Bank's Rehabbed & Ready Program.

Questions addressed in this report include:

What is the problem with Detroit's residential real estate market?
Chapter 1 explains why the inability to appraise the value of move-in-ready homes has crippled the mortgage market.

How did the market fail and what is the solution?
Chapter 2 details the market failure that has badly damaged Detroit's neighborhoods for more than a decade, and how the Rehabbed & Ready program was designed to reestablish functioning market conditions.

How does Rehabbed & Ready work?
Chapter 3 documents Rehabbed & Ready's best practices for filtering inventory, targeting neighborhoods, managing renovations, selling fully renovated properties, and structuring funding.

Was the intervention effective?
Chapter 4 evaluates the economic impact of the intervention on four profiled neighborhoods.

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Executive Summary

This case study reveals the origins, goals, and operations of Rehabbed & Ready, an initiative launched by the Detroit Land Bank Authority with support and funding from the Rocket Community Fund (formerly Quicken Loans Community Fund). This study also includes an explanation as to how Detroit became a major metropolitan community that averaged fewer than 300 mortgages a year for nearly a decade, its profound impact on the neighborhoods of Detroit, and the effort to rebuild a healthy single-family housing market.

Detroit's residential real estate market has faced significant challenges for decades. Declining population caused an oversupply of single-family housing stock and led to a steady drop in prices. Additionally, most existing Detroit single-family homes did not match current buyer preferences. Through 2005, however, the market managed to maintain a delicate equilibrium in which mortgage sales exceeded cash sales.

That changed in 2006 when Detroit's housing market experienced a stunning collapse due to a vicious and self-reinforcing cycle that progressively removed mortgage-backed buyers from the market at the same time that distressed properties flooded the market. The removal of buyers with low credit scores or limited credit history from the housing market, caused by the implosion of the subprime mortgage industry, fundamentally altered the demand for Detroit's housing stock. Between 2006-2008, the median sale price of a single-family home fell by 82.2%. Cash sales surpassed mortgage sales and distressed properties flooded the market, which forced appraisers to compare fully renovated, move-in-ready houses with vacant and foreclosed properties. This practice perpetuated a mortgage crisis that made it increasingly difficult to secure financing in the city, even in Detroit's stronger neighborhoods.

Between 2009-2013, the market bottomed out. The median selling price remained below $10,000, and fewer than 375 mortgages were issued each year. The median sale price and mortgage volume have yet to rebound to their pre-recession strength, despite rising gradually since 2015. Values began to recover as the supply of distressed houses diminished; however, the absence of comps for move-in-ready houses, and the difficulty to give and receive mortgages for less than $50,000 slowed the rebound

Mortgage experts and civic leaders sought to develop a program that would help rebuild self-sustaining market conditions in residential neighborhoods and make the city attractive for private investment once again. The program, called Rehabbed & Ready, used philanthropic funding from the Rocket Community Fund and others to renovate and sell homes for market value in order to bridge the appraisal gap and establish viable comps within strategically-selected neighborhoods. The Detroit Land Bank Authority provided the project management and a pipeline of properties for renovation:

Rehabbed & Ready's four goals are to:

1. Establish stable appraisal values by seeding comps for fully renovated houses
2. Rebuild homeownership rates within the city of Detroit
3. Restore equity lost by long-time neighborhood homeowners
4. Attract private investment/development in the neighborhoods

Rehabbed & Ready's best practices are detailed for filtering inventory, targeting neighborhoods, sequencing batches of properties, managing renovations, selling fully renovated properties, and structuring funding.

An economic impact analysis on the three neighborhoods (Bagley, Evergreen-Outer Drive, and Crary/St Mary) where Rehabbed & Ready completed the vast majority of its renovations between 2016 and 2018 concluded:

- Median sale prices **grew an additional 11.5% per year** in Rehabbed & Ready neighborhoods during the three-year treatment period than they would have without the intervention, helping to stabilize neighborhood values.
- The percentage of **homes purchased with a mortgage grew an additional 5.6% per year** in Rehabbed & Ready neighborhoods during the three-year treatment period than it would have without the intervention.
- **A neighborhood should be economically self-sustaining once it achieves 50% mortgage sales and a median sale price of greater than $50,000.**
- Rehabbed & Ready may benefit from tweaking its strategy to prioritize increasing the volume of mortgage sales to prime a neighborhood and prioritize sales price to tip a neighborhood.

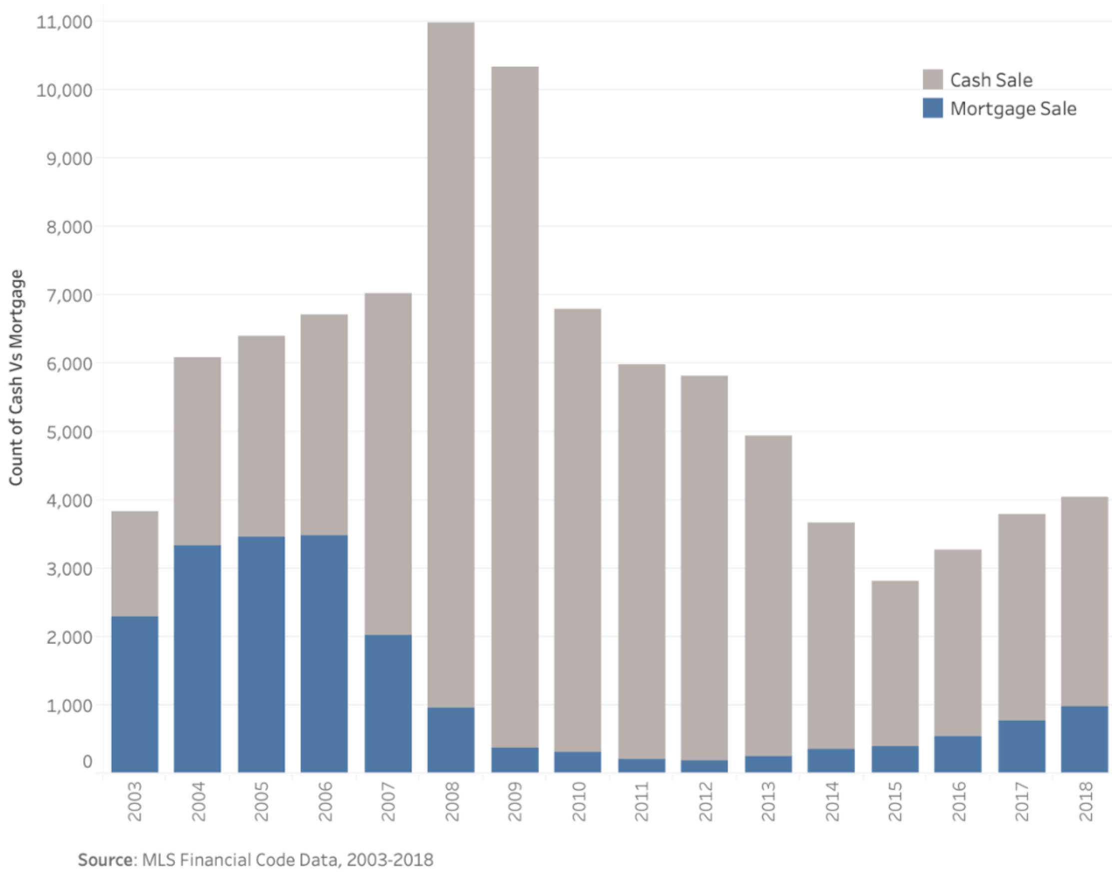
Chapter 1 - The Appraisal Problem

A mortgage is a legal agreement by which a lender provides a purchaser a loan with interest in exchange for the right to hold title of the property until the purchaser repays the debt. In other words, the property acts as collateral for the loan granted to purchase the property.

Efficient markets exist when goods and capital are allowed to flow freely, with minimal barriers to entry. Because most Americans do not have the available cash to purchase a home, access to mortgage financing is essential for a healthy residential real estate market. When buyers with access to affordable financing compete with one another for the right to purchase from sellers, fair market values are established.

Between 2003-2005, when Detroit's residential real estate market was operating normally, the city averaged 3,030 mortgages or roughly 56% of total sales. Between 2009-2015, Detroit averaged less than 300 mortgages annually or roughly 6% of total sales. For more than a decade, it was nearly impossible to get a mortgage because lenders could not determine the market value of a move-in-ready house without comparable sales. The absence of mortgages created a barrier for most buyers, and the residential real estate market collapsed. Between 2005 and 2008, the median sale price of a home in Detroit plummeted from $57,857 to $8,888, a collapse from which Detroit is still recovering.

Figure 1 - Detroit Residential Housing Sales



To understand this market failure, one must first understand how buyers, sellers, and lenders arrive at a fair market value for a given house. In a standard transaction, a buyer and seller will enter a purchase agreement based on a negotiated price. For example, a buyer and seller enter a purchase agreement for a three-bedroom, one-and-a-half bathroom brick Colonial in the Bagley neighborhood for $140,000. Assuming that the buyer intends to use a mortgage, that purchase agreement will include a clause stating that the agreement is contingent upon the buyer's ability to obtain financing. The buyer will then take the purchase agreement to a lender of their choosing. The lender will order a professional, third-party appraisal to ensure the loan is proportional to the value of the property (commonly known as the Loan to Value or LTV ratio).

If the buyer is using a conventional mortgage, a bank might offer a loan worth 80% of the house's value, and the buyer would need to provide 20% of the purchase price through a down payment.

The third-party appraiser's job is to establish the market value of a given house based on the sale price of at least three comparable homes (comps) in recent history. Ideally, a comparable home is the same architectural style, similar square footage and condition, within a quarter-mile radius of the subject home and has sold within the last three months. If three perfect comps are not available, it is the appraiser's job to select the most relevant comparable properties by extending the timeline, geographic radius, and/or making adjustments to reflect differences in value due to architectural style, square footage, and condition.

A Robust Market in 2005

If an appraiser were trying to determine the market value of a three-bedroom, one-and-a-half bathroom colonial in the Bagley neighborhood at the end of 2005, they would have found a robust set of fully renovated home sales with which to compare:

Map 1 - Bagley 2005: Cash vs. Mortgage Sales

Table 1 - Bagley 2005: Comparable Properties for a 3 bed / 1.5 Bath Colonial

Comp	Address	Sq Ft	Sale Date	Price	PPSF
1	19206 Santa Rosa	1258	6/22/05	$130,000	$103.34
2	19187 San Juan	1300	11/17/05	$113,815	$87.55
3	18927 Kentucky	1442	12/29/05	$129,900	$90.08
4	17410 Monica	1468	9/27/05	$148,000	$100.82
5	19204 Roselawn	1479	9/30/05	$146,260	$98.89

The relatively homogenous set of comps makes it easy for the appraiser, and therefore the bank, to determine the market value of the subject home. Assuming the buyer and seller agree on a sales price of $140,000, the appraiser would likely have verified that the market value is consistent with the negotiated purchase price and the bank would issue the mortgage (Scenario 1 in Table 2). Even if the appraiser determined that the house was more comparable to the lower end of these comps and came back with an appraisal value below the negotiated purchase (Scenario 2 in Table 2), the buyer and seller could re-enter negotiations. These negotiations could include any combination of the seller reducing the purchase price, the buyer increasing the down payment, and/or the lender offering alternative mortgage options that would increase the LTV (e.g. a 90% loan and 10% down payment) in return for a higher interest rate.

Who is Involved in a Real Estate Transaction?

Buyer: A person who is buying a property

Seller: A person, group, or entity selling a property

Lender: An individual, group, or financial institution that makes funds available to another entity with a promise of repayment, including principal and interest or fees. This individual is also responsible for hiring appraisers. It is in the best interest of the lender to get a desirable home appraisal.

Appraiser: A professional who investigates the condition (internal and external), square footage, location, conditions for renovation, and current real estate market values to determine the value of the property. An appraiser is unbiased in a home's worth.

Real Estate Agent: A person who acts as an agent for the sale and purchase of a property

Table 2 - Appraisal Gap Scenario

Scenario	1 – No Appraisal Gap	2 – Modest Appraisal Gap	3 – Dramatic Appraisal Gap
Negotiated Purchase Price	$140,000	$140,000	$140,000
Appraisal Value	$140,000	$135,000	$76,000
Mortgage (80%)	$112,000	$108,000	$60,800
Cash Available for Down Payment (20%)	$28,000	$28,000	$28,000
Difference (The Appraisal Gap)	$0	$4,000	$51,200

An Uncertain Market in 2008

If an appraiser sought to determine the market value of the same home in late 2008, they would have faced a far different scenario. As the Detroit market became flooded by the sale of heavily discounted distressed properties, appraisers were forced to compare occupied, fully renovated houses to abandoned and vacant houses which were often in serious disrepair.

Map 2 - Bagley 2008: Cash Vs. Mortgage Sales

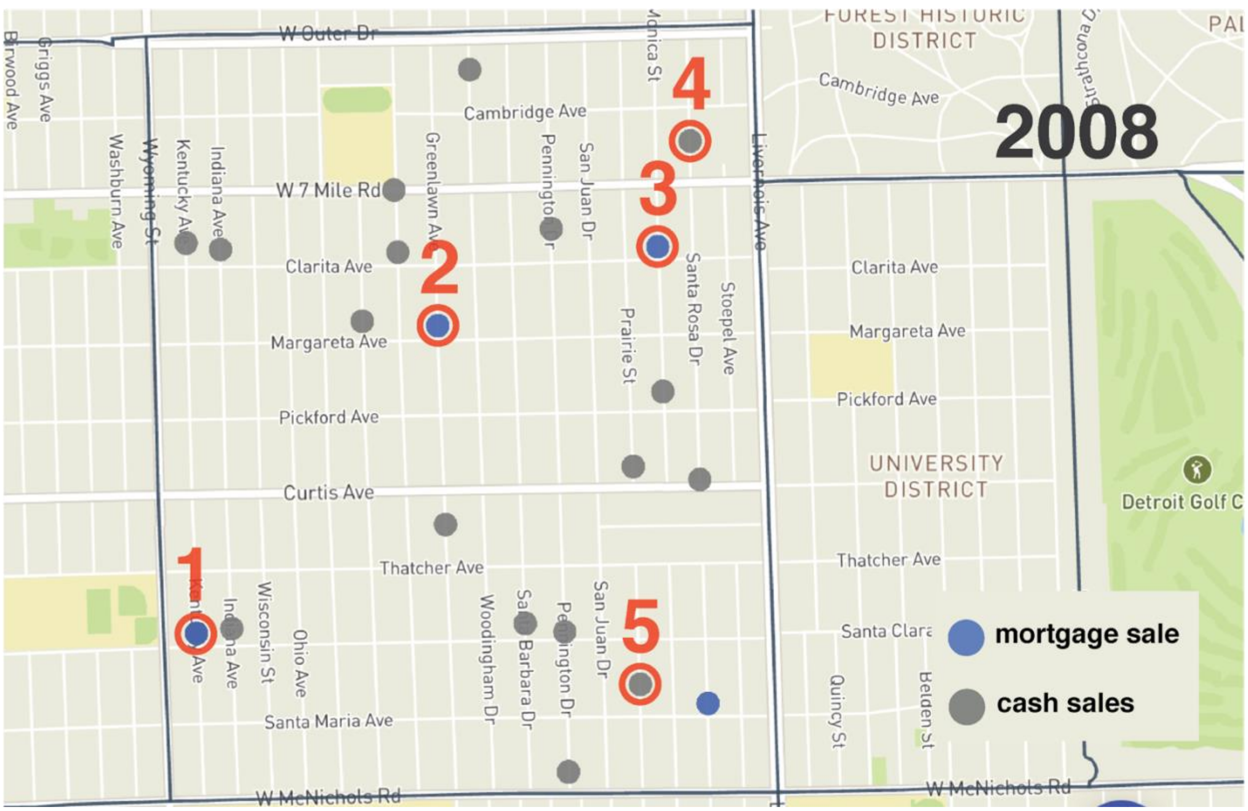


Table 3 - Bagley 2008: Comparable Properties for a 3 bed / 1.5 Bath Colonial

Comp	Address	Sq Ft	Sale Date	Price	PPSF
1	17571 Kentucky	1336	10/20/08	$136,000	$101.80
2	18650 Greenlawn	1450	12/23/08	$120,000	$82.76
3	18929 Monica	1344	10/30/08	$20,000	$14.88
4	19212 Santa Rosa	1564	9/24/08	$14,250	$9.11
5	17380 Prairie	1582	12/9/08	$28,000	$17.70

Because an appraisal requires comparison with a minimum of three properties, the appraiser is required to include both the move-in-ready and bank-owned properties as comps. Depending on whether the appraiser chooses to include one or two of the bank owned properties, the appraisal value is likely to come back somewhere in the $76,000-$95,000 range, creating a dramatic appraisal gap (Scenario 3 in Table 2). When faced with this gap, the lender will often choose not to finance the purchase because of the uncertain market value. Even if the lender is willing to offer a mortgage, the buyer and seller must still renegotiate a sale price that includes either the seller dramatically reducing the sale price and/or the buyer providing a larger down payment. More often than not, without clear indicators of market value, this deal falls through.

This appraisal gap crippled the Detroit mortgage industry and the market collapsed within a matter of months.

A Distressed Market in 2010

By 2010, there were no mortgage sales with which to compare. The move-in-ready three- bedroom, one-and-a-half bathroom brick Colonial that was selling for $140,00 five years earlier would now appraise for less than $15,000. Since an absence of quality comps fed this collapse, it stood to reason that the presence of quality comps could get the market functioning again.

Map 3 - Bagley 2010: Cash vs. Mortgage Sales

Table 4 - Bagley 2010: Comparable Properties for a 3 bed/1.5 bath Colonial

Comp	Address	Sq Ft	Sale Date	Price	PPSF
1	18670 Woodingham	1406	4/28/10	$10,450	$7.43
2	18017 Pennington	1450	3/26/10	$14,500	$10.00
3	18060 Ohio	1450	7/16/10	$21,000	$14.48
4	17370 Northlawn	1452	3/10/10	$14,001	$9.64
5	19130 San Juan	1476	1/11/10	$4,000	$2.71

Chapter 2 - A Horrific Market Failure and a Bold Intervention

At the turn of the new millennium, Detroit was slowly gaining national attention beyond the news of its decline. Ford led an American-quality renaissance by receiving four J.D. Power Initial Quality survey awards in 2003, a record for an American company.[1] The Big Three automakers -- Ford, DaimlerChrysler (now Fiat Chrysler), and General Motors -- produced a record 19M units globally in 2004.[2] The completion of Comerica Park in 2000 and Ford Field in 2002 catalyzed investment in Downtown and Midtown. That included the new Compuware Headquarters, now One Campus Martius, in 2003, and the Westin Book Cadillac reopening in 2008.[3] Quicken Loans' decision to relocate from the suburbs to downtown Detroit in 2010 introduced a large new workforce to the city's urban core. The formation of Bedrock, a full service commercial real estate firm, contributed significantly to development in downtown and midtown in the last decade with historic renovation projects such as the Stott building and the Shinola hotel, as well as brand new construction including the ongoing Monroe Blocks and Hudson Site developments.

Although prevailing attitudes about the city's future began to shift as signs of change began to dot the landscape, significant structural and cultural challenges remained. Population loss increased from approximately 7,600 residents a year between 1990 and 2000 to approximately 24,000 residents a year between 2000 and 2010.[4] Further complicating market recovery, Detroit's schools ranked at or near the bottom of numerous national indices, and access to healthcare was also among the worst in the nation.[5]

The Vicious Cycle

In late 2006, Detroit's housing market collapsed due to a vicious and self-reinforcing cycle that progressively limited mortgage-backed buyers' access to the market at the same time that distressed properties flooded the market. Figure 2 illustrates the dramatic shift between cash and mortgage sales and the corresponding collapse in housing values.

[1] "2003 Ford J.D. Power Awards," J.D. Power, accessed July 01, 2019, https://www.jdpower.com/Cars/Ratings/Ford/2003.

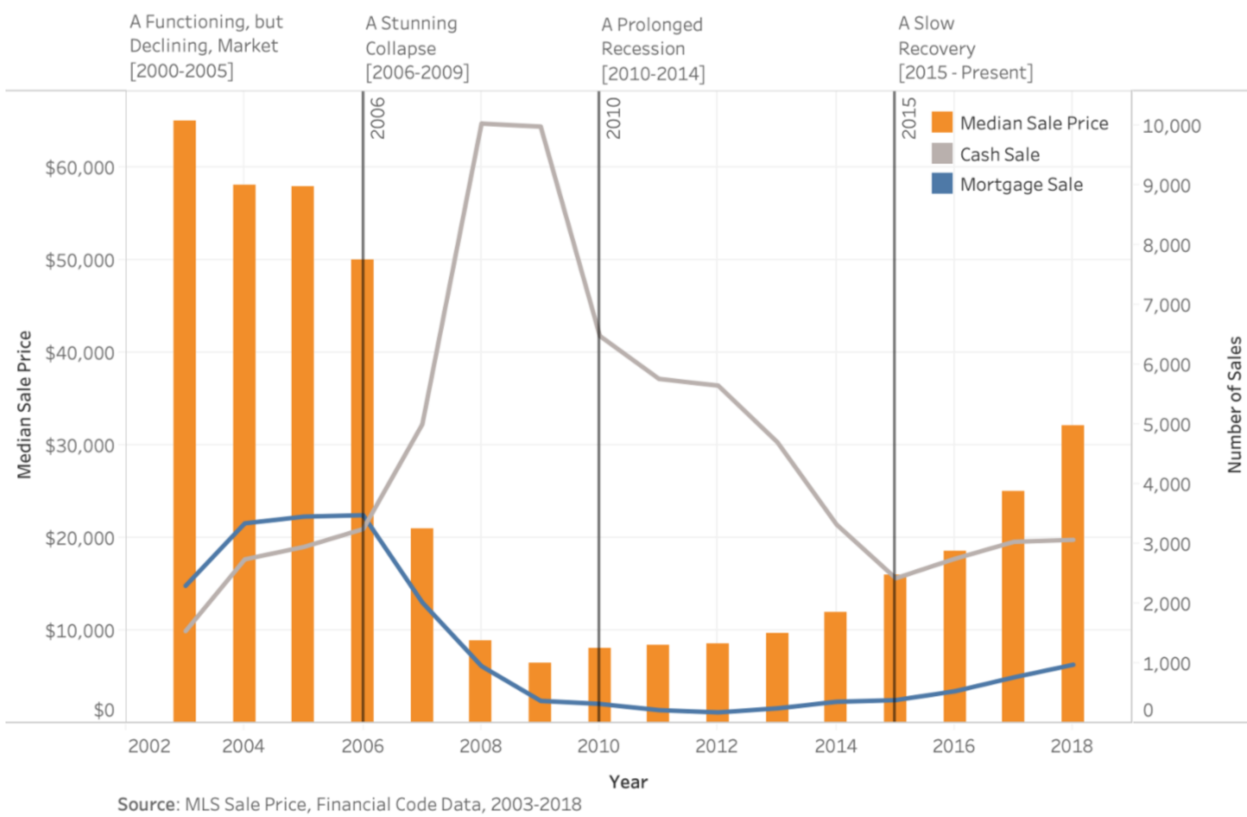
[2] World Motor Vehicle Production by Manufacturer, publication no. Classement2004TOSEND, OICA STATISTICS COMMITTEE, OICA, May 7, 2005, accessed August 8, 2019, http://www.oica.net/category/production-statistics/2004-statistics/.

[3] "Encyclopedia Of Detroit," Detroit Historical Society - Where the past Is Present, accessed August 07, 2019, https://detroithistorical.org/learn/encyclopedia-of-detroit/book-cadillac-hotel.

[4] "Detroit, Michigan Population 2019," Detroit, Michigan Population 2019 (Demographics, Maps, Graphs), accessed July 01, 2019, http://worldpopulationreview.com/us-cities/detroit-population/.

[5] Detroit ranks 166 out of 174 cities in terms of overall health score. 3rd worst in terms of Health Care rank. Adam McCann, "Healthiest & Unhealthiest Cities in America," WalletHub, February 11, 2019, accessed July 01, 2019, https://wallethub.com/edu/healthiest-cities/31072/.

Figure 2 - The Vicious Cycle



Understanding how the market failed, why the collapse was so severe, and why these depressed conditions have endured for more than a decade requires breaking this Vicious Cycle into four parts:

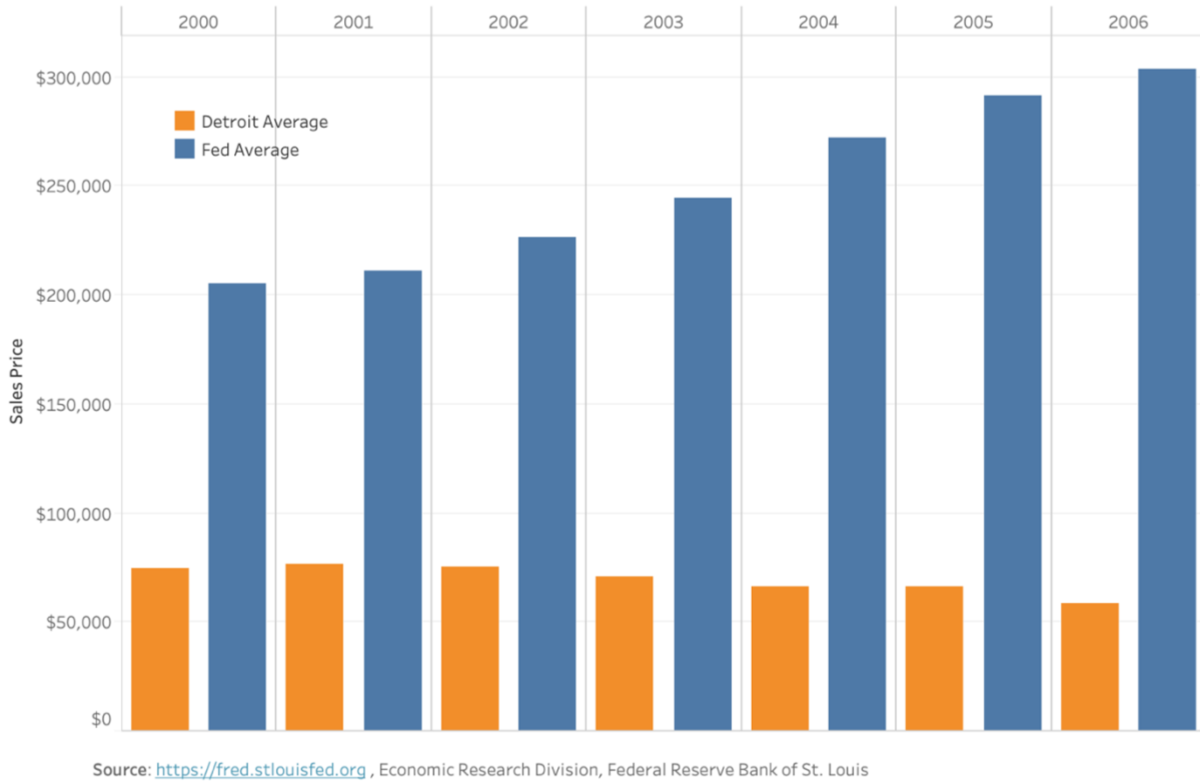
1. A Functioning, but Declining, Market [2000 - 2005]
2. A Stunning Collapse [2008 - 2009]
3. A Prolonged Recession [2010 - 2014]
4. A Slow Recovery [2015 - Present]

A Functioning, but Declining, Market [2000-2005]

Through 2005, Detroit's residential real estate market maintained a delicate equilibrium buoyed by consistently strong mortgage sales. Between 2000-2006, Detroit averaged 4,830 residential housing sales a year. Between 2003-2005, the city averaged 3,030 mortgages or roughly 56% of total sales.

However, while the rest of the country experienced a real estate boom, Detroit's neighborhoods experienced a steady decline in value due to an oversupply of aging single-family homes that did not fit modern buyers' preferences.

Figure 3 - Sales Price Comparison

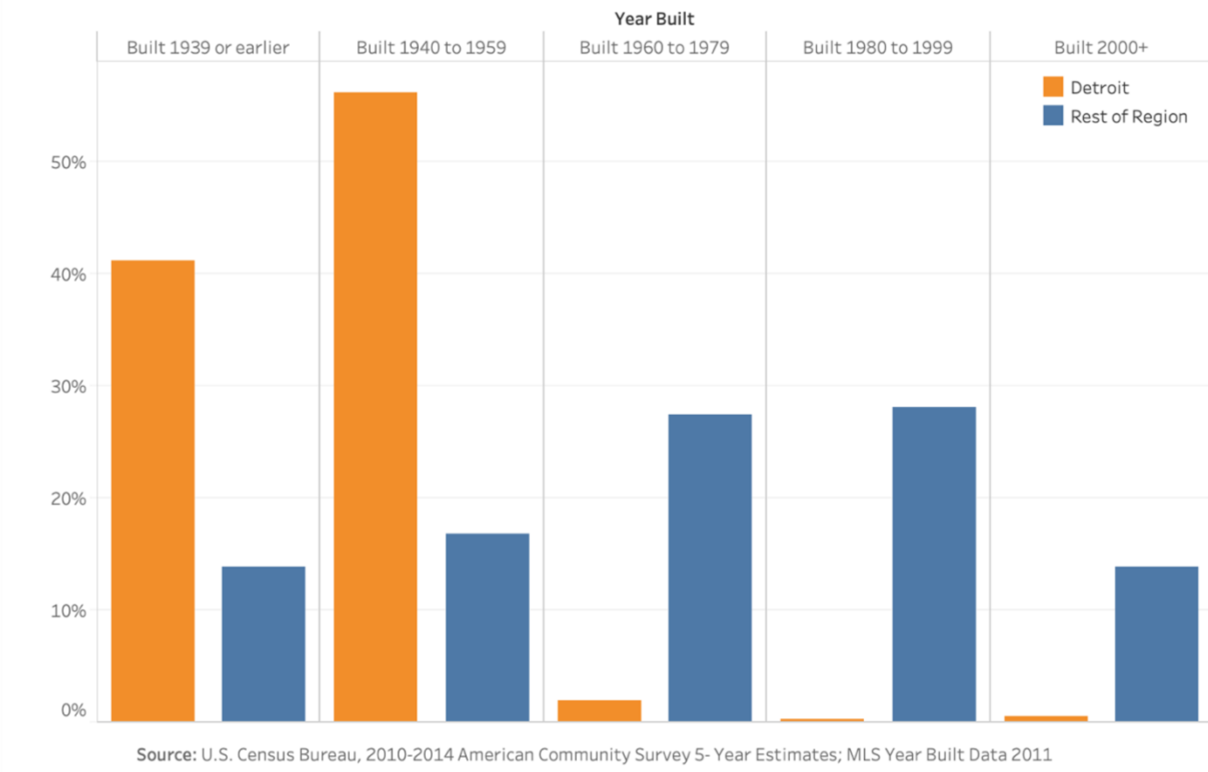


An oversupply of single-family housing depressed prices. Detroit was built for two million residents, and in 2010, the city had 713,777.[6] Between 1950 and 2010, Detroit lost 52% of its people, but only 29% of its residential units. Furthermore, Detroit had more single-family housing stock (73%) than the average American city (68%).[7]

[6] "U.S. Census Bureau QuickFacts: Detroit City, Michigan; United States." Census Bureau QuickFacts. Accessed July 29, 2019. https://www.census.gov/quickfacts/fact/table/detroitcitymichigan,US/POP010210.

[7] Erika C. Poethig et al., The Detroit Housing Market, Challenges and Innovations for a Path Forward, report, Policy Advisory Group, Urban Institute (Washington DC: Urban Institute, 2017), 14. https://www.urban.org/sites/default/files/publication/88656/detroit_path_forward_finalized.pdf

Figure 4 - Housing Stock by Era of Construction, 2011



Detroit's single-family homes were considerably older than surrounding suburban communities. Eighty-two percent of the housing stock in the city predates 1960.[8] Detroit's bungalows, Tudors, and Colonials often had smaller, divided rooms, relatively small kitchens, separate formal living rooms, and only one full bath. Meanwhile the suburbs offered newer homes with more spacious floor plans. Detroit's housing stock had the reputation of "senior citizen" homes.[9]

Many homes were in poor condition due to decades of deferred maintenance. Declining values had the additional impact of limiting homeowners' access to equity and lines of credit that could provide the capital to improve their homes. Furthermore, increasing levels of blight and vacancy gave homeowners little incentive to maintain their houses. Move-in-ready houses were in very short supply, and rehabbing a house was more than most buyers wanted, or could afford, to take on.

A Stunning Collapse [2006-2009]

Between 2006 and 2009, Detroit's residential neighborhoods entered a vicious market failure in which values plummeted due to the progressive removal of mortgage-backed buyers from the market and a wave of distressed properties that flooded the market. Two years prior to the national real estate bubble bursting, Detroit's housing values entered a freefall from which they are still recovering.

The Removal of Mortgage-Backed Buyers

In late 2006 and early 2007, buyers with poor credit or thin credit (limited credit history) were removed from the market as the subprime mortgage industry imploded. In 2006, the top 25 subprime

[8] Ibid., 14.
[9] Ibid., 14.

mortgage lenders oversaw almost $540 billion in loans. In 2007, the top 25 lenders oversaw only $160 billion, representing a 70.4% decline.[10] The collapse was so sudden and severe that websites, dubiously dubbed implode-o-meters, started tracking 388 mortgage lenders[11] and 582 banks that imploded[12] during this period. Erica Simpson, an independent mortgage broker, recalls, “In the early 2000s, sales reps from nontraditional and secondary lenders would show up at my office every day courting clients. By early 2007, brokers did not have anywhere to send those loans.”[13]

Figure 5 - Subprime Mortgage Industry (Top 20 Lenders)

[10] "Top Subprime Lenders 2005 - 2007," The Wall Street Journal, February 20, 2008, accessed August 08, 2019, https://www.wsj.com/articles/SB119698145380316368.
[11] https://ml-implode.com/ - The "imploded" status for mortgage lenders can mean bankruptcy filing, temporary but open-ended halting of major operations, or a "firesale" acquisition.
[12] The imploded list contains banks which have gone through some sort of permanent adverse change. This includes regulator-declared failures and conservatorships/receiverships, as well as private-sector events such as firesale buyouts. Although the financial entity may continue to operate, they are counted if they would not otherwise continue without some sort of rescue.
[13] Interview with Erica Simpson, Loan Officer, Gold Star Mortgage Financial Group, August 2, 2019.

What Is a Subprime Mortgage?

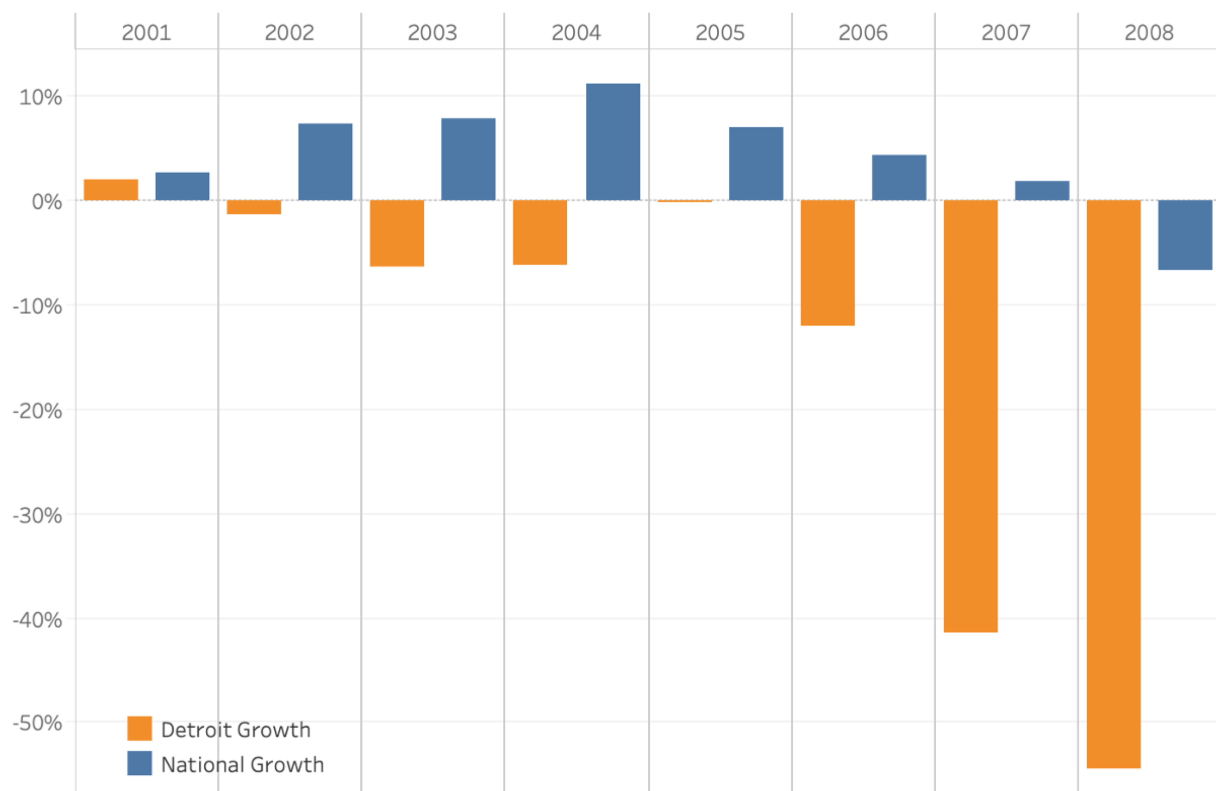
A subprime mortgage is one that's normally issued to borrowers with a limited credit history or low credit ratings. Lending institutions often charge interest on subprime mortgages at a much higher rate than on prime mortgages to compensate for carrying more risk. These are often adjustable-rate mortgages (ARMs), so the interest rate can potentially increase at specified points in time.

Subprime doesn't refer to the interest rates often attached to these mortgages, but rather the creditworthiness of the individual taking out the mortgage. Borrowers with FICO credit scores below 600 will often be stuck with subprime mortgages and their corresponding higher interest rates.

The removal of subprime buyers from Detroit's housing market fundamentally altered the demand for Detroit's housing stock. With fewer buyers in the market, the average sale price plummeted by 12% in 2006, 41.4% in 2007, and an additional 54.5% in 2008. In total, the median sale price of a Detroit single-family home fell by 82.2% between the end of 2006 ($49,900) and the end of 2008 ($8,888).

These barriers to entry shifted enormous purchasing power from potential homeowner- occupants into the hands of cash buyers and external investors.

Figure 6 - Average Sales Growth Comparison

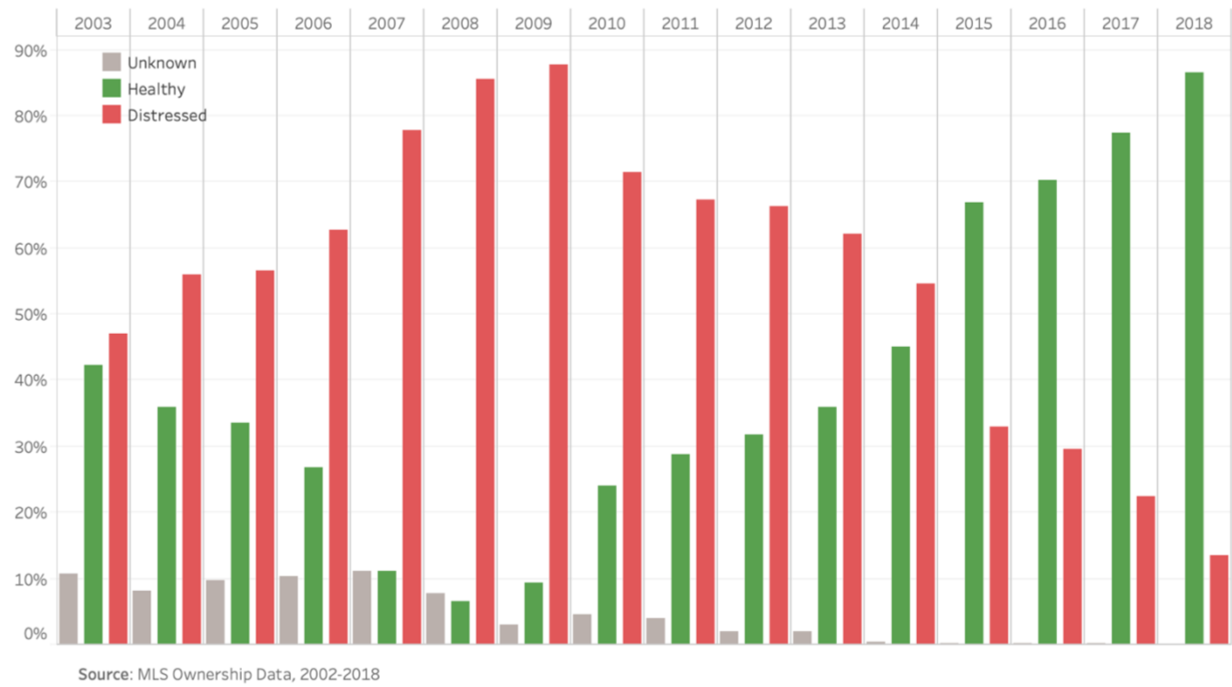


Source: MLS Sales Data 2001-2008, Federal Reserve of St. Louis

The Flood of Distressed Properties

The flood of distressed properties entering the market exacerbated the rapid fall in prices. In 2005, distressed properties represented 56.6% of residential sales. By 2007, 77.8% of residential sales were distressed.

Figure 7 - Healthy vs. Distressed Sales



> **When Is A Property Distressed or Healthy?**
>
> *A distressed property is bank-owned or government-owned. Properties with unidentified ownership are classified as Distressed, Ownership Unknown if the private remarks have keywords such as as-is, cash only, vacant, or foreclosed.*
>
> *Privately owned or corporate-owned properties are classified as Healthy. Properties with unidentified ownership are classified as Healthy, Ownership Unknown if the private remarks indicate occupied and/or renovated conditions, such as move-in-ready, new, beautiful, renovated, updated, finished, or well kept.*
>
> *In 2008 and 2009, as the national residential real estate market collapsed, Detroit was overwhelmed by sales of discounted, bank- and government-owned properties. During the stable years of 2000-2005, Detroit averaged 4,830 total sales per year. In 2008, residential sales skyrocketed to 11,164, more than 85% of which were distressed. The onslaught of distressed sales continued throughout 2009 before beginning to normalize in 2010.*
>
> *Obtaining a conventional mortgage became increasingly difficult as distressed sales compromised the appraisal values of move-in-ready homes. As Chapter 1 illustrates, a three-bedroom, one-and-a-half-bath brick Colonial in the Bagley neighborhood that would have appraised for $140,000 in 2005 would come in at $75-96k in 2008. The absence of three or more credible move-in-ready comps would have made a mortgage questionable. By 2010, the same house would have appraised for approximately $15,000 because heavily discounted cash sales were the only transactions available for comps.*

A Prolonged Recession [2010-2014]

Between 2010 and 2014, Detroit's neighborhoods bottomed out due to the self-reinforcing nature of this vicious cycle. Even as total sales and distressed inventory normalized to pre-recession standards, fewer than 375 mortgages a year were granted for residential houses in the city of Detroit between 2009 and 2014. Median sale prices bottomed out at $6,500 in 2009 and remained below $10,000 through 2013. Distressed sales continued to dominate the market, making it difficult to transact a mortgage for less than $50,000, prolonging Detroit's struggle.

A New Supply of Distressed Properties

As their houses became worth less than the value of their loan, homeowners increasingly defaulted on their mortgages or stopped paying taxes on their houses, further feeding the supply of distressed houses. This trend started with adjustable-rate mortgages that could not be refinanced. However, the abundance of foreclosed properties and discounted sale prices dropped neighboring values to the point that many homeowners with excellent credit found themselves underwater on conventional mortgages. Between 2005 and 2015, more than 1-in-3 Detroit properties — 139,699 of 384,672 — have been foreclosed because of mortgage defaults or unpaid taxes.[14]

Additionally, distressed properties were rarely renovated and put back on the market by opportunistic investors who rushed into this competitive vacuum to leverage their cash and buy properties on the cheap. While some investors fixed up and rented the properties, others did nothing to improve the properties, speculating that values would rise with time. In addition to investors, some ambitious Do-It-Yourselfers bought properties they could fix up and occupy. Regardless of the strategy or motivation, the fact that these distressed properties, purchased at rock-bottom prices, were held (not renovated and resold) meant that distressed-sale prices continued to dominate the market. Sales of fully renovated, move-in-ready properties were few and far between.

A New Barrier for Mortgage-Backed Buyers

Further complicating the matter, policies enacted to correct subprime lending abuses made it challenging to give or receive a mortgage for less than $50,000. The Dodd-Frank Act (2010),[15] which enacted policies to correct predatory subprime mortgage practices, strengthened the federal regulation of and restrictions on High-Cost Home Loans (HCHL) and Higher-Price Mortgage Loans (HPML). Many lenders cannot, or choose not to, underwrite a mortgage of less than $50,000 because covering their costs would require charging more than five origination points, qualifying the mortgage as a High-Cost Home Loan.[16] A first mortgage may also qualify as HPML if a bank charges 1.5 percentage points higher than the Average Prime Offer Rate to manage the risk associated with poor credit.[17] (See Appendix A - Why do loans less than $50,000 qualify as High Cost Home Loans). Many lenders will only consider navigating the restrictions on HCHL and HPML if the buyer has excellent credit.

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[14] Joel Kurth and Christine MacDonald, "Volume of Abandoned Homes 'absolutely Terrifying'," Detroit News, July 08, 2015, accessed July 01, 2019, https://www.detroitnews.com/story/news/special-reports/2015/05/14/detroit-abandoned-homes-volume-terrifying/27237787/.

[15] https://www.congress.gov/bill/111th-congress/house-bill/4173/text

[16] David A. Roth, "Scotsman Guide," Scotsman Guide, accessed August 07, 2019, https://www.scotsmanguide.com/Residential/Articles/2014/11/High-Cost-vs--Higher-Priced-Mortgages/.

[17] "What Is a "higher-priced Mortgage Loan?" Consumer Financial Protection Bureau, accessed August 07, 2019, https://www.consumerfinance.gov/ask-cfpb/what-is-a-higher-priced-mortgage-loan-en-1797/.

When is a Property Distressed or Healthy?

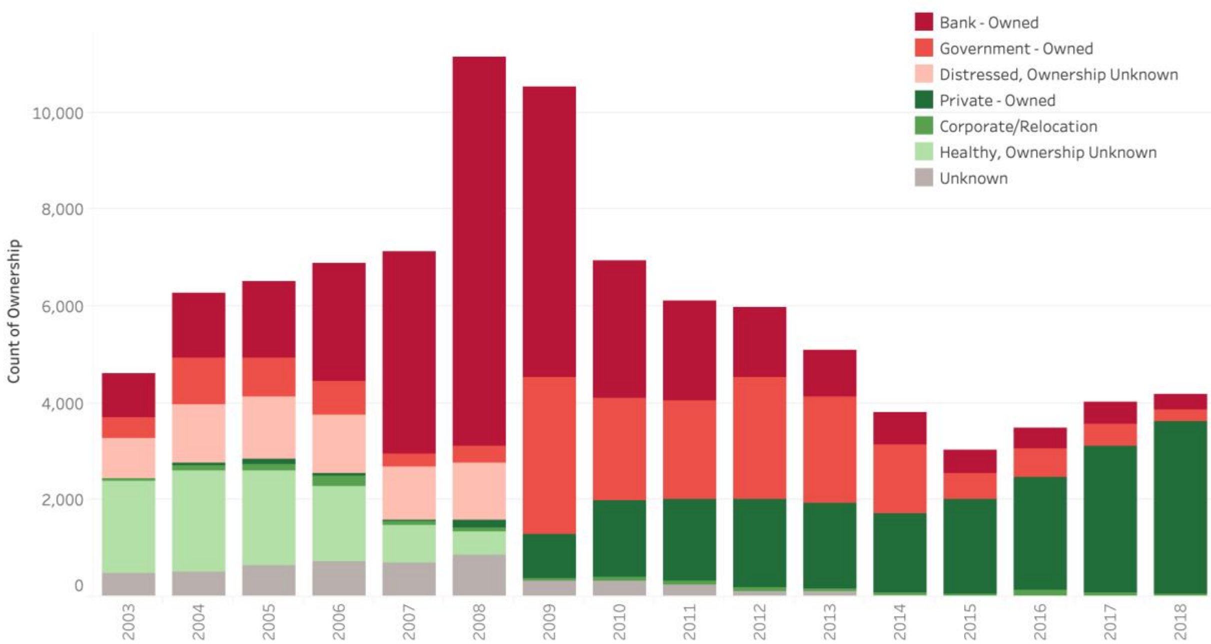
A high-cost home loan (HCHL) exceeds one of two thresholds set by the federal government: the interest rate threshold or the point and fees threshold. Federal law sets the definition of a high-cost home loan and places special requirements and restrictions on lenders to protect borrowers from predatory lending practices.

A higher-priced mortgage loan (HPML) is one with an annual percentage rate, or APR, higher than a benchmark rate called the Average Prime Offer Rate. Because a higher-priced mortgage loan is more expensive than a mortgage with average terms, the lender has to take extra steps to make sure the borrower can pay the loan back and won't default.

Many traditional lenders avoid offering HPMLs and/or HCHLs because they carry a higher risk of default and/or more stringent federal requirements and restrictions.

Between 2009-2013, more than 94% of total sales were below the $50,000 threshold. Thus, even where consistent comps were available, the fact that values remained well below the $50,000 threshold created a barrier to mortgage origination.

Figure 8 - Ownership by Year



Source: MLS Ownership Data, 2003- 2008

A Slow Recovery [2015-Present]

Since 2015, the median sale price and the volume of mortgages have been on a gradual rise; however neither have rebounded to their pre-recession strength. While eclipsing 1,000 mortgages[18] in 2018 was worth celebrating, that milestone is still less than a third of the way to the average of 3,400+

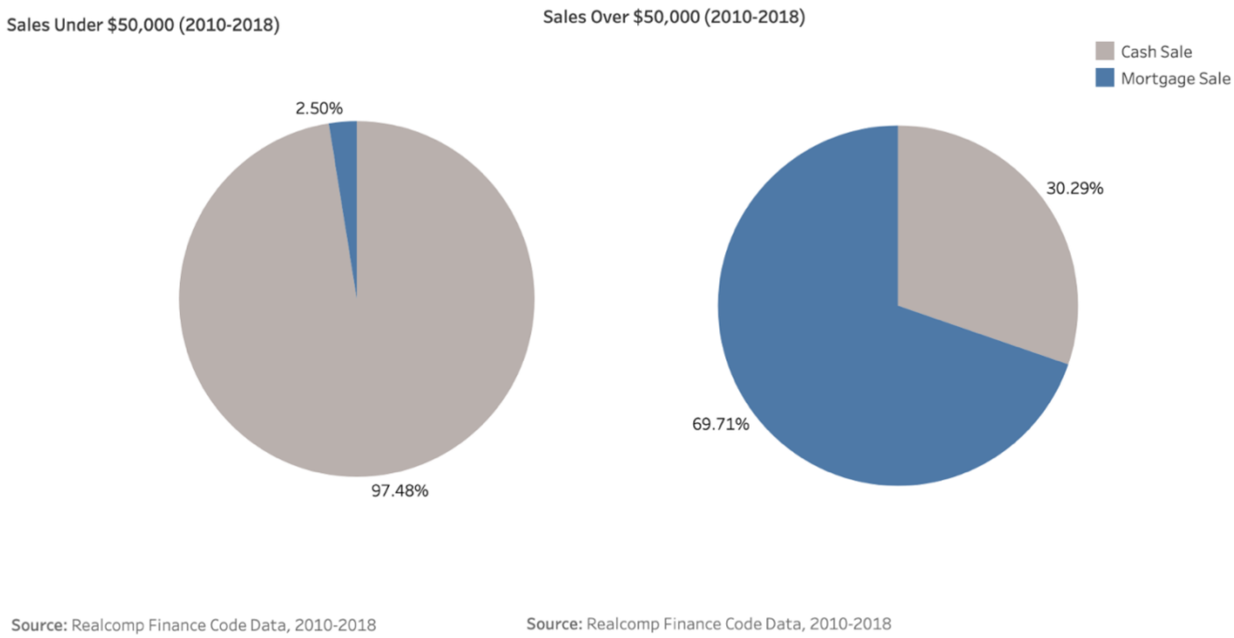
[18] https://www.modeldmedia.com/features/1000-mortgages-detroit-121818.aspx

mortgages a year issued in Detroit between 2004-2006[19]. At $32,000, the 2018 median sale price was still only 64% of what it was in 2006.

Housing values began to recover as the supply of distressed properties diminished. Since 2015, Detroit has averaged fewer than 1,000 sales of bank- or government-owned properties a year, down from 9,226 in 2009. That trend also indicates fewer distressed properties on the market, each year since 2015, than before the mortgage crisis. Furthermore, for the first time since 2003, distressed sales represented a minority of sales, with bank- and government-owned properties representing only a third of sales or less.

Housing values are growing *slowly* because mortgages are still hard to give and receive due to the limited number of comps for fully renovated houses and values that remain below the $50,000 threshold. Of the 4,523 sales in Detroit between 2010-2018 that were greater than $50,000, 69.71% were mortgage sales. Of the 36,808 sales in Detroit between 2010-2018 that were less than $50,000, only 2.52% were mortgage sales.

Figure 9 - The $50,000 Mortgage Threshold



The Virtuous Cycle

A Vision for Detroit's Neighborhoods

Out of Detroit's bankruptcy crisis arose three catalysts that laid the groundwork for a coordinated effort to rebuild Detroit's residential neighborhoods.

- **The Grand Bargain** catalyzed the city's public, philanthropic, and private stakeholders to work together to address the city's financial challenges.

[19] 988 mortgages were issued in 2018 for residential single-family houses, which is 28.5% of the average of 3,423 mortgages issued for single-family houses between 2004-2006. It's worth noting that subprime mortgages were being issued indiscriminately during 2004-2006, leading to the subprime mortgage industry collapse, and likely artificially inflating the number of mortgages issued during this period. The 1,000+ mortgages number that was widely publicized in late 2018 includes mortgages for townhomes. Data on townhomes is not included in the statistics for this report.

- **Detroit Mayor Mike Duggan** based his campaign on the slogan "Every Neighborhood has a Future" and re-energized the Detroit Land Bank Authority.
- **The Blight Removal Task Force** demonstrated that progress was possible by utilizing federal funding to remove blight.

Out of these efforts emerged the Rehabbed & Ready program: a vision to convert the vicious cycle into a virtuous cycle that established the market for move-in-ready houses by seeding comps for fully renovated single-family homes in neighborhoods at a tipping point.

Why Comps Matter

The first step to turning the vicious cycle into a virtuous cycle is establishing comparable sale prices for fully renovated homes. This effort would prevent market failures from further suppressing residential home values and help existing residents rebuild equity.

A cluster of move-in-ready home sales would distinguish the healthy market values from the distressed market values. If appraisers saw recent comps nearby, then the market for fully renovated homes could be separated from the distressed sales in the area. Established appraisal values would make banks more comfortable lending in those neighborhoods. Access to capital would open the door to more buyers, establishing more demand and competition for these neighborhoods. Increased demand would lead to rising prices and home values for neighbors, incentivizing homeowners to seek financing to renovate their property. This investment would further perpetuate the positive cycle of improving values of neighbors' houses and the neighborhood as a whole.

To accomplish this vision, blight removal strategies had to be in sync with renovation efforts. Removing blight neutralized a negative market force, but it was equally important to increase housing values to a point where residents could begin reinvesting in their homes and establish healthy market values for move-in-ready homes.

Any neighborhood revitalization effort in Detroit had to first center on converting its abundant and aging single-family-housing stock from a liability to an asset. While investment in commercial and multi-family residential made sense in Downtown and Midtown, creating opportunities for neighborhood residents to improve their quality of life and economic opportunities had to start with supporting and restoring homeownership. Strategies focused on renovating existing housing have the added benefit (and challenge) of engaging the community in the process, not just developers and investors.

Establishing healthy market conditions would require focusing and coordinating investment into neighborhoods at a tipping point. A critical mass of move-in-ready homes would need to be established to create a self-sustaining market. However, this required careful deliberation. Renovating houses over too wide a distance would not allow comps to build on each other, effectively diluting the impact and dooming the intervention.

Additionally, investing in neighborhoods with functioning markets was unnecessary. The opposite was also true. For neighborhoods with extensive amounts of blight and vacancy, adding a handful of move-in-ready houses would not be enough to restore healthy market conditions.

Given these conditions, Rehabbed & Ready targeted neighborhoods that had the greatest impact on available DLBA inventory, market conditions, and community involvement (see Chapter 3).

Why a Public + Philanthropic Partnership is Necessary

Establishing market conditions that would foster private neighborhood investment posed three fundamental challenges:

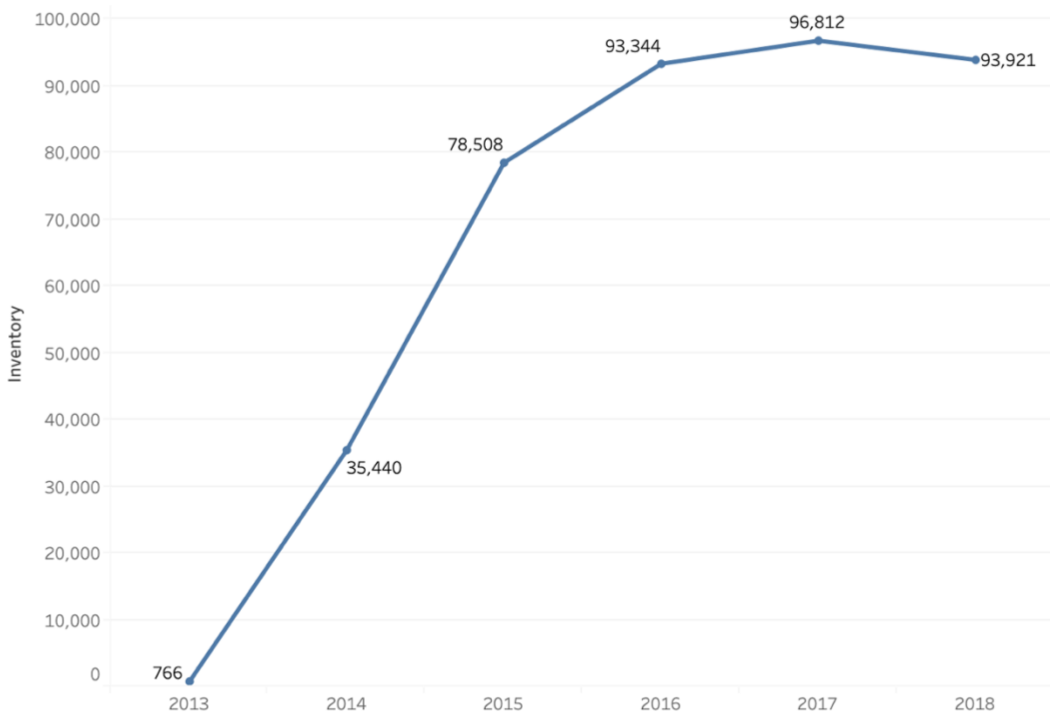
1. Attracting investment capital for renovations of homes in neighborhoods where the cost of renovation is greater than the resulting market value.
2. Controlling the critical mass of inventory necessary to significantly influence the market.
3. Addressing the supply of blighted and distressed properties that surround the houses slated for renovation.

When markets fail, philanthropic and public intervention is needed to create the market conditions that attract sustainable private investment. Only cooperation between public and philanthropic partners could address both Detroit's supply and demand challenges.

The Public Partner Provides the Property Inventory to Renovate at Scale

Only the Detroit Land Bank Authority controlled a large enough inventory to affect the market significantly in target neighborhoods. Appraisers ideally consider three properties that are the same architectural style, within a half-mile radius, and have sold within the last three months. This standard means that establishing a sustainable market would likely require three renovations a quarter for each architectural style of house. Ideally, that could mean up to three dozen houses a year within a quarter-to-half-mile section of a neighborhood.

Figure 10 - Land Bank Inventory by Year



Source: City Council Quarterly Report January 15, 2019, Detroit Land Bank Authority

In 2013 the Detroit Land Bank Authority owned less than 700 properties within the Hardest Hit Fund (HHF) Target Areas. Due to HHF's investment stipulations, DLBA could only demolish properties in

HHF target areas. To increase impact, in April 2014, Detroit City Council allowed a transfer of roughly 16,000 residential structures within HHF Target Areas to the Detroit Land Bank Authority. These properties consisted largely of vacant and blighted homes. Later in 2014, the Wayne County Treasurer's tax foreclosure auction allowed the transfer of 13,058 failed auction properties to the DLBA. In April 2015, the Detroit City Council transferred 37,776 residential properties to DLBA ownership, representing the drastic spike in ownership between 2013-2015.[20] As of April 2018, DLBA held more than 93,000 residential parcels, including more than 30,800 structures, making it the largest property owner in Detroit.

Only the Detroit Land Bank Authority could coordinate the mitigation of blight and vacancy that were depressing sale prices. A cluster of fully renovated properties is only able to improve sales prices and establish healthy market conditions if the surrounding blocks are largely occupied and free of blight. The DLBA had the ability to substantially influence occupancy and the condition of surrounding blocks through its range of disposition programs (see Table 5 in Chapter 3).

What is a Land Bank?

Land banks are similar to commercial banks, but instead of assets consisting of savings, checking, and retirement accounts, a land bank's assets are lots, houses, and parcels that are underutilized, blighted, and vacant. Similar to a commercial bank, the job of a land bank is to increase the value of its assets for its shareholders. Land bank shareholders are residents of a community.

Transparency and accountability are unique challenges. A land bank needs to be accountable in its operations to protect against fraud while being strategic and innovative to ensure the best ideas are tested, and that resources are utilized effectively.

A Philanthropic Partner Provides the Funding Needed to Sell at a Loss

Private investment was needed because the DLBA and local government did not have the financial resources to do the renovations or to absorb the losses necessary to make the Rehabbed & Ready program succeed. The public-sector's role was to supply the property, do the renovation work, and support the marketing efforts to buyers.

Rehabbed & Ready presented a high-impact and high-leverage opportunity for philanthropic investment. For-profit developers are not likely to renovate a house if they know they're going to have to sell the house for 75% of renovation costs. But having 75 cents of each dollar move into the next house allows a philanthropic fund to have ongoing impact for a relatively small investment, especially when compared to traditional charitable grants. The strategy of seeding comps also provided a clear and measurable goal to improve the economic opportunities for Detroit residents. Finally, prioritizing rehab and reuse over demolition would build more vibrancy, ownership and equity in the community.

The Rocket Community Fund[21] chose to co-found Rehabbed & Ready because it aligned with the mission and culture of the Rock Family of Companies and the expertise of Rocket Mortgage. As a national leader in mortgage origination, with a headquarters in Detroit, the Rock Family of Companies wanted to leverage its resources, including market data, to help rebuild Detroit's neighborhoods. Laura

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[20] Building Detroit, Detroit Land Bank Authority, "City Council Quarterly Report," news release, Detroit, MI, 2015 (Building Detroit).

[21] Because the Quicken Loans Community Fund was still being formed, the initial $5M fund was provided by Dan Gilbert, the founder of Quicken Loans. That fund has been managed by Quicken Loans Community Fund (now Rocket Community Fund) since its inception in 2016.

Grannemann, Vice President of Strategic Investments at Rocket Community Fund, explains, “Around the Rock Family of Companies we talk a lot about being *for more than profit*. We believe business and community are inextricably linked and are both at their best when they grow together.” The Rocket Community Fund saw co-founding Rehabbed & Ready as consistent with a company culture that is “Obsessed with finding a better way.”

Rocket Community Fund’s $5 million investment was originally separated into four buckets, allocated as follows:

- $2 million revolving loan fund used to pay for construction and operation needs of Rehabbed & Ready
- $1 million backstop used to offset the losses generated by home sales
- $1 million blight removal fund
- $1 million miscellaneous funding used for maintaining the website, installing property security systems, updating social media, and running property tours

Because federal funding became available for blight removal through the Hard Hit Fund, a portion of the $1 million earmarked for blight remediation was moved into the Rehabbed & Ready backstop fund. As of July 2019, $200,000 of the original $2 million remains, and Rocket Community Fund has invested an additional $500,000. Bank of America, the Kresge Foundation, and private donors provided additional philanthropic support. Since the program's inception, total philanthropic investment is $6.88 million.

Rocket Community Fund has also provided critical resources to Rehabbed & Ready, including operations, marketing, and realty services. The Rocket Community Fund dedicated a project manager to support Rehabbed & Ready, who added capacity to get Rehabbed & Ready operations off the ground during the early stages of launching the initiative. Rocket Community Fund team members have assisted in the designing of logos, developing marketing materials, and managing social media resources. Finally, Rocket Homes (formerly In House Realty) has supported Rehabbed & Ready with pro-bono services, including listing and providing Comparative Market Analyses for Rehabbed & Ready houses. Initially, Rocket Homes managed the full sales cycle, including negotiating with buyers agents. The Detroit Land Bank Authority now has a full-time real estate agent on staff who manages the day-to-day operations of the sale process in consultation with Rocket Homes.

Chapter 3 - An Incisive Intervention

Rehabbed & Ready strategically concentrates its resources in neighborhoods that are at a tipping point. Its mission is to reestablish healthy market conditions in targeted neighborhoods, and then direct resources to adjacent areas.

A public-philanthropic partnership between the Detroit Land Bank Authority and Rocket Community Fund, Rehabbed & Ready is designed to revitalize Detroit's neighborhoods through:

- Establishing appraisal values by seeding comps for fully renovated houses
- Rebuilding homeownership rates within the City of Detroit
- Restoring home values for the residents who stayed in the neighborhood
- Attracting private investment/development in the neighborhoods

Rehabbed & Ready establishes appraisal values by seeding comps for fully renovated houses. Rehabbed & Ready properties are thoroughly renovated and sold at market value, which is almost always at a loss, to gradually build comparable sale prices for fully renovated homes. This process of seeding comps for fully renovated houses allows homebuyers and current neighborhood residents to increase the appraised value of their properties.

Rehabbed & Ready offers an alternative to demolition by selling finished, renovated houses. The average cost of demolition through the Detroit Land Bank Authority's HHF demolition program is $17,200 per property on average. Demolition removes the blight but leaves a noticeably empty lot. Rehabbed & Ready offers an alternative that converts blighted structures into renovated homes that add value to a neighborhood, and the loss incurred is about the same as the cost of a demolition.

Rehabbed & Ready provides fully renovated homes that are sold on the open market to homeowners, not landlords. Unlike the DLBA's Auction and Own It Now disposition programs, Rehabbed & Ready uses real estate agents to facilitate transactions. To target either first-time homeowners or buyers ready to move in, properties are marketed via open houses and private showings. The purchase agreement used by Rehabbed & Ready stipulates that the "Purchaser is a Michigan resident or a non-Michigan resident who will live in the Property."

Rehabbed & Ready intervention efforts are temporary in selected neighborhoods. Once healthy market conditions are re-established and private investment is occurring organically, interventions can move to the next neighborhood that meets program criteria. Rehabbed & Ready acts as a complement to other Detroit Land Bank Authority strategies and is likely to enter additional neighborhoods where other programs exist and major impact is possible.

Putting Properties to Productive Use

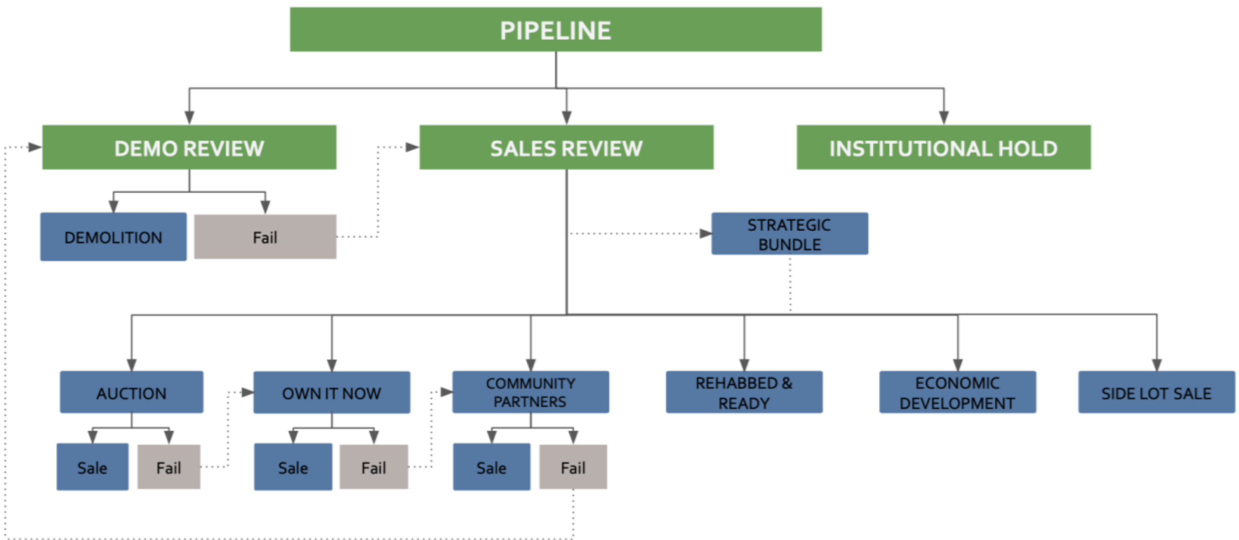
Detroit City Council established the Detroit Land Bank Authority in 2008 to promote neighborhood stabilization and economic growth through the acquisition, management, and disposition of tax-delinquent properties that have reverted to City ownership. The Detroit Land Bank Authority's mission is to return blighted and vacant properties to productive use.

The DLBA utilizes a variety of sales programs to make homeownership and land purchases accessible to Detroit residents. In an effort to combat real estate speculation and improve neighborhoods, the DLBA has a compliance program that requires renovation and occupancy of the properties it sells. The Detroit

Land Bank Authority works directly with individual buyers, as well as Community Partner organizations and developers for projects big and small.[22]

Inventory teams at the Detroit Land Bank Authority assess all incoming properties to determine if houses should be demolished or sold. Disposition teams seek to transition salvageable houses through a variety of disposition methods.

Figure 11 - The Property Pipeline



A property is a candidate for demolition if it's beyond repair or in an extremely blighted neighborhood. A property may also be a candidate for demolition if it fails to sell in one of the disposition programs.

After factoring in the amount of renovation needed, its neighborhood, and/or market forces, the sales review process then determines if a property is best suited for the Auction, Own it Now, Side Lot Sale, Community Partners, or Projects-classification.

[22] https://buildingdetroit.org/overview/

Table 5 - Disposition Programs at the Detroit Land Bank Authority

	Programs Designed for Home Ownership (Sales Review)
Auction	High interest properties with smaller renovation expenses, properties are cleared of debris and trash with estimated repair costs
Own it Now	Lower barrier sales program for houses with larger anticipated renovation expenses
Side Lot Sale	Vacant lots adjacent to occupied homes, sold for $100, decreasing blight and City maintenance expenses
Rehabbed & Ready	Selling exclusively to owner-occupants, homes are fully refurbished and move-in-ready; sold through the traditional real estate process
	Other Disposition Programs
Strategic Bundle	Bundle of 4-9 properties within close proximity, offered for sale to small-scale developers
Projects	Projects where larger properties and/or plots of land are sold with an approved plan and proof of capacity and financing
Community Partners	Partnerships with faith-based organization and nonprofits to transform neighborhoods through organizational expansion, property rehabilitation, beautification, and the increased capacity of the purchasing organizations
Buy Back	Occupants of DLBA-owned properties can earn back ownership of a property to which they had legitimate ties to before losing ownership
Occupied Nonprofit	Secondary resources for occupants to gain ownership of a property with nonprofit partner assistance

Rehabbed & Ready is an independent program that can select a property from anywhere in the sales review process, provided that the property meets certain consumer interest and market criteria. These criteria include the parameters listed in the following section, the investment strategy of the Rehabbed and Ready team, and direction from the Detroit Land Bank Authority. The unifying theme of these properties is that they are not yet attractive to private individuals to rehab, but are in neighborhoods with market potential.

Targeting Tipping Points

Rehabbed & Ready operations fall into three major phases: Selection, Construction, and Sales. The selection phase includes choosing neighborhoods, prioritizing blocks, and sequencing houses. The construction phase involves distinct pre-construction and construction processes. Marketing and sales are done primarily through general advertising of the Rehabbed & Ready program and targeted marketing of available houses with the support of real estate professionals.

Rehabbed & Ready prioritizes neighborhoods that can have the greatest impact based upon available DLBA inventory, market conditions, and community involvement. Neighborhoods with robust markets don't need the Rehabbed & Ready intervention. However, even a cluster of fully renovated houses is not likely to establish healthy market conditions in a neighborhood with extensive blight and vacancy. Rehabbed & Ready targets neighborhoods it can tip by considering the supply of DLBA-controlled inventory and market demand indicators.

Rehabbed & Ready requires an initial batch of five to seven properties that meet designated property parameters and collectively have a loss at sale of less than $20,000 per property between rehab expenses and final sale price. In order to build off each other's comps, the batch needs to be in close proximity (e.g. a quarter-mile radius) and of the same architectural type (e.g., Colonial, bungalow, or Tudor).

Once healthy market conditions are present, and private investment is occurring organically, Rehabbed & Ready will exit and move to the next neighborhood that meets intervention criteria.

Selecting Neighborhoods

Rehabbed & Ready targets tipping point neighborhoods where there are too few healthy comps to establish the market for mortgages.

Rehabbed & Ready targets neighborhoods with fewer abandoned homes and/or where most of the vacant or blighted properties are under DLBA control. Fully renovated houses are most likely to build housing values in neighborhoods with high occupancy. Therefore, the Rehabbed & Ready team starts by looking for neighborhoods with high occupancy and/or neighborhoods where a coordinated effort between DLBA disposition programs (e.g., Own it Now or Auction) can increase the number of occupied homes. Rehabbed & Ready's investment can bolster the market values and make the combined effort more successful.

Rehabbed & Ready prioritizes neighborhoods whose market indicators suggest the neighborhood is at a tipping point. Within the Detroit market, the sweet spot for Rehabbed & Ready intervention is neighborhoods where the average home value is between $40K and $70K, with an average price per square foot of between $30-$50. This roughly equates to neighborhoods whose average sale price and PPSF fall into the third quartile for the City of Detroit.

Figure 12 - The Economic Conditions of Rehabbed & Ready's Target Neighborhoods

This range of current values is consistent with the tipping-point principle. Rehabbed & Ready is not investing in the strongest neighborhoods (the fourth quartile) but focuses investment on neighborhoods that are showing positive economic indicators.

Moving forward, Rehabbed & Ready will operate increasingly in neighborhoods whose economic indicators fall below this target range. As Rehabbed & Ready completes the renovation of its inventory in healthier neighborhoods, it will progressively move into neighborhoods with more-challenging economic indicators. The hope is that the comps established in adjacent neighborhoods can lay the foundation for neighboring blocks. Rehabbed & Ready is also developing more-focused renovation models that are proportional to the market values in neighborhoods whose average sale price falls below this target range.

Example: Bagley, Crary/St Marys, and Evergreen-Outerdrive Neighborhoods

Bagley, Crary/St Marys, and Evergreen-Outerdrive were three of the earliest Rehabbed & Ready neighborhoods in northwest Detroit, and have received the most investment to date. Selected in 2015, most lots in these neighborhoods had structures, and most structures were occupied. In addition, the Detroit Land Bank Authority controlled most of the blighted properties.

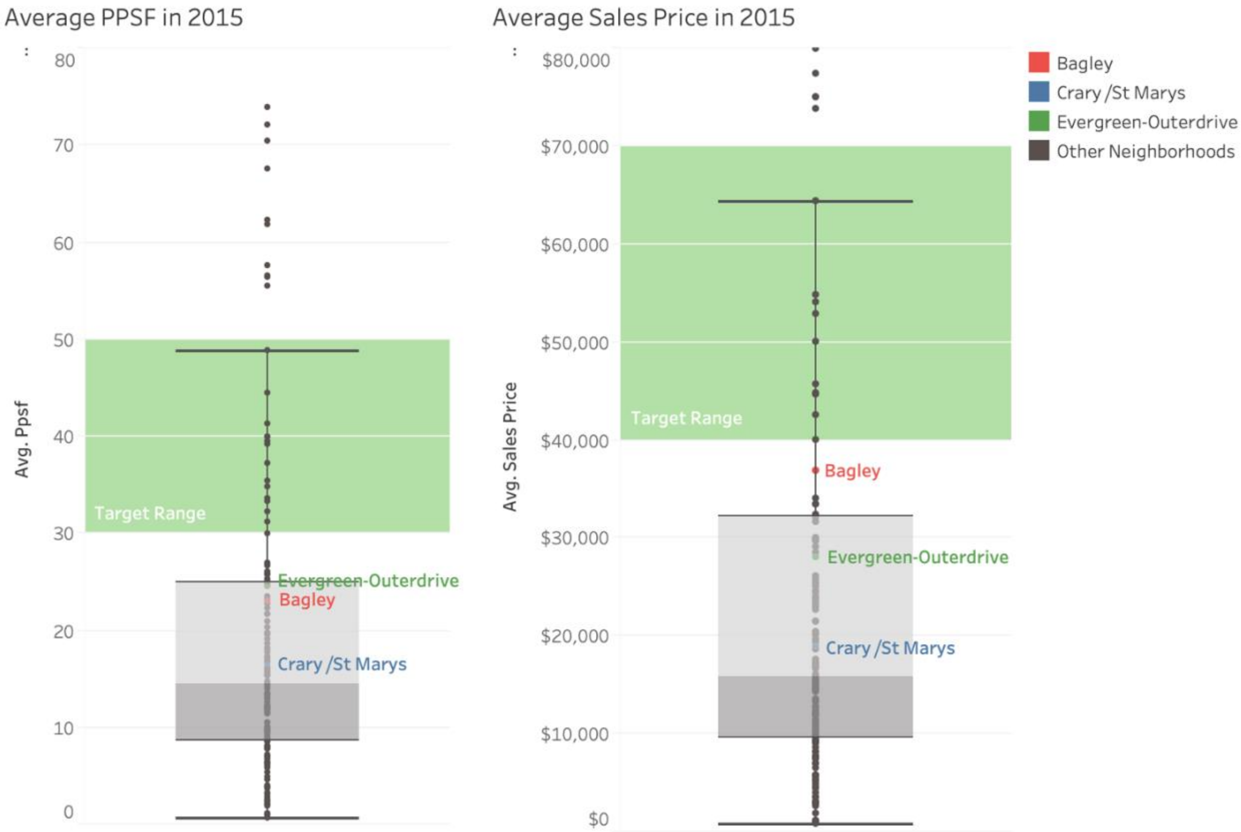
Table 6 - A comparison of Bagley, Crary/St Marys and Evergreen-Outerdrive in 2015

Criteria	Bagley 2015	CSM 2015	EOD 2015
Inventory **High density**[23]	97.49%	96.41%	92.39%
High occupancy[24]	91.62%	89.02%	89.41%
Sufficient DLBA inventory	62 properties	97 properties	95 properties
Economic **$40K-$70K Avg Sales Price**[25]	$36,808	$18,870	$28,061
$30-$50 Avg PPSF	$23.06	$16.39	$24.47

They all fall short of the target range of $30-$50 average per square foot and only Bagley fits into the $40k-$70k average sale price that Rehabbed & Ready developed over time. However, all three neighborhoods ranked in, or above, the third quartile of average price per square foot and average sales price in 2015.

[23] Density defined as number of parcels with structures and calculated by number of structures and/or number of residential lots
[24] Occupancy defined as occupied structures and calculated by number of occupied residential structures and/or number of residential structures.
[25] Median sale price is used in the program and neighborhood analyses included within this case study. Average sale price is used here because, historically, it was the metric used by Rehabbed & Ready when evaluating neighborhood economic viability.

Figure 13 - Pre-Intervention Economic Conditions in Bagley, Crary/St Marys and Evergreen-Outerdrive



Sequencing Batches

In order to enter a neighborhood, Rehabbed & Ready looks for a batch of five to seven qualifying properties on a desirable block. It is preferred that multiple batches of properties be available within a neighborhood, though subsequent batches can be smaller (e.g. three to five properties).

Block Parameters

A desirable block requires:

- Limited vacant lots (that cannot be attached to neighboring properties as a Side Lot)
- Five to seven potential properties within a quarter-mile that Rehabbed & Ready can renovate
- Three additional parameters that strongly support the case for a target block include:
- Blocks with street appeal
- Occupied and well-maintained property
- Limited privately owned blighted properties

Exceptions to the vacant lots and blighted properties principle are made if a parcel in question can be transferred to private ownership through a relevant DLBA program (e.g., Side Lots, Auction, or Own it Now)

Table 7 - Block and Properties Parameters

	Block Parameters	Property Parameters
Required	• Limited vacant lots (that cannot be attached to neighboring properties as a Side Lot) • Five to seven potential properties within a quarter-mile that Rehabbed & Ready can renovate	• Between 800 SF and 2,500 SF • Single household/Duplex Conversion
Strong	• Blocks with street appeal • Occupied and well-maintained property • Limited privately owned blighted properties	• At least 3 bedrooms • Full or half second bath • Clear titles

Property Parameters
Qualifying properties must individually fulfill a set of housing characteristics, fit within the operational timeline, and collectively pass a cost-benefit assessment.

Housing Characteristics
Priority is given to properties with layouts that can be easily reconfigured to meet the needs of today's buyers and which are available for renovation in a timely manner. Rehabbed & Ready only renovates single-family houses between 800 and 2,500 square feet, or duplexes that can be converted to a single-family house. Qualifying houses have at least three bedrooms, and at least one-and-a-half bathrooms, or the space to add an additional bathroom if needed. These property parameters are flexible, but provide a guideline to filter properties evaluated for renovation needs and market potential.

Timeline Considerations
Rehabbed & Ready tries to avoid properties with extenuating circumstances that could delay or complicate the timeline of their renovation or resale. Therefore, Rehabbed & Ready prefers properties to which the Detroit Land Bank Authority already holds a clear-to-close title. It is favored, though not required, when the water line is already connected at the street.

Cost-Benefit Assessment
Rehabbed & Ready conducts a rough cost-benefit assessment to determine how the cost of renovation compares to the estimated sale price after renovation.

A Renovation Estimate establishes a ballpark renovation cost. Inspections are conducted to assess the major renovation factors of asbestos abatement, sewers, foundations, and roofing. Cosmetic renovation costs are estimated by the general contractor.

A Revenue Estimate anticipates the sale price once a house is fully renovated, aka, After Repair Value. A Comparative Market Analysis is conducted for each house.

Maintaining a high standard of quality is important for increasing the likelihood of a successful sale, as well as the overall reputation of Rehabbed & Ready. This is why each renovation is supervised and warrantied by the Rehabbed & Ready team to ensure quality control. For more information on the renovation process, see Appendix B.

If a house can be renovated and sold for a loss less than the cost of demolition, Rehabbed & Ready has the opportunity to create a productive asset for the neighborhood that will provide a comp for future appraisals. The difference between the renovation estimate and the revenue estimate is the anticipated operating loss or gain. The average cost of demolition through DLBA's HHF demolition program is $17,200.

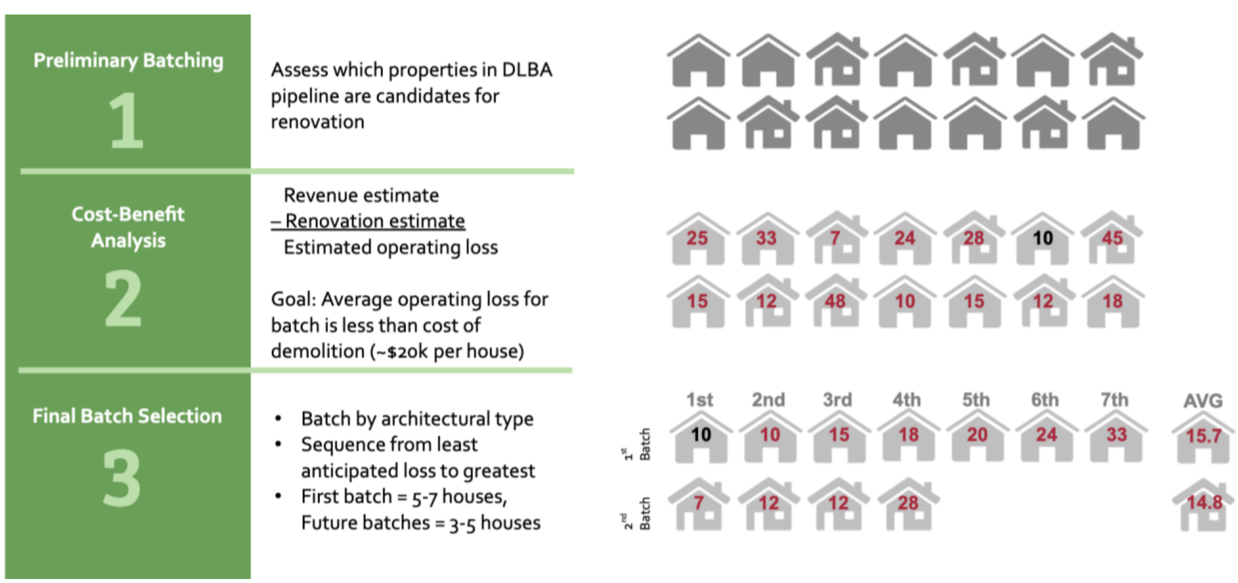
Additionally, all of the proceeds from Rehabbed & Ready sales go back into a revolving fund to pay for the next home's renovation, creating a positive cycle that helps to ensure the long-term health of the program. See Appendix D for more information on how Rehabbed & Ready is funded.

Figure 14 - Rough Cost-Benefit Assessment

Sequencing Properties

Once a batch is selected, properties are sequenced in order of anticipated loss from least to greatest. The renovation pipeline is structured so that each subsequent renovation and sale raises area home values, hopefully reducing the anticipated loss of the next property. The goal is that the initial cost-benefit assessment is a worst-case scenario, and that actual loss after sale is less than anticipated.

Figure 15 - Identifying a Batch



Ideally, a second and/or third batch is lined up to follow the initial batch. Subsequent batches can be smaller (e.g., three to five properties), and allow Rehabbed & Ready to integrate clusters of houses that are either further away, are of a different architectural style, or require more extensive renovations than the initial batch. A minimum of seven to ten properties (two batches) per neighborhood are needed to provide enough time for the program to enter, renovate through the properties in the pipeline, and establish comps before successfully exiting the neighborhood.

Example: Schulze Neighborhood

Rehabbed & Ready's recent entry into the Schulze neighborhood in 2018 illustrates the batching methodology that evolved as a best practice. The batching technique had not been refined in time to be used in the original entry into earlier neighborhoods such as Bagley, Crary/St Marys, and Evergreen-Outerdrive.

Schulze was targeted because it is immediately west of Bagley and Rehabbed & Ready's significant investment there. Rehabbed & Ready tries to pull strength across neighborhood boundaries.

When Rehabbed & Ready entered Schulze in 2018, 99.9% of its residential lots had structures, and 94.4% of the residential structures were occupied. The Detroit Land Bank Authority owned 22 properties in the area. Schulze had an average sale price of $57,740.85, and average PPSF of $44.26, both within Rehabbed & Ready's target ranges. The Kresge Foundation provided backstop funding specifically for the Bagley and Schulze neighborhoods.

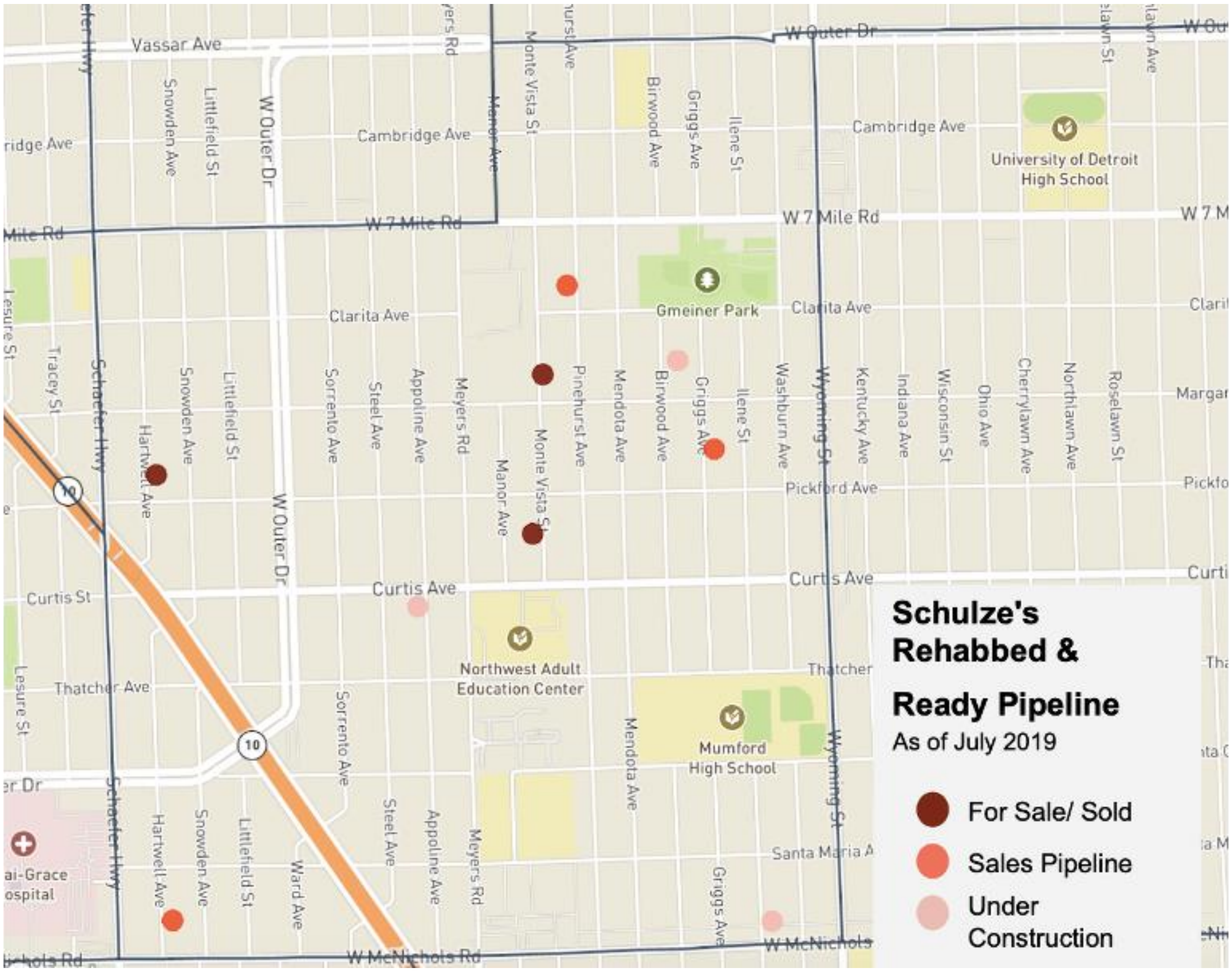
Rehabbed & Ready entered Schulze with two parallel batches of three Colonials and six bungalows.

Table 8 - Two Batches of Properties in Schulze

Batch	Address	Arch Type	Estimated Reno Cost	Estimated Loss/Gain	Current Status*	Bed-rooms	Sq. Ft
A1	18684 Monte Vista	Colonial	$102,917	$16,983	Sold/Closed	3	1334
A2	18430 Hartwell	Colonial	$116,217	$3,683	For Sale	3	1200
A3	18101 Appoline	Colonial	$90,843	-$5,843	Under Construction	3	1102
B1	18265 Monte Vista	Bungalow	$99,003	$10,997	Sold/Closed	3	1465
B2	17126 Ilene	Bungalow	$135,773	-$15,000	Under Construction	3	1551
B3	18652 Birwood	Bungalow	$94,222	-$19,222	Under Construction	3	965
B4	17146 Hartwell	Bungalow	$130,000	-$10,000	Sales Pipeline	3	975
B5	18935 Pinehurst	Bungalow	$135,000	-$15,000	Sales Pipeline	3	1521
B6	18452 Griggs	Bungalow	$90,000	-$20,000	Sales Pipeline	3	881

The Colonial and the bungalow on Monte Vista were the first to be renovated and sold. As of July 2019, renovation on the Hartwell Colonial was completed, and an additional colonial and two bungalows were under construction, as well as other properties identified and put into the pipeline.

Map 4 - Rehabbed & Ready Properties in Schulze as of July 2019



Community support is critical. In addition to the technical considerations driving Rehabbed & Ready investments, the program also places a premium on strong community engagement. Community support and feedback is essential to the success of the program, so Rehabbed & Ready targets neighborhoods with an active block club or neighborhood association. There also tend to be fewer security issues in neighborhoods with active residents. Rehabbed & Ready typically will present at one of the block club or neighborhood association meetings and keep the community leaders updated throughout the rehab process.

Chapter 4 - An Impactful Intervention

Rocket Community Fund and the Detroit Land Bank Authority engaged the University of Michigan's Ginsberg Center to conduct an independent assessment of the effectiveness of the Land Bank's Rehabbed & Ready program.

This assessment measures the impact of the Rehabbed & Ready intervention on median sale price and mortgage origination. Comparisons are conducted to determine if Rehabbed & Ready neighborhoods have grown faster than the rest of Detroit in terms of those metrics.

Methodology

Difference-in-differences tests were used to contrast the difference in the control and test groups prior to treatment, and again after the treatment, in a non-randomized intervention. This test minimizes bias on similar changes over time (such as market changes), and systemic differences between the neighborhoods (such as differing overall market values). The conclusion, referred to as effect of treatment, identifies the difference between the observed outcome of the test group and the expected outcome had the treatment not occurred.

Separate analyses are conducted on the Rehabbed & Ready program and four Rehabbed & Ready neighborhoods.

The program analysis included a test group of all transactions within the three Rehabbed & Ready neighborhoods (R&R3) with more than five Rehabbed & Ready houses sold from 2016 to 2018: Bagley (15), Crary/St. Marys (21), and Evergreen-Outerdrive (10). The control group, referred to as Detroit, is all other transactions in the city, including neighborhoods with less than five Rehabbed & Ready sales during the treatment period. This analysis included 35,649 total transactions.

Table 9 - Total Rehabbed & Ready Sales as of December 31, 2018

Neighborhood	Number of Sales
Bagley	13
College Park	3
Crary/St Marys	20
East English Village	2
Evergreen-Outer Drive	10
Grandmont #1	1
Greenfield-Grand River	2
Martin Park	2
Morningside	1
Rosedale Park	1
Grand Total	55

The program analysis includes a pretreatment range of all transactions from 2010 through 2015, and a treatment range of all transactions from 2016 through 2018. The treatment period concludes in 2018 because most of the treatment (renovations) in the neighborhoods studied occurred in 2016 and 2017 and appraisals only consider comparable sales within a three to six month period. A 2019 update is provided to understand the effect of the treatment over time.

Independent neighborhood analyses of Bagley, Crary/St. Marys, Evergreen-Outerdrive, and Schulze were also conducted.

These analyses do not control for other factors that may affect growth, such as housing stock or condition, proximity to commerce or employers, crime rates, or other local indicators that may have an impact. The effect of treatment, therefore, includes the impact of the Rehabbed & Ready intervention along with other variables that may have impacted the effect of the treatment. A full program evaluation would be required, and is recommended, to isolate Rehabbed & Ready's causal effect on median sale price and/ or mortgage sales independent of other variables.

Program Analysis

Impact on Housing Values

The impact on housing values was assessed based on percent change in median sale price of residential homes. Median price was selected over mean price in order to minimize the effect of upper outliers and to allow quartile comparisons of a neighborhood's economic health. Percent change was selected over absolute value to limit the bias toward higher value neighborhoods that have more margin for absolute value fluctuation.

The R&R3 neighborhoods experienced an additional 11.5% of growth per year during the three-year treatment period than they would have had they continued on their pre-intervention growth track.

Figure 16 - Median Sale Price

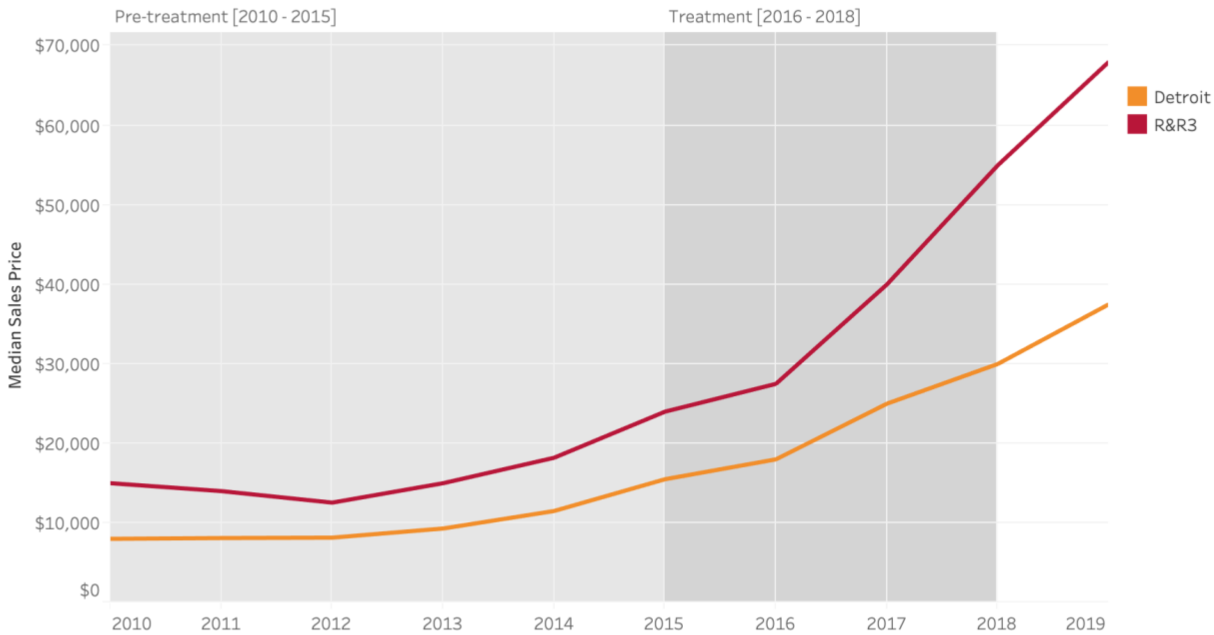


Table 10 - Median Sale Price

	Pretreatment[26]						Treatment			
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Detroit	$8,000	$8,100	$8,150	$9,300	$11,500	$15,500	$18,000	$25,000	$30,000	$37,500
R&R3	$15,000	$14,005	$12,557	$15,000	$18,200	$24,001	$27,500	$40,000	$55,000	$68,000

Before the treatment, the median sale price in R&R3 neighborhoods underperformed the rest of Detroit by an average of 4.3% per year. During the treatment, the median sale price in R&R3 neighborhoods overperformed the rest of Detroit by an average of 7.2% per year. An effect of 11.5% per year is calculated by subtracting the differences in annual growth rates of median sale price during the pretreatment and treatment periods.[27]

[26] The Pretreatment period runs from January 1, 2010 - December 31, 2015. The Treatment period runs January 1, 2016 - December 31, 2018. However, the median sales statistic combines all sales from a given year into a single data point for the year.

[27] A full program evaluation is recommended to isolate how much of the 11.5% average annual growth in median sale price is due to the Rehabbed & Ready intervention versus other contributing variables.

Table 11 - Effect of the Treatment on Median Sale Price, 2016-2018

		Pretreatment 2010-2015	Treatment 2016-2018	Effect of the Treatment (Difference in Differences)
Change in Median Sale Price	**Detroit**	$7,500	$14,500	
	R&R3	$9,001	$30,999	
Avg. Annual Growth Rate (AAGR)	**Detroit**	14.1%	24.6%	
	R&R3	9.9%	31.8%	
Difference		**-4.3%**	**7.2%**	**11.5%**

Impact on Mortgage Origination

Rehabbed & Ready's impact on mortgage sales was assessed by the change in the percentage of houses purchased with a mortgage, as opposed to cash or land-contract sales, as determined by the Finance Code recorded in MLS data.[28]

The percentage of homes purchased with a mortgage in R&R3 neighborhoods grew 5.6% more per year than it would have had the pretreatment trend continued.

Figure 17 - Percentage of Houses Purchased with a Mortgage

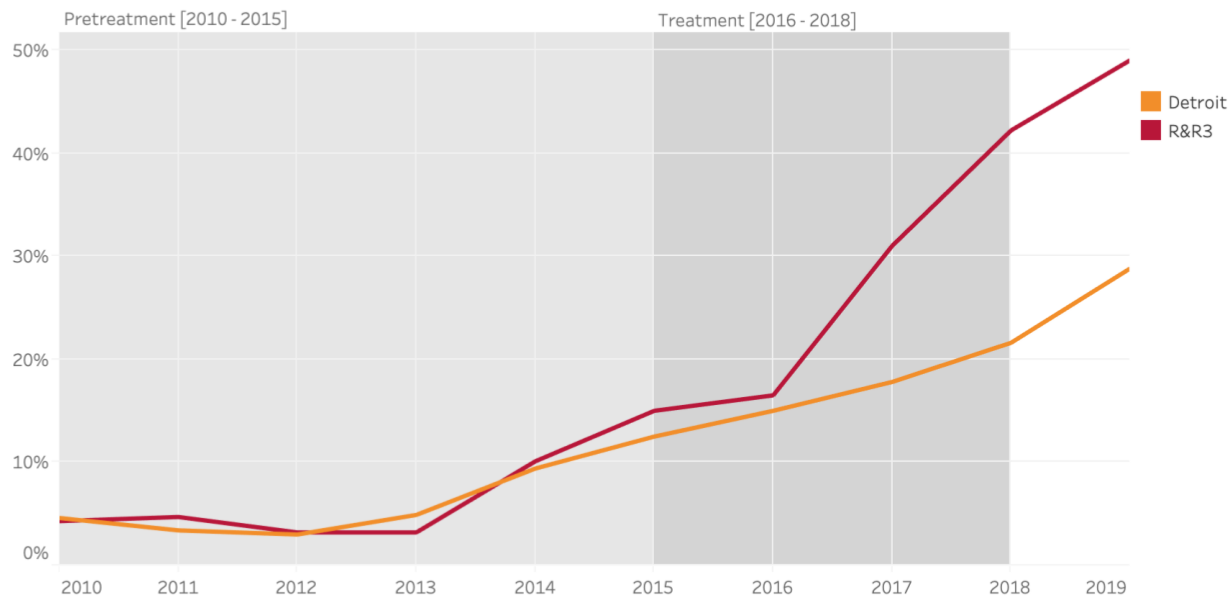


Table 12 - Percentage of Houses Purchased with a Mortgage

	Pretreatment						Treatment			
	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Detroit	4.6%	3.4%	3.0%	4.9%	9.4%	12.5%	15.0%	17.8%	21.6%	28.8%
R&R3	4.3%	4.7%	3.2%	3.2%	10.1%	15.0%	16.5%	31.0%	42.2%	49.0%

[28] MLS stands for Multiple Listing Service, which is a database used by real estate brokers to provide data about properties for sale.

Before the treatment, the percentage of homes purchased using a mortgage in R&R3 neighborhoods grew just slightly faster (0.5% per year) than the rest of Detroit. During the treatment, the percentage of homes purchased using a mortgage in R&R3 neighborhoods grew 6.1% faster per year than the rest of Detroit. An effect of 5.6% per year was calculated by subtracting the differences in percentage of homes purchased with a mortgage between the pretreatment and treatment periods.[29]

Table 13 - Effect of Treatment on Percentage of Homes Purchased with a Mortgage, 2016-2018

		Pretreatment 2010-2015	Treatment 2016-2018	Effect of the Treatment (Difference in Differences)
Change in % Mortgage Sales	Detroit	7.9%	9.1%	
	R&R3	10.7%	27.2%	
Change in % Mortgage Sales per Year	Detroit	1.6%	3.0%	
	R&R3	2.1%	9.1%	
Difference		**0.5%**	**6.1%**	**5.6%**

The 5.6% additional growth in mortgage sales per year compounded such that, over the three-year treatment, the percentage of homes sold with a mortgage in R&R3 neighborhoods was nearly double that of the rest of Detroit.

2019 Update

Rehabbed & Ready continues to have a positive effect, though the effect decreases over time. With 2019 data, the effect of the treatment on the median sale price drops from 11.5% to 9.3% additional growth per year over a four-year treatment period. The effect of the treatment on mortgage sales drops from 5.6% to 3.9% additional growth per year over a four-year treatment period.

Table 14 - 2018 vs. 2019 Comparison on Effect of the Treatment[30]

	Effect of the Treatment 2018 Data 3-year treatment	Effect of the Treatment 2019 Data 4-year treatment
AAGR of Median Sale Price	11.5%	9.3%
% Mortgage Sales per year	5.6%	3.9%

Rehabbed & Ready neighborhoods continue to grow in value even though growth rates are slowing. More importantly, a decline in the effect of the treatment over time is evidence that the intervention is working -- Detroit is catching up!

Detroit's residential housing market gained strength in 2019. The median sale price of a house in Detroit rose from $30,000 in 2018 to $38,000 in 2019 (see Figure 16/Table 10). The $8,000 increase was

[29] A full program evaluation is recommended to isolate how much of the 5.6% average annual growth in percentage of homes purchased with a mortgage is due to the Rehabbed & Ready intervention versus other contributing variables.

[30] Detailed analysis on the comparison of the effect of the treatment based on a three or four-year treatment period is available in Appendix E.

a record leap for the city, and the 25% annual growth rate was slightly stronger than the R&R3 neighborhoods. Similarly, Detroit jumped to 28.8% of houses purchased with a mortgage in 2019 (see Figure 17/ Table 12). The increase of 7.2 percentage points nearly doubles the growth rate of the year before and is by far the strongest absolute increase in percentage of houses purchased with a mortgage since the mortgage industry crashed.

Figure 18 - Percent Change in Median Sale Price

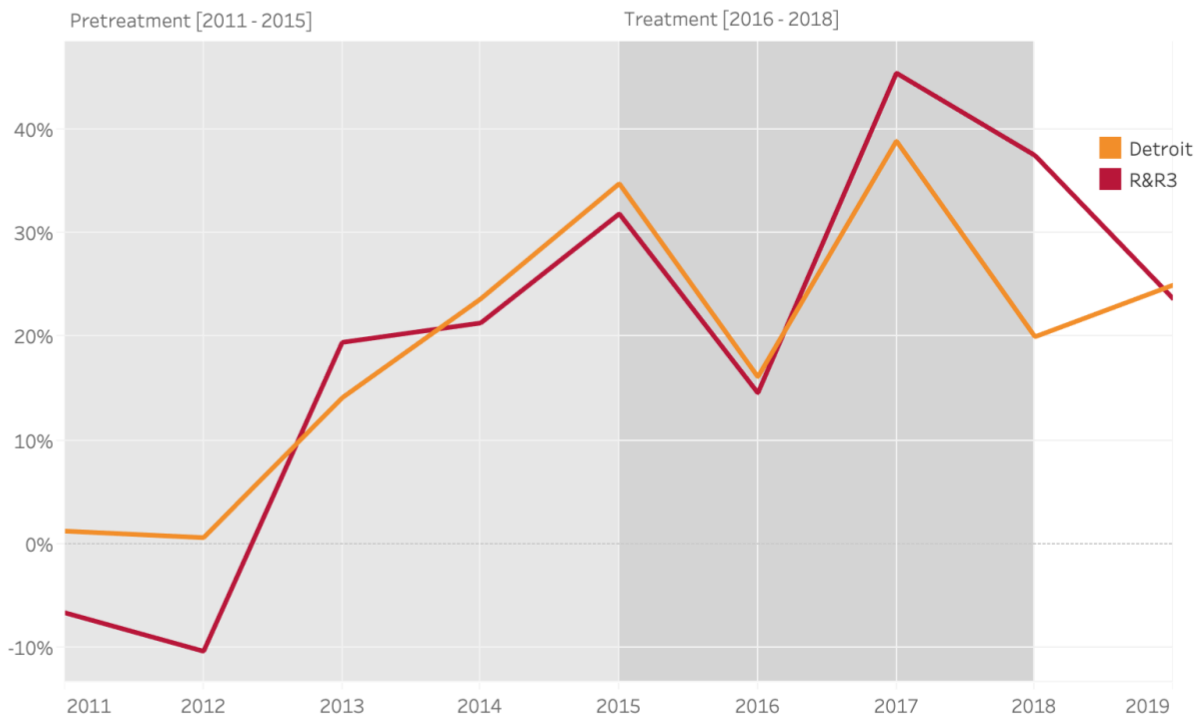


Table 15 - Percent Change in Median Sale Price

	Pretreatment					Treatment			
	2011	2012	2013	2014	2015	2016	2017	2018	2019
Detroit	1.3%	0.6%	14.1%	23.7%	34.8%	16.1%	38.9%	20.0%	25.0%
R&R3	-6.6%	-10.3%	19.5%	21.3%	31.9%	14.6%	45.5%	37.5%	23.6%

The R&R3 neighborhoods continued to grow in value even though annual growth rates declined. With a growth in median price of $13,000, the R&R3 neighborhoods outperformed Detroit in terms of gains in absolute value in 2019 (see Figure 16/Table 10. However, R&R3 neighborhoods' annual growth rate of 23.6% was not quite as strong as the growth rates the R&R3 neighborhoods experienced in prior years. This is not surprising as growth rates become more difficult to sustain as the starting values became greater. For example, a $12,500 gain in median sale price in R&R3 neighborhoods represented a growth of 45.5% in 2017. However, a $13,000 gain in median sale price represented a growth rate of only 23.6% in 2019.

In 2019, nearly half of houses sold in R&R3 neighborhoods (49%) were purchased with a mortgage. However, the increase of 7.8 percentage points was less than the double digit jumps in mortgage rates in 2017 and 2018 (see Figure 17/ Table 12).

It is expected that the effect of Rehabbed & Ready will lessen the further removed from the treatment itself. Most of Rehabbed & Ready's renovations in Bagley, Crary/St Marys, and Evergreen-Outerdrive were concentrated in 2016 and 2017. A home sale is only considered a comparable sale by appraisers for a period of three to six months, so one would expect the effect of those renovations to be greatest, and most relevant in 2017 and 2018.

Table 16 - Rehabbed & Ready Sales per Year by Neighborhood, as of September 23, 2020

Neighborhood	2015	2016	2017	2018	2019	2020	Grand Total
Bagley	2	7	2	2	2	2	17
College Park			3				3
Crary/St Marys	1	8	9	2	2	2	24
East English Village			1	1	2		4
Evergreen-Outer Drive		5	5				10
Grandmont					1		1
Grandmont #1			1				1
Greenfield-Grand River				2	1	1	4
Martin Park			1	1		1	3
Morningside				1			1
Rosedale Park			1				1
Schulze					6	2	8
Grand Total	3	20	23	9	14	8	77

This is how public/philanthropic partnerships are designed to work. Philanthropic funding and public operations provide an intervention to address a market failure by reestablishing the conditions that allow a market to function. In this case, once enough comps exist in a neighborhood for appraisers to establish a consistent value for fully renovated homes, mortgages rates begin to rise, and private investment should sustain and grow the market without philanthropic support or publicly subsidized operations.

Neighborhood Analysis

This neighborhood analysis examines the independent effect of Rehabbed & Ready on four neighborhoods in which Rehabbed & Ready has conducted the most renovations through 2019: Bagley, Crary/St. Marys, Evergreen-Outerdrive, and Schulze.

Bagley, Crary/St. Marys (CSM), Evergreen-Outerdrive (EOD) use the same pretreatment range (2010-2015) and treatment range (2016- 2018) as the program analysis. Because Rehabbed & Ready's first six renovations in Schulze occurred in 2019, the analysis of Schulze includes a pretreatment range of all transactions from 2014 through 2018, and a treatment range of 2019.

An analysis on the impact on homeownership is available in Appendix F.

Impact on Housing Values

Independent analysis of the R&R3 neighborhoods found a strong positive effect of treatment on housing values in Bagley and CSM and little or no impact in EOD.

Figure 19 - Median Sale Price by Neighborhood

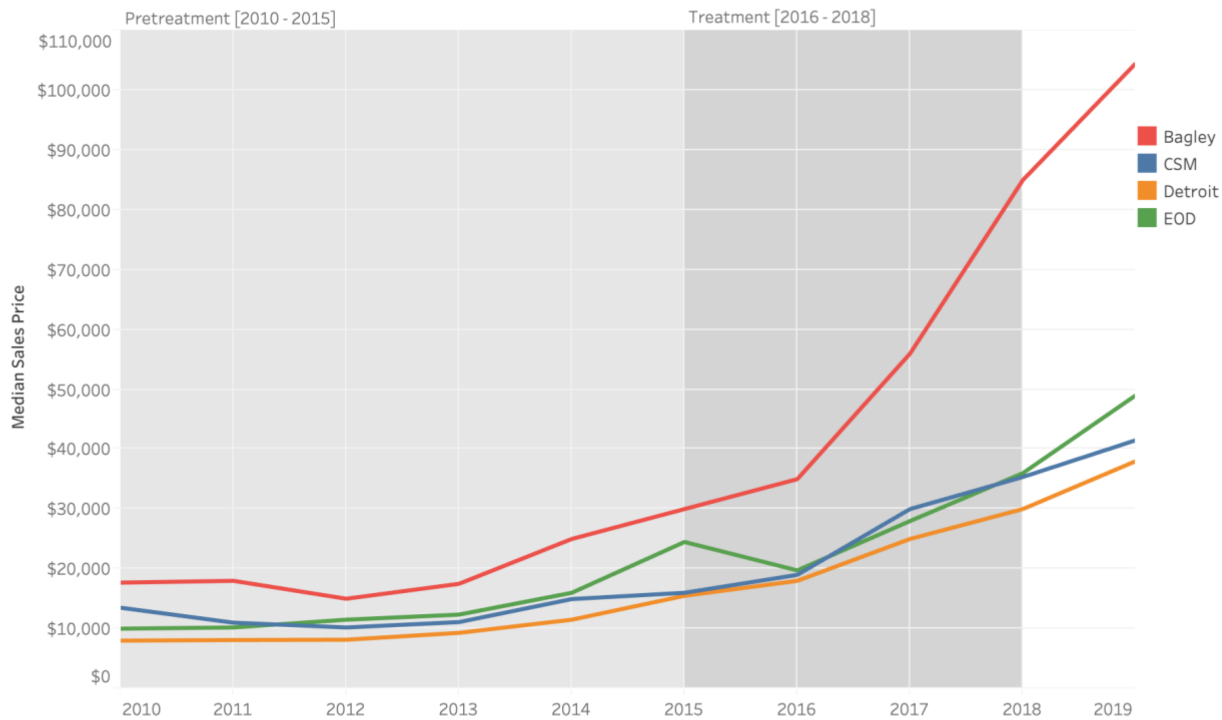


Table 17 - Median Sale Price by Neighborhood

	Pretreatment						Treatment			
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Detroit	$8,000	$8,100	$8,150	$9,300	$11,500	$15,500	$18,000	$25,000	$30,000	$38,000
Bagley	$17,700	$18,000	$15,005	$17,500	$25,000	$30,000	$35,000	$56,000	$85,000	$104,500
CSM	$13,500	$11,000	$10,200	$11,101	$14,950	$16,000	$19,000	$30,000	$35,358	$41,500
EOD	$10,000	$10,200	$11,500	$12,350	$16,000	$24,500	$19,750	$28,000	$36,000	$49,000

Rehabbed & Ready accelerated Bagley's dramatic growth during the treatment period. Before the treatment, the median sale price in Bagley underperformed the rest of Detroit by 3%. During the treatment, the median sale price in Bagley had an average annual growth rate of 41.5%, overperforming the rest of Detroit by 16.9%. This resulted in the median sale price almost tripling. The effect of the treatment was an additional 19.9% growth in median sale price per year over the three-year treatment period.

Crary/St Marys experienced a remarkable turnaround during the treatment period. Before the treatment, the median sale price in CSM was almost stagnant, underperforming the rest of Detroit by 10.7%. During the treatment, the median sale price in CSM's had an average annual growth rate of just over 30%, overperforming the rest of Detroit by 5.6%. The median sale price more than doubled in value. The effect of the treatment was an additional 16.3% growth in median sale price per year over the three-year treatment period.

Table 18 - Effect of the Treatment on Median Sale Price by Neighborhood

	Pretreatment 2010-2015			Treatment 2016-2018			Effect of the Treatment
	Change in Median Sale Price	Avg. Annual Growth Rate (AAGR)	Difference	Change in Median Sale Price	Avg. Annual Growth Rate (AAGR)	Difference	Difference in Differences
Detroit	$7,500	14.1%		$14,500	24.6%		
Bagley	$12,300	11.1%	-3.0%	$55,000	41.5%	16.9%	19.9%
CSM	$2,500	3.5%	-10.7%	$19,358	30.3%	5.6%	16.3%
EOD	$14,250	19.4%	5.2%	$11,750	14.1%	-10.5%	-15.8%

Rehabbed & Ready did not have a significant impact in Evergreen-Outerdrive. In 2015, EOD had a one year spike in median sale price, however that growth trend did not continue. Because 2015 is the pivotal year between our treatment periods, the analysis finds that the median sale price in EOD overperformed the rest of Detroit by 5.2% prior to the treatment period and underperformed during the treatment period by 10.5%, resulting in a negative effect of the treatment of 15.8%. However, if the median sale price in 2015 is adjusted to fit the trend line, EOD would show a modest effect of the treatment of an additional 3.5% growth in median sale price per year over the three-year treatment period.[31]

Impact on Mortgage Origination

Independent analysis of the three neighborhoods showed a positive effect on the percentage of houses sold with a mortgage in all three neighborhoods.

[31] To run the Difference in Differences test using trend data for 2015, $17,875 is used as the median sale price for 2015, which reflects the average of the difference between the median sale price of 2014 and 2016. Using this trend data, before the treatment, the median sale price in EOD had an average annual growth rate of 12.3%, underperforming the rest of Detroit by 1.8%. During the treatment, the median sale price in EOD had an average annual growth rate of 26.3%, overperforming the rest of Detroit by 1.7%. An effect of 3.5% per year is calculated by subtracting the differences in annual growth rates of median sale price during the pretreatment and treatment periods.

Figure 20 - Percentage of Houses Purchased with a Mortgage by Neighborhood

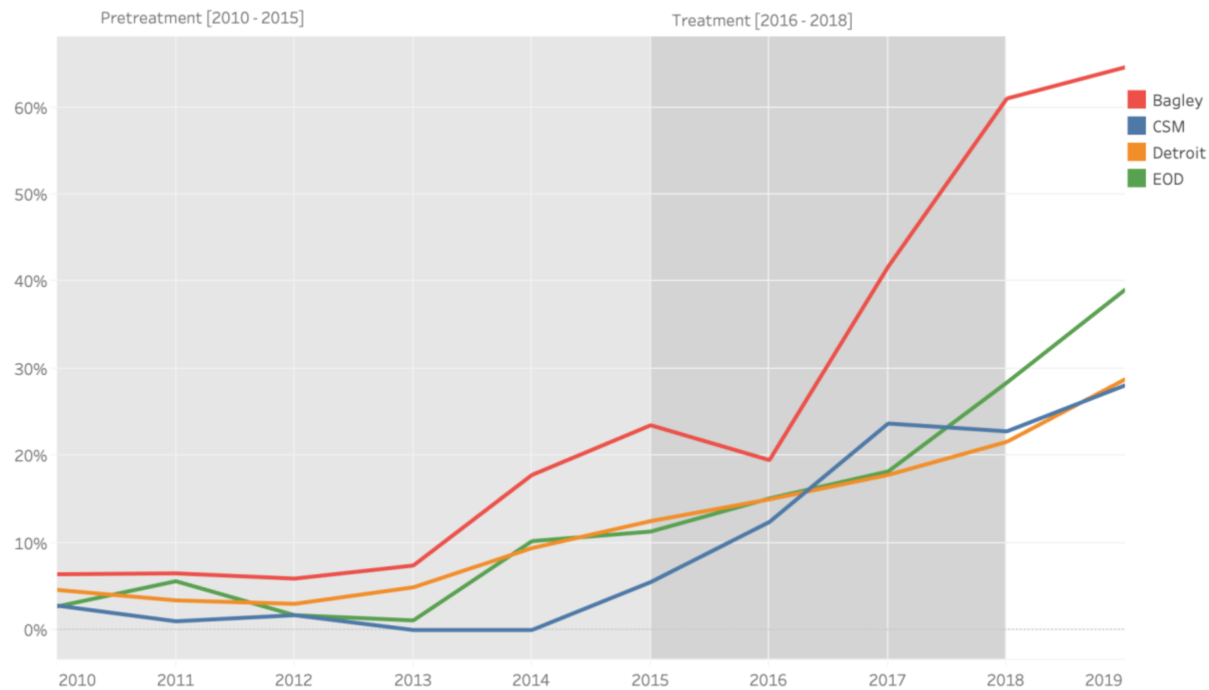


Table 19 - Percentage of Houses Purchased with a Mortgage by Neighborhood

	Pretreatment						Treatment			
	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Detroit	4.6%	3.4%	3.0%	4.9%	9.4%	12.5%	15.0%	17.8%	21.6%	28.8%
Bagley	6.4%	6.5%	5.9%	7.4%	17.8%	23.5%	19.5%	41.7%	61.0%	64.6%
CSM	2.8%	1.0%	1.7%	0.0%	0.0%	5.5%	12.4%	23.7%	22.8%	28.1%
EOD	2.7%	5.6%	1.7%	1.1%	10.2%	11.3%	15.1%	18.2%	28.4%	39.1%

Mortgage sales grew dramatically in Bagley during the treatment period. Before the treatment, the percentage of houses purchased with a mortgage (3.4%) grew in Bagley roughly twice as fast as the rest of Detroit (1.6%). During the treatment, the percentage of houses purchased with a mortgage grew exponentially in Bagley, outperforming the rest of Detroit by 9.5% per year. Considering that Bagely outperformed Detroit prior to the treatment, the effect of the treatment was measured as an additional 7.6% per year.

Mortgage sales rebounded in CSM during the treatment period. During the pretreatment period, the percentage of houses purchased with a mortgage in CSM significantly underperformed, growing at roughly one third the rate of the rest of Detroit. That included two years without a single purchase financed by a mortgage. During the treatment, CSM experienced a steady rise in the percentage of mortgage sales, outperforming the rest of Detroit by 2.7%, resulting in an effect of the treatment of 3.8% per year.

Mortgage sales in EOD just slightly overperformed the rest of Detroit. Before the treatment, the percentage of houses purchased with a mortgage in EOD (1.7%) essentially tracked with the rest of

Detroit. During the treatment, the percentage of houses purchased with a mortgage in EOD outperformed the rest of Detroit by 2.7% per year, resulting in an effect of the treatment of 2.5%

Table 20 - Effect of Treatment on Percentage of Homes Purchased with a Mortgage by Neighborhood

	Pretreatment 2010-2015			Treatment 2016-2018			Effect of the Treatment
	Change in % Mortgage Sales	Change in % Mortgage Sales per Year	Difference	Change in % Mortgage Sales	Change in % Mortgage Sales per Year	Difference	Difference in Differences
Detroit	7.9%	1.6%		9.1%	3.0%		
Bagley	17.1%	3.4%	1.8%	37.5%	12.5%	9.5%	7.6%
CSM	2.7%	0.5%	-1.0%	17.3%	5.8%	2.7%	3.8%
EOD	8.6%	1.7%	0.1%	17.1%	5.7%	2.7%	2.5%

2019 Update: Schulze

Having observed strong growth in the Bagley neighborhood, Rehabbed & Ready shifted its operations in 2019 to investing in the neighborhood immediately to the west, Schulze. Six properties were renovated and sold by Rehabbed & Ready in Schulze in 2019.

This analysis of Schulze uses a five-year pretreatment period of 2014-2018 and a one-year treatment period of 2019. The test group includes all transactions within Schulze in 2019. The control group, referred to as Detroit, includes all transactions in the city, excluding the four Rehabbed & Ready neighborhoods studied: Bagley, CSM, EOD, and Schulze.

In the first year of Rehabbed & Ready's presence, Schulze experienced an additional 10.8% in median sale price greater than it would have had it continued on its pretreatment growth track.

Figure 21 - Median Sales Price in Schulze

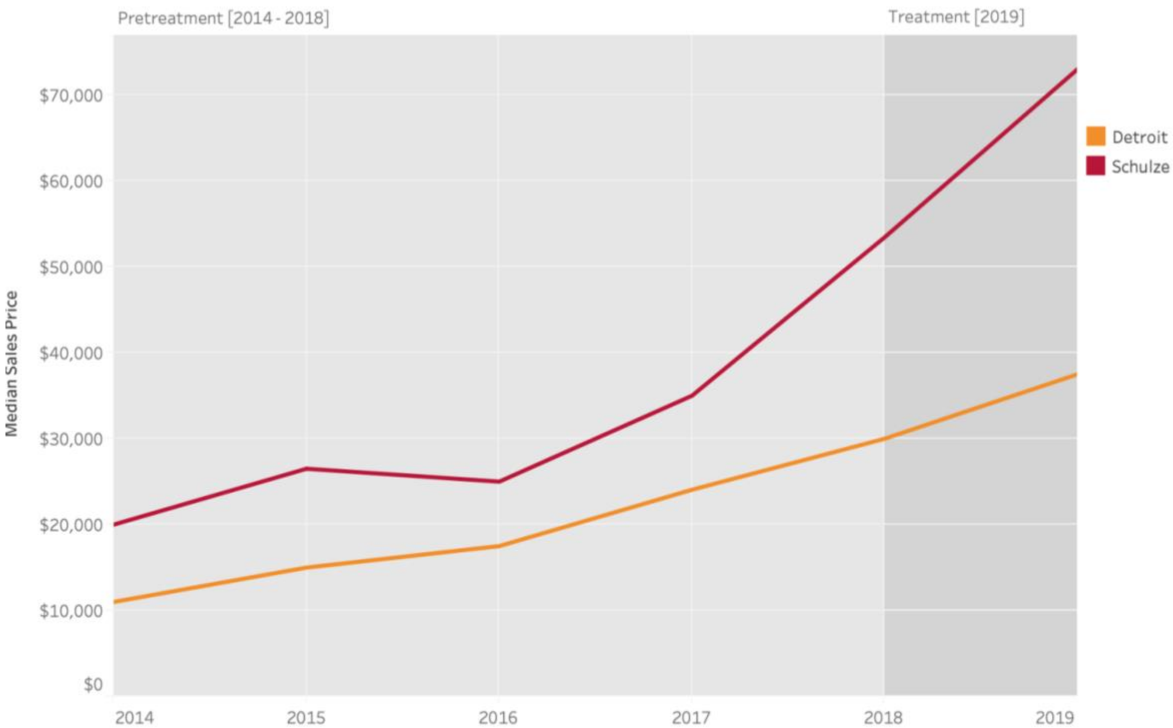


Table 21 - Median Sales Price in Schulze

	Pretreatment					Treatment
	2014	2015	2016	2017	2018	2019
Detroit	$11,000	$15,000	$17,500	$24,061	$30,000	$37,500
Schulte	$19,998	$26,500	$25,000	$35,000	$53,450	$73,000

Before Rehabbed & Ready's entrance, the median sale price in Schulze grew at an almost identical rate as the rest of Detroit. In the first year of Rehabbed & Ready's presence, the median sale price in Schulze outperformed the rest of Detroit by 11.6%. An effect of 12.2% per year was calculated by subtracting the differences in annual growth rates of median sale price during the pretreatment and treatment periods.

Table 22 - Effect of the Treatment on Median Sale Price in Schulze

		Pretreatment 2014-2018	Treatment 2019	Effect of the Treatment (Difference in Differences)
Change in Median Sale Price	Detroit	$19,000	$7,500	
	Schulze	$33,452	$19,550	
Avg. Annual Growth Rate (AAGR)	Detroit	28.5%	25.0%	
	Schulze	27.9%	36.6%	
Difference		-0.6%	11.6%	12.2%

The percentage of homes purchased with a mortgage in Schulze grew an additional 6.3% more in 2019 than it would have had it continued on its pretreatment growth path.

Figure 22 - Percentage of Houses Purchased with a Mortgage by Neighborhood

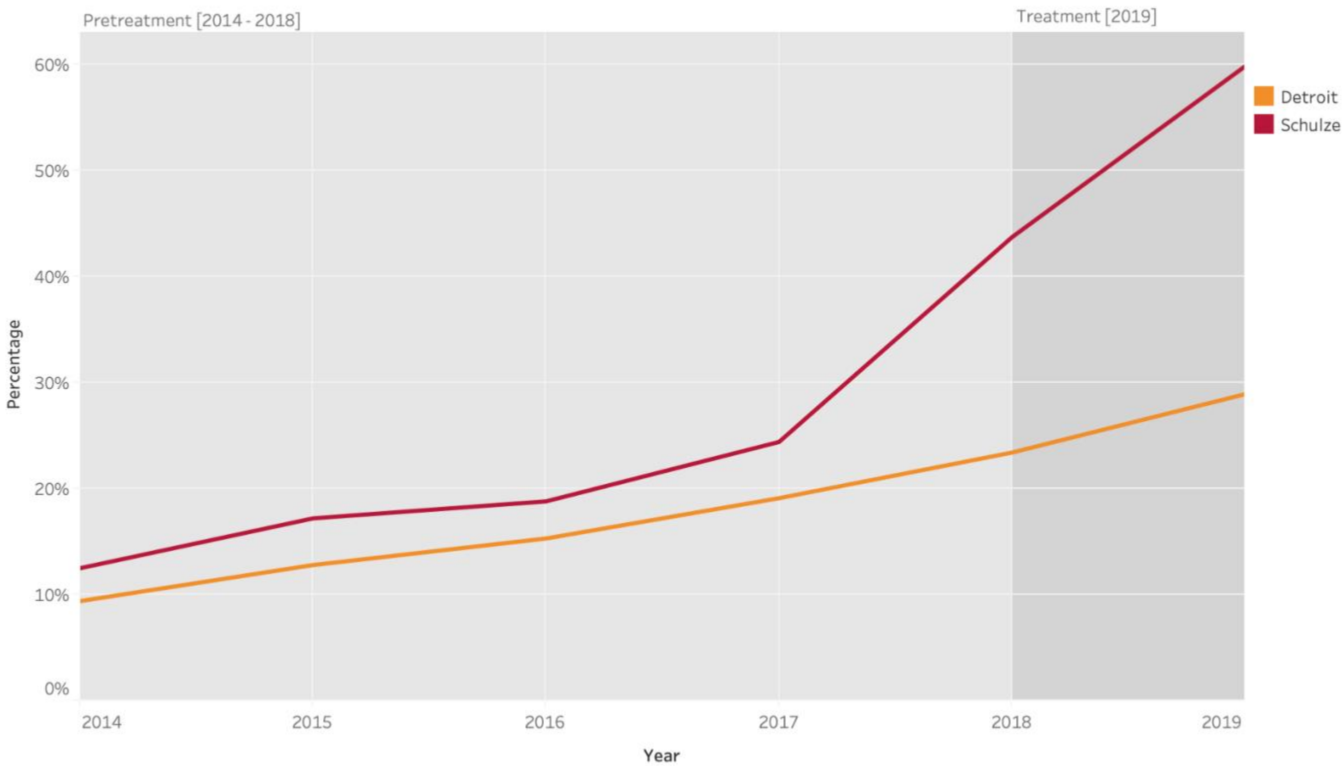


Table 23 - Percentage of Houses Purchased with a Mortgage by Neighborhood

	Pretreatment					Treatment
	2014	**2015**	**2016**	**2017**	**2018**	**2019**
Detroit	9.4%	12.8%	15.3%	19.1%	23.4%	28.9%
Schulze	12.5%	17.2%	18.8%	24.4%	43.7%	59.8%

Even before Rehabbed & Ready entered, the percentage of houses purchased with a mortgage was growing steadily in Schulze. During 2019, nearly 60% of homes purchased in Detroit utilized a mortgage, representing a 16.1% spike. Considering that Schulze was overperforming the rest of Detroit before the treatment period, the effect of the treatment was measured as an additional 6.3%.

Table 24 - Effect of the Treatment on Percentage of Homes Purchased with a Mortgage in Schulze

		Pretreatment 2014-2018	Treatment 2019	Effect of the Treatment (Difference in Differences)
Change in % Mortgage Sales	Detroit	14.0%	5.5%	
	Schulze	31.2%	16.1%	
Change in % Mortgage Sales per Year	Detroit	3.5%	5.5%	
	Schulze	7.8%	16.1%	
Difference		4.3%	10.6%	6.3%

Rehabbed & Ready's investment in Schulze helped accelerate Schulze's growth at an inflection point. A full program evaluation would be necessary to isolate how much of this 12.2% growth in median sale price, or 6.3% growth in homes purchased with a mortgage, is due to the Rehabbed & Ready intervention versus other contributing variables.

Insights from Neighborhood Analyses

Bagley exemplifies how quickly neighborhood values can rebound once a healthy mortgage market is established. During the pretreatment period of 2010-2015, Bagley's growth in median sales price and percentage of mortgages generally tracked with the rest of Detroit. However, in 2017, as the median value of homes approached $50,000, the percentage of sales completed with a mortgage doubled from 19.5% to 41.7%. With more than half of the properties above the $50,000 threshold, mortgage-backed buyers came pouring into the neighborhood, to the tune of 61% mortgage sales in 2018. With mortgage-backed buyers competing for properties, median values jumped by $21k in 2017 (60% growth), and another $29,000 in 2018 (51.8% growth).

Table 25 - Bagley, 2015-2019

	2015	2016	2017	2018	2019
Median Sale Price	$30,000	$35,000	$56,000	$85,000	$104,500
% Mortgage Sales	23.5%	19.5%	41.7%	61.0%	64.6%%
Rehabbed & Ready Sales	2	7	2	2	2

A variety of factors likely contributed to Bagley's rapid growth, but it is worth noting that Rehabbed & Ready completed the renovation and sale of nine houses in Bagley during the pivotal period of late 2015 through 2016. The exponential growth in Bagley may have also benefited from pent-up demand being focused into one of the first neighborhoods that re-established a functioning mortgage market.

Schulze demonstrates a healthy market spilling over into the next neighborhood. Schulze benefited from being adjacent to Bagley even before Rehabbed & Ready began its renovations -- but that is exactly the point. Investments in Bagley indirectly became investments into Schulze. Once conditions were favorable in Bagley, Rehabbed & Ready was able to redirect resources to help feed the growth in Schulze. The analysis of Schulze demonstrates a compounding return on investment.

Table 26 - Schulze, 2016-2019

	2016	2017	2018	2019
Median Sale Price	$25,000	$35,000	$53,450	$73,000
% Mortgage Sales	18.8%	24.4%	43.7%	59.8%
Rehabbed & Ready Sales	0	0	0	6

Schulze broke through the $50,000 median sale price in 2018. The percentage of homes sold with a mortgage jumped that year from 24.4% to 43.7%, and again to nearly 59.8% in 2019. During that same pivotal twoyear period, the median sale price has more than doubled from $35,000 to $73,000.

Rehabbed & Ready is having a positive effect amid challenging market conditions in Crary/St Marys. Rehabbed & Ready has turned CSM from underperforming to overperforming the rest of Detroit in both median sale prices and the percentage of houses sold with a mortgage. However, CSM has yet to hit the $50,000 tipping point after which the mortgage sales and median sale prices grew rapidly in Bagley and Schulze. Without Rehabbed & Ready's presence, CSM would likely have become primarily a rental market, as evidenced by the fact that net owner-occupancy would have declined without Rehabbed & Ready sales (see Appendix F). Continued investment is likely necessary for the CSM market to become self sustaining.

Evergreen-Outerdrive may have been the right neighborhood at the wrong time. Rehabbed & Ready's ten sales occurred in 2016 and 2017, which likely influenced the inconsistent results in the analysis of the neighborhood. EOD may have been a better candidate for this intervention in 2018, when its median sale price of $36,000 and 28.4% mortgage sales were closer to the target ranges that have since been established. Given its median sale price of $49,000 and 39.1% mortgage sales in 2019, it would not be surprising to see a breakout year of growth in EOD in 2020.

Chapter 5 - Conclusions & Recommendations

The credit crisis hit Detroit hardest because it triggered a complete collapse of the conditions required for the mortgage industry to operate. Median prices plummeted to below $10,000 when nearly 20,000 distressed properties flooded the market in 2008-2009. Prices have remained depressed, even after the supply of healthy and distressed properties stabilized, because demand is limited by the inability to give or receive mortgages. Mortgage origination has been hindered by the absence of consistent comparable sales for move-in-ready houses, and a minimum value threshold of $50,000 for most lenders.

Addressing a market failure of this magnitude requires a public-philanthropic partnership. The Rehabbed & Ready program, an intervention initially funded by the Rocket Community Fund, and operated by the Detroit Land Bank Authority, has renovated more than 75 houses since 2016 in neighborhoods targeted for being at a tipping point. Houses are fully renovated and sold to owner-occupants, often at a loss, for the purpose of seeding comps of fully renovated houses to help establish increasing appraisal values. Throughout its operation, Rehabbed & Ready has evolved from targeting neighborhoods to targeting batches of five to seven houses of a similar architectural style within two blocks of each other.

Conclusion 1:
The Rehabbed & Ready intervention is working

Median sale prices grew an additional 11.5% per year in Rehabbed & Ready neighborhoods during the three-year treatment period than they would have without the intervention. This impact was most visible in Bagley, but may be most noteworthy in Crary/St Marys, where the 16.3% effect on average annual growth of median sale price indicates that Rehabbed & Ready is also having a positive impact on values in more challenging neighborhoods.

The percentage of homes purchased with a mortgage grew an additional 5.6% per year in Rehabbed & Ready neighborhoods during the three-year treatment period than it would have without the intervention. The study highlights the importance of this statistic in measuring a neighborhood's economic sustainability. If the percentage of mortgage sales continues to grow in Crary/St Marys and Evergreen-Outerdrive, these neighborhoods may experience an uncapping of values and rapid appreciation in sales prices within the next year or two.

Without intervention, economic inequality is likely to increase throughout the city. The loss of housing values has led to the financial hardship of one generation, and the inability to buy or build equity in a home is limiting the wealth potential of the next generation of Detroit residents. Within the current market, values will uncap and grow rapidly as mortgage-backed buyers gravitate to a handful of neighborhoods where comps and values are no longer a limitation, while neighborhoods with median values below $50,000 will see homeowners selling to landlords because mortgage-backed buyers cannot (and/or will not) buy in those neighborhoods.

Conclusion 2: Aim for 50-50

Greater than 50% mortgage sales is an indicator of stable market conditions. Between 2003-2005, when Detroit's residential market was functioning, an average of roughly 56% of residential home sales were mortgage sales. More recently, when values were growing exponentially in 2017 and 2018, Bagley had a mortgage sales rate of 41.7% and 61% respectively. When Schulze experienced similar precipitous growth in 2018 and 2019, the mortgage sales rate was 43.7% and 59.8% respectively. It may be useful to refine this 50% mortgage sales milestone by indexing against other urban centers.

Median sale price of $50,000 is a meaningful threshold for uncapping housing values. Mortgages below this value are typically tagged as High Cost or Higher Risk Mortgage Loans (see Appendix A), which carry costs and restrictions that often make such loans unviable. Since 2010, 70% of sales in Detroit greater than $50,000 used a mortgage, but only 2.5% of sales below $50,000 used a mortgage. Therefore, having a median sale price below $50,000 means that more than half of the houses in that neighborhood can only be purchased with cash. Conversely, having a median sale price north of $50,000 indicates mortgage-backed buyers can compete for a critical mass of houses, likely sparking a virtuous cycle of value appreciation and homeownership.

It's possible that critical mass could occur when 35% to 40% of sales break the $50,000 threshold. This hypothesis could be further tested by observing neighborhoods that are approaching the 50%-$50k threshold, such as Crary/St Marys and Evergreen-Outerdrive, in 2020 and 2021.

Conclusion 3: Create different strategies for priming a neighborhood and tipping a neighborhood

Prioritize volume of mortgage sales to prime a neighborhood. A critical mass of mortgage-backed buyers competing for properties will drive up prices (e.g., Bagley and Schulze). However, a handful of higher-price sales does not necessarily create the critical mass of mortgage sales (e.g., Crary/St Marys and Evergreen-Outerdrive). Therefore, when entering a neighborhood, it may prove more successful to have a higher volume of sales between $50,000 and $75,000 than a handful of sales in the $75,000 to $100,000 range.

Recommendations that could help build the percentage of sales using a mortgage include:

- Coordinating with other disposition strategies (e.g. batches and community partners) to cultivate a critical mass of renovated houses that are required to be sold to homeowners.
- Entering a neighborhood with a batch of houses that target a $60k-$75k sale price and corresponding renovation model.
- Selling a partially renovated house to an investor at $50,000+ may create a more positive externality than a distressed property at $25,000 to $30,000.

Prioritize sale price to tip a neighborhood. As a neighborhood approaches the 50-50 milestone, a handful of higher-value renovations and sales are more likely to have the intended impact of tipping the neighborhood toward the virtuous cycle of increasing property values and homeownership. Once mortgage-backed buyers are engaged in a neighborhood's market, a handful of fully renovated properties, sold at-cost or a reasonable loss, will help rebuild values to a point where private investment can step in to sustain the supply and demand for that neighborhood.

Appendix

Appendix A - Why do Loans below $50,000 qualify as High-Cost or Higher-Risk Mortgage Loans

Mortgage lenders make their profits off interest rates and origination fees often measured as points (one percentage = one point).

A high-cost home loan exceeds one of two thresholds set by the federal government: the interest rate threshold or the point and fees threshold. Federal law sets the definition of a high-cost home loan and places special requirements and restrictions on lenders to protect borrowers from predatory lending practices.[32]

A higher-priced mortgage loan is one with an annual percentage rate, or APR, higher than a benchmark rate called the Average Prime Offer Rate.[33] Because a higher-priced mortgage loan is more expensive than a mortgage with average terms, the lender has to take extra steps to make sure the borrower can pay the loan back and won't default.

Many traditional lenders avoid offering HPMLs and/or HCHLs because they carry a higher risk of default and/or federal requirements and restrictions.

Appendix B - Managing Renovations

Managing the renovation of a house includes two distinct processes:

1. The pre-construction phase prepares the house for an accurate general contractor's bid
2. The construction phase produces a move-in-ready house

Security

Progressive security measures are taken in order to be a responsible neighbor and to protect Rehabbed & Ready's investment.

Immediately upon selecting a house from the Detroit Land Bank Authority inventory, Rehabbed & Ready addresses the vulnerability of vacant properties to theft and vandalism through the following measures:

- **Installation of security door(s)** on the side and/or back doors. Security doors may also be installed over the front door, depending on the neighborhood.
- **Covering of windows with clear acrylic security panels** that are secured from the inside. These panels prevent windows from being broken or otherwise tampered with, and offer additional protection against theft. Window covers remain in place until occupied.
- **Daily drive-by inspection** by a Rehabbed & Ready team member.
- **Each home is fitted with a security system early in the construction phase.** This acts as both a selling point in higher-crime areas, and an added layer of protection to the window covers and

[32] David A. Roth, "Scotsman Guide," Scotsman Guide, accessed August 07, 2019, https://www.scotsmanguide.com/Residential/Articles/2014/11/High-Cost-vs--Higher-Priced-Mortgages/.
[33] "What Is a "higher-priced Mortgage Loan?" Consumer Financial Protection Bureau, accessed August 07, 2019, https://www.consumerfinance.gov/ask-cfpb/what-is-a-higher-priced-mortgage-loan-en-1797/.

security doors. Security-system installation cannot be completed until electricity is established at the house.
- After construction is completed, additional measures are taken to ensure that only the Rehabbed & Ready and realty teams have access to the house.

Pre-Construction

The objective of the pre-construction phase is to prepare the house for an accurate general contractor's bid by:

- Assessing and addressing concerns with the house's envelope and environmental safety prior to the construction phase
- Opening internal walls to expose plumbing, electrical, and HVAC conditions
- Creating a scope of work for the construction phase

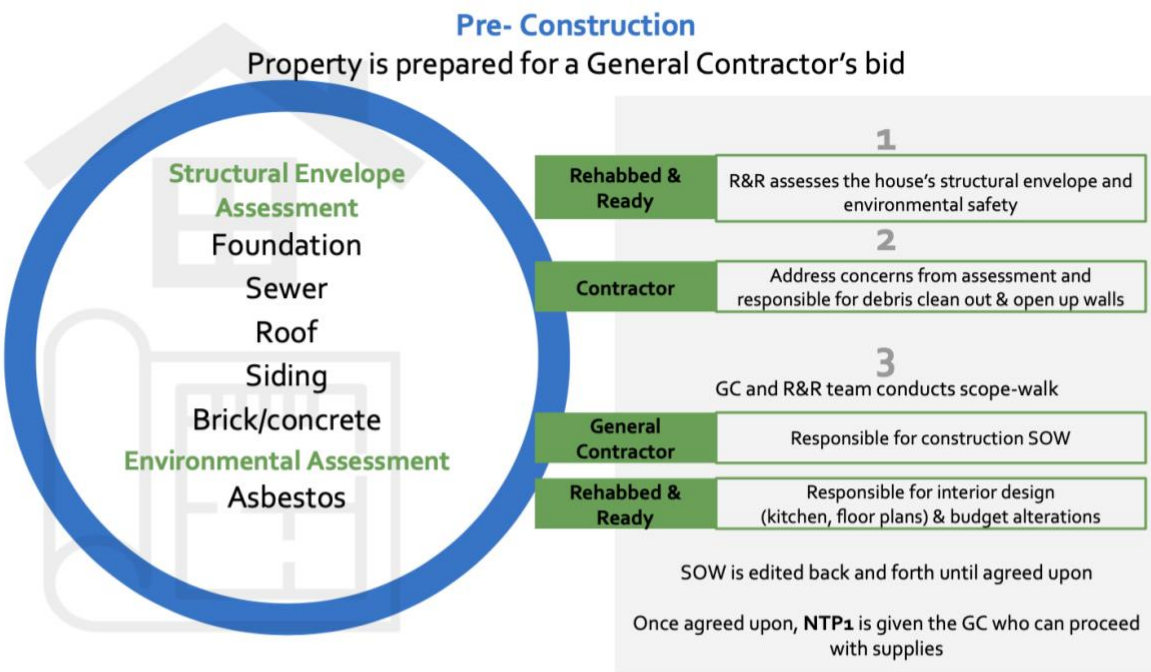
Rehabbed & Ready conducts inspections to assess the condition of a house's envelope, including the condition of the brick/concrete foundation, roof, sewer, and siding, along with the presence of environmental concerns such as asbestos. If the inspections determine that action (e.g., roof replacement, asbestos abatement) is necessary, Rehabbed & Ready seeks contractors through a bidding process that to complete the job as part of the pre-construction phase.

Rehabbed & Ready directly manages the pre-construction phase in order to keep down costs on projects that are relatively easy to manage. Selecting contractors through a competitive bidding system and avoiding general contractor markups helps save money. The structural envelope and environmental remediation projects are relatively easy to manage because they are discrete and isolated projects completed by specialists and can be inspected by the City's Buildings, Safety, Engineering, and Environmental Department (BSEED) to ensure quality of work. These projects are completed before the general contractors and trade contractors (plumbing, electrical, HVAC, drywall, etc...) begin work.

Rehabbed & Ready also seeks general labor contractors through a bidding process to clean out any debris and open up walls down to the studs in order to expose the condition of plumbing, electrical, and HVAC.

Simultaneously, Rehabbed & Ready works with a general contractor to create the pre-construction layout, design, and scope of work for the construction phase. The general contractor is responsible for finalizing a scope of work, which is edited until approved by the Rehabbed & Ready team. Proactively addressing concerns with a house's structural envelope, environmental issues, and exposing the condition of plumbing, electrical, and HVAC removes most of the variables involved with the construction phase, giving the general contractor a well-defined scope of work for which change orders are unlikely.

Figure 23 - Pre-Construction Phase



Construction

The objective of the construction phase is to produce a move-in-ready house. General contractors are assigned to homes based on capacity, homes in pipeline, and pricing. They are almost exclusively Detroit-based contractors, and the majority are brought in through Home Depot (HD).

Engaging general contractors can involve two phases:

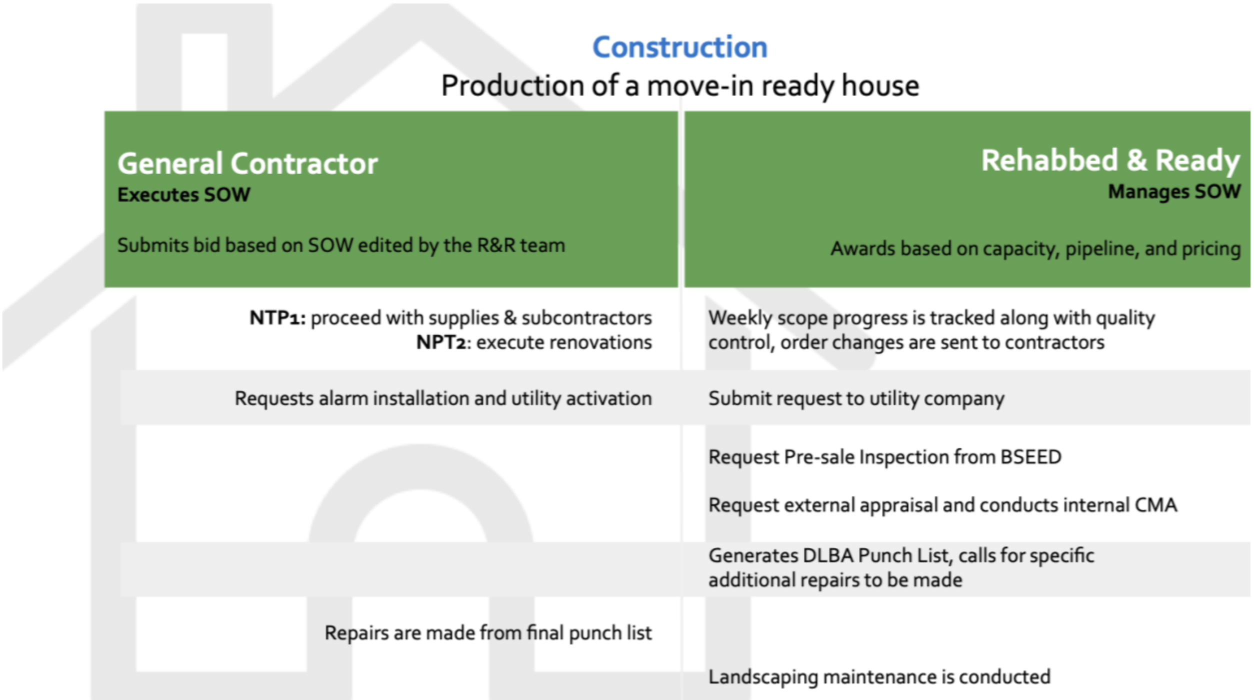
1. Notice to Proceed One (NTP1) indicates that work can proceed with procuring supplies and subcontractors
2. Notice to Proceed Two (NTP2) indicates that a general contractor can execute renovations on the subject property.

These separate procedural steps were established because Home Depot contractors cannot share a job site with non-HD contractors. When working with non-HD contractors, NTP1 and NTP2 are often combined.

Rehabbed & Ready works closely with the general contractor during the construction phase to ensure progress is completed as scheduled, and to ensure change orders are addressed. Once renovation work is completed, the Rehabbed & Ready team conducts a walk-through to note remaining repairs, creating a "punch list."

During the pre-construction and construction process, roughly two CMAs are completed to assess the estimated value of the property to ensure cost and listing price estimates are accurate.

Figure 24 - Construction Phase



Appendix C - Selling Move-in-Ready Homes

Rehabbed & Ready uses two primary marketing strategies:

1. Advertising of the Rehabbed & Ready program to interested buyers
2. Marketing of specific properties through a licensed real estate agent and an email blast

General advertising of the Rehabbed & Ready program is done through its website and email list. Parcels available through any of the Detroit Land Bank Authority's programs are advertised on its website www.buildingdetroit.org. The vast quantity of parcels in its inventory, and the presence of the DLBA in local news and media outlets, has helped to improve awareness of Rehabbed & Ready in the metro Detroit area.

Rehabbed & Ready has recently extended its outreach toward homebuyer-education courses conducted throughout the city that improve awareness and knowledge among potential home buyers.

Rehabbed & Ready uses a licensed real estate agent through Rocket Homes to market and manage the sales process. A property is opened for pre-showings as a property nears completion of construction, and before final list price is determined. Rehabbed & Ready orders an appraisal to determine the appropriate final price after the team conducts the punch list walk-through.

A property is listed by a real estate agent on the Multiple Listing Service (MLS), a software used by real estate brokers to share information about houses for sale, and open houses begin after the asking price is determined. Normally, these open houses are held every other week until the sale is executed.

Rehabbed & Ready homes were originally sold through auctions, but that process was deemed a failure due to low-bidding activity. Potential buyers Rehabbed & Ready targeted were looking for a fully renovated property, and were less likely to trust a property that was being sold alongside derelict houses in the Auction or Own It Now programs.

Figure 25 - Marketing of a Move-in-Ready Home

An email blast also advertises specific property listings to drive sales interest. An email is sent out to announce:

- A pre-showing
- An open house
- Highest and Best Offer deadline
- Back on the market

Rehabbed & Ready has generated 1,566 followers on an email list as of July 2019 from auction attendees, referrals, and the public website. The Rehabbed & Ready email list is kept separate from the general Detroit Land Bank Authority listserv due to the different buyer types Rehabbed & Ready targets for its sales.

Appendix D - Funding the Intervention

Rehabbed & Ready utilizes four buckets of resources to operate effectively:

1. A **revolving fund** that is used to pay for construction and operation needs of Rehabbed & Ready
2. A **backstop fund** used to offset the losses generated by home sales
3. A **miscellaneous fund** used maintaining the website, installing property security systems, updating social media, and running property tours
4. A **blight removal fund** used to address houses beyond renovation on surrounding blocks

The initial $5 million fund from the Rocket Community Fund was distributed as $2 million for the revolving fund and $1 million for each of the remaining buckets. The miscellaneous fund covered the start up administrative costs for Rehabbed & Ready. When funding for blight removal later became available through the Hardest Hit Fund, the $1 million for blight removal was transferred into the backstop fund.

As of October 2019, Rehabbed & Ready renovated and sold 65 properties using approximately $1,782,000 of the $2 million backstop.

Additional funding has focused solely on revolving and/or backstop funding. The Rocket Community Fund has contributed an additional $500,000 for the backstop fund.

The Kresge Foundation contributed $200,000 for a dedicated backstop fund the Shulze/Bagley neighborhood. Eight houses have been renovated, requiring $75,000 of the backstop, for an average loss of approximately $9,375 per house. $125,000 remains for additional projects.

Bank of America has contributed $1 million designated for the Islandview neighborhood. Rehabbed & Ready has allocated $800,000 for the revolving fund, and $200,000 for backstop funds, for the renovation of 16 properties. These properties are currently under pre-construction, or construction; and have yet to be sold.

Appendix E - Comparison of the effect of the treatment based on a three vs. four-year treatment period

Effect on Housing Values, 2018 vs. 2019

Table 10 - Median Sale Price

	Pretreatment						Treatment			
	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Detroit	$8,000	$8,100	$8,150	$9,300	$11,500	$15,500	$18,000	$25,000	$30,000	$37,500
R&R3	$15,000	$14,005	$12,557	$15,000	$18,200	$24,001	$27,500	$40,000	$55,000	$68,000

Table 11 - Effect of the Treatment on Median Sale Price, 2016-2018

		Pretreatment 2010-2015	Treatment 2016-2018	Effect of the Treatment (Difference in Differences)
Change in Median Sale Price	Detroit	$7,500	$14,500	
	R&R3	$9,001	$30,999	
Avg. Annual Growth Rate (AAGR)	Detroit	14.1%	24.6%	
	R&R3	9.9%	31.8%	
Difference		**-4.3%**	**7.2%**	**11.5%**

Table 27 - Effect of the Treatment on Median Sale Price, 2016-2019

		Pretreatment 2010-2015	Treatment 2016-2019	Effect of the Treatment (Difference in Differences)
Change in Median Sale Price	Detroit	$7,500	$22,000	
	R&R3	$9,001	$43,999	
Avg. Annual Growth Rate (AAGR)	Detroit	14.1%	24.7%	
	R&R3	9.9%	29.7%	
Difference		**-4.3%**	**5.0%**	**9.3%**

Effect on Mortgage Origination, 2018 vs. 2019

Table 12 - Percentage of Houses Purchased with a Mortgage

	Pretreatment						**Treatment**			
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Detroit	4.6%	3.4%	3.0%	4.9%	9.4%	12.5%	15.0%	17.8%	21.6%	28.8%
R&R3	4.3%	4.7%	3.2%	3.2%	10.1%	15.0%	16.5%	31.0%	42.2%	49.0%

Table 13 - Effect of Treatment on Percentage of Homes Purchased with a Mortgage, 2016-2018

		Pretreatment 2010-2015	Treatment 2016-2018	Effect of the Treatment (Difference in Differences)
Change in % Mortgage Sale s	Detroit	7.9%	9.1%	
	R&R3	10.7%	27.2%	
Change in % Mortgage Sales per Year	Detroit	1.6%	3.0%	
	R&R3	2.1%	9.1%	
Difference		**0.5%**	**6.1%**	**5.6%**

Table 28 - Effect of Treatment on Percentage of Homes Purchased with a Mortgage, 2016-2019

		Pretreatment 2010-2015	Treatment 2016-2019	Effect of the Treatment (Difference in Differences)
Change in % Mortgage Sales	**Detroit**	7.9%	16.3%	
	R&R3	10.7%	34.0%	
Change in % Mortgage Sales per Year	**Detroit**	1.6%	4.1%	
	R&R3	2.1%	8.5%	
Difference		**0.5%**	**4.4%**	**3.9%**

Appendix F - Impact on Homeownership

A Difference in Differences Test cannot be used to assess the impact on homeownership due to the lack of consistent data on homeownership rates for the pretreatment and treatment periods. Census data is available for 2010-2017, and data from the Office of the Assessor was identified for 2017-2019. But the two sets of data cannot be combined due to different classifications of property type, and methods of defining homeownership.

The analysis conducted measured the net increase or decrease in owner-occupants in the three subject neighborhoods based on assessor data from 2017-2019. Owner-occupancy is defined as residential structures for which the owner/taxpayer's address is the same as the address of the property. Without baseline data from 2015 or 2016, no attempt was made to assess the overall impact of Rehabbed & Ready on homeownership rates.

A consistent set of data that bridges both the pretreatment (2010-2015) and treatment (2016-2018) periods is required to study homeownership further. The 2018 census data, released in the spring of 2020, may allow a more conclusive analysis on homeownership in Bagley, Crary St/Marys, and Evergreen-Outerdrive.

The analysis on homeownership is inconclusive, but suggests that homeownership trends may be an external force impacting Rehabbed & Ready more so than Rehabbed & Ready impacting homeownership tends.

Table 29 - Number of Owner-Occupied Houses by Neighborhood

Neighborhood	2017	2018	2019	Change 2017-2019	Rehabbed & Ready Sales 2017-2019	Net
Bagley	2,988	3,010	3,041	53	6	47
CSM	2,053	2,072	2,062	9	12	-3
EOD	1,812	1,813	1,815	3	5	-2
Detroit Total	**130,081**	**130,507**	**130,856**	**775**	**43**	**732**

Rehabbed & Ready contributed to a trend of increasing owner-occupancy in Bagley between 2017 and 2019. However, the increase in homeownership in CSM and EOD is nominal. Without Rehabbed & Ready sales, both CSM and EOD would have had a net decline in homeownership between 2017-2019.

Figures, Maps, & Tables

Figures

Maps

Tables

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ROCKET Community Fund

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