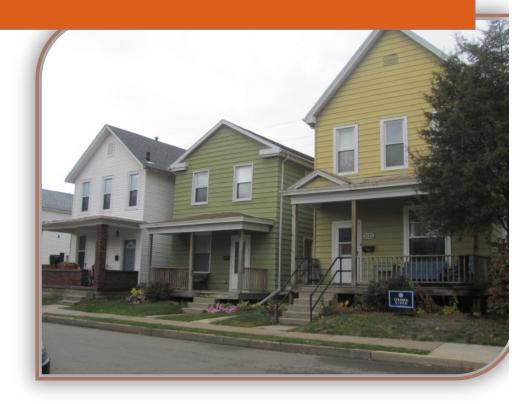
Housing for a Vibrant Dubuque

Neighborhood Choice & Redevelopment in Dubuque, Iowa



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EXECUTIVE SUMMARY

The Dubuque City Council identified several top priorities for 2012-2014 in its goal setting session in the summer of 2012. One of these top priorities was to create a choice of livable neighborhoods that would provide opportunities for residents' children to want to stay in or return to Dubuque to raise their families, and for Dubuque to be a place where young professionals want to live. The purpose of this study is to identify the factors that affect a household's locational choice, and make recommendations aimed at improving



Dubuque's neighborhoods in order to attract and retain households.

Demographic data shows that Dubuque's population remained stagnant from 2000 to 2010, while surrounding Dubuque County towns saw significant population growth. In addition, while the percentage of family households in Dubuque County increased, the percentage of family households in the city of Dubuque declined by 3% during the same time period. This suggests that households, particularly family households, are choosing to live outside of the city of Dubuque. In addition, within the city of Dubuque, vacancy rates vary among block groups, ranging from 0% to 21.5%. This suggests that there is a higher demand for certain neighborhoods.

First, this study examines factors that restrict the type and location of a household's housing choice. These factors include the City of Dubuque's zoning ordinance, which directly affects the supply of housing within the city of Dubuque. Areas in the city that are in and near downtown feature smaller lot sizes, and zoning that allows multi-family uses and higher-density development, which is generally more attainable for lower-income households. The larger lot sizes and lack of permitted multi-family housing in areas outside of downtown make those areas less attainable to low-income residents. This indirectly affects the spatial distribution of income ranges, which has important implications for potential housing redevelopment and new development.

The affordability of Dubuque's housing supply also affects the type and location of a household's housing choice. The affordability analysis shows that, although there are both cost-burdened renters and homeowners in Dubuque, the levels are consistent with Dubuque County and the rest of the state of Iowa. In addition, when comparing household's ability to pay for housing with home values and contract rents, in the city of Dubuque, there is not an affordability issue in most income ranges. Given these findings, it is more likely that Dubuque has a willingness to pay issue; some parts of the city have housing and neighborhood characteristics that are more attractive for households than others.

A hedonic regression analysis, supported by interviews, was used to identify which factors influence a household's willingness to pay for housing. The model found that above-average housing condition, newer housing, proximity to parks and open space, proximity to bodies of water including the Mississippi River, and location within a historic district all have a significant, positive impact on house price. Therefore, they are considered amenities. On the other hand, the model showed that below-average housing condition, older structures, and crime have a significant negative, impact on housing sale price. These characteristics are considered "dis-amenities".

The amenities and dis-amenities were then combined into one map, which shows the distribution of average willingness to pay for land from a housing perspective. Three distinct areas are evident. The area with the highest willingness to pay for housing covers the south, southwest, and northcentral areas of the city of Dubuque. The area with the lowest willingness to pay for housing is located in neighborhoods in and near downtown, identified as Area A. This area is the oldest residential portion of the city. It is also where crime incidents and below-average housing condition are most prevalent.

In order to fulfill Dubuque City Council's goal of creating a choice of livable neighborhoods and opportunities for residents' children to want to stay or return to Dubuque, it is important to improve the desirability of Area A. The City of Dubuque already has initiatives aimed at improving the condition of existing housing, one of the significant factors in housing location choice. However, an analysis of the City's existing housing programs shows that the impact that these programs have had on overall housing condition in Area A is very small, and changes can be made to increase the desired outcomes.

The overall vision for Area A presented in this study is that Area A it is home to a diverse, yet integrated population with a variety of decent rental and ownership housing options that are attractive to young professionals, families and older adults with a range of incomes.

In order to help reach this vision and improve the desirability of Area A, this study provides seven recommendations:

- 1. The City of Dubuque should revise its existing housing rehabilitation programs to make the programs more effective in improving the condition of housing in Area A:
- 2. The City should strengthen its property maintenance requirements for rental housing.
- 3. The City should seek opportunities for infill residential development in Area A.
- 4. The City should pursue public-private partnerships aimed at developing vacant parcels and increasing homeownership in Area A.
- 5. The City should consider establishing a new zoning district in Area A to ensure that the redevelopment of existing structures and new infill development does not contribute to an increase in housing density.
- 6. When reducing housing density in Area A, the City should look for ways to provide affordable rental and ownership housing options in other areas of the city.
- 7. The City should encourage the addition of strategically-placed open space in Area A.

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INTRODUCTION

The Dubuque City Council identified several top priorities for 2012-2014 in its goal-setting session in the summer of 2012. The desired outcomes of the priorities related to housing were to create a choice of livable neighborhoods, opportunities for residents' children to want to stay or return to Dubuque to raise their families, and for Dubuque to be a place where young professionals want to live.¹

While the City of Dubuque wants to be an attractive place to live to retain current residents and attract new residents, Dubuque's population has remained relatively stable over the past decade, with a 0.1% loss in population. Smaller towns just outside of Dubuque, however, grew in population over the same period. The cities of Asbury and Peosta saw the most population growth, at 70% and 111%, respectively. Additionally, Dubuque lost 3% of its family households during this period, while Asbury's family households grew by 60% and Peosta's grew by 100%. Figure 1 illustrates the change in each of the seven largest Dubuque County cities' share of total county population from 2000 to 2010. Due to population growth in these cities and other smaller towns and unincorporated areas of the county during this period, the city of Dubuque's share of county population fell from 64.7% in 2000 to 61.5% in 2010. These trends indicate that newcomers to Dubuque County, particularly those constituting family households, are choosing to live in nearby towns rather than the city of Dubuque.

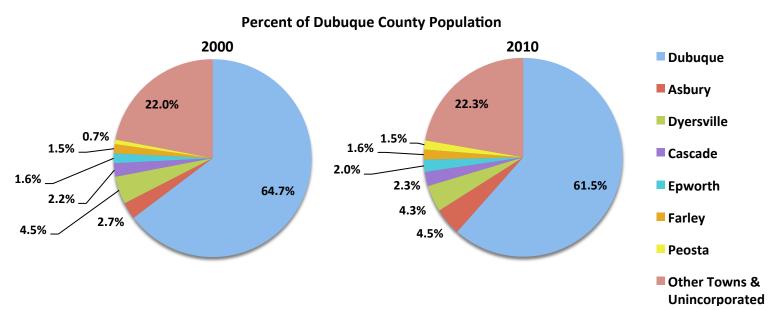


Figure 1: Share of Dubuque County Population, 2000 – 2010

Source: U.S. Census Bureau 2000, 2010

¹ City of Dubuque (2012). *City Council Goals and Priorities Summary, 2012.* Retrieved February 27, 2013, from City of Dubuque: http://www.cityofdubuque.org/documentcenter/view/15467

Focusing on the city of Dubuque, it is also clear that housing in certain areas of the city is more attractive than other parts of the city. As of 2010, there was a high variance in residential vacancy rates across the city. Block group level vacancy rates ranged from 21.5% to 0%.2 The block groups with high and low vacancy rates were in certain instances adjacent to one another, which suggests high demand for housing in certain areas, and low demand in others.

In order for Dubuque City Council's goals of population retention and growth to be met in the face of the population and housing vacancy rate trends described above, it is important to understand the underlying reasons for preference regarding housing location choice. This project seeks to identify these reasons, through an analysis of various factors that affect housing location choice, or neighborhood choice, and an analysis of consumer preferences. Through these analyses, the portion of the city of Dubuque that is least attractive for households to locate is identified. Identifying this portion of the city allows for focused recommendations for future policy intervention to be made, aimed at improving the area's attractiveness. Ultimately, the improvements in this area will make the city a more attractive place overall, and more likely to retain and attract residents to meet City Council's goals for housing.

Dubuque's Historical Development

The history of residential development in the city of Dubuque provides a context for understanding the current housing situation, and reveals the fact that the trends seen today regarding a preference for housing outside of downtown Dubuque began as early as the 1930's.

Dubuque is Iowa's oldest city, chartered in 1837. Its location on the Mississippi River largely guided the development of Dubuque's neighborhood and housing. The earliest surviving dwellings in the city are located downtown, where businesses and working class families chose to live due to its proximity to riverfront industries. This, combined with the barrier presented by the city's high bluffs, focused development on the flat land.3

However, beginning as early as the 1840s, and increasingly popular between the 1860s and 1890s, development gradually moved westward and up the bluff. The scale, style and location of the homes on the bluff demonstrated the wealth and power of these citizens, and marked the start of an income divide in Dubuque. Transportation also played a critical role in this development pattern. The original transportation routes in Dubuque, which also developed during the 1860s and 1870s,

² U.S. Census Bureau. American Community Survey, 2009-2011. Generated by Ellen Johnson, using American FactFinder.Retrieved February 23, 2013, from the U.S. Census Bureau: http://factfinder.census.gov/home

³ Jacobsen, J. E. (2003). *Dubuque, The Key City: The Architectural and Historical Resource of Dubuque, Iowa, 1837-1955.* The City of Dubuque.

provided only for north-south travel within downtown. Originally, no access was provided to the bluffs, let alone to the top of the bluffs.⁴

These factors meant that neighborhoods in and around downtown developed as low- to moderateincome neighborhoods, an economic status that remains today. It was not until the late 1880s that private elevators were constructed on 4th and 11th streets to allow for travel up and down the bluff. However, living on top of the bluff largely required private transportation in an era before automobiles, which reserved the housing stock atop the bluff for wealthy residents.⁵

As transportation improved, residential development began to move west, and opened up access to households with a greater range of incomes. As early as the 1930s, it became clear that development was moving west. According to the City of Dubuque's July 1934 Housing Report, new construction was taking place at the edge of Dubuque's corporate limits, despite the availability of over 4,000 buildable lots downtown and near downtown. At that time, property taxes in Dubuque were high. Residents who were able to purchase homes beyond Dubuque's corporate limits did so because there were no land-use controls and the properties were not subject to tax collection.⁶

The 1934 report also stated that outside of downtown the housing stock consisted of all singlefamily units, which, for the most part, is still the case today. However, moving west, and away from the bluff's edge, the housing became more modest, higher-density, with smaller homes on smaller lots.7 Multi-family units were only located downtown. These were generally converted from singlefamily units, flats above storefronts, duplexes, and rooming houses.8 Today, downtown Dubuque still has much higher density development than the rest of the city, smaller lots, more duplexes and apartments.

Methodology

Many factors affect a household's locational choice. This study begins with an analysis of Dubuque's demographic, workforce, and housing characteristics to identify the effect these characteristics have on a household's locational choice. Demographic characteristics that are explored include age, race, and type of household. Workforce characteristics include household income, educational attainment, major industries and employers. Housing characteristics include occupancy and tenure. This data was collected from the 2000 and 2010 U.S. Census and the 2011 American Community Survey.

Next, the affordability of the Dubuque housing market is analyzed to determine the impact of housing costs in Dubuque on a household's location choice. The analysis is used to determine

⁶ Ibid.

⁴ Jacobsen, J. E. (2003). *Dubuque, The Key City: The Architectural and Historical Resource of Dubuque, Iowa, 1837-1955.* The City of Dubuque.

⁵ Ibid.

⁷ Ibid.

⁸ City of Dubuque (1934). *July 1934 Housing Report* . Dubuque: City of Dubuque.

whether housing in the city of Dubuque is affordable for residents and newcomers by using the generally accepted definition of affordability. That is, households should not devote more than 30% of their annual gross income to housing costs. Based on this definition, two methods are used to determine the affordability of housing in the Dubuque housing market. First, the percentage of costburdened homeowners and renters in the city of Dubuque and the percentages in Dubuque County and the State of Iowa are compared. Cost-burdened households are those paying more than 30% of their annual gross income on housing costs. Second, household's ability-to-pay for housing is compared with the value of the housing stock in the city of Dubuque using data from the American Community Survey.

Zoning controls land use within the city, which in turn restricts the supply of housing. By regulating the type and amount of housing available in certain areas, zoning plays a role in where households of different income levels can locate, and where households choose to locate, which influences the spatial distribution of the community's socio-economic composition. An overview of current residential land use and zoning in the city of Dubuque is provided, along with the types of permitted dwellings and lot requirements as outlined in the Unified Development Code of the City of Dubuque.

The next aspect of this study is an analysis of consumer preferences as they relate to a household's locational choice. This study determines the housing and neighborhood preferences of Dubuque households statistically and anecdotally. First, a hedonic price regression is used to identify the importance of certain housing and neighborhood characteristics. Based on twelve years (2000-2012) of data on housing sales, the model shows, in dollars, how much each characteristic impacts the value of the average house. The characteristics that increase the value of a house are called "amenities" and the characteristics that decrease the value of a house are called "dis-amenities." These amenities and dis-amenities are mapped, allowing for an overall willingness to pay for residential uses to be designated for each parcel in the city. Three willingness to pay areas are presented on the map; the area where willingness to pay is lowest is termed "Area A."

The anecdotal evidence was derived from 17 interviews with local actors in the Dubuque housing market. Interviewees were chosen through the snowball sampling method, a form of non-random, purposive sampling, which helps to quickly identify specific predefined groups. Interviewees included a single-family housing and a multi-family housing developer, five realtors, two landlords, three low-income residents, a long-time resident and a recently-arrived young professional resident of the Washington Neighborhood, and representatives of the North End, Point Neighborhood and Washington Neighbors Neighborhood Associations. Interview responses are presented in conjunction with the results of the hedonic price regression to help explain the findings and reveal information about housing choice that is less quantifiable.

Next, the study addresses the housing rehabilitation programs currently offered by the City of Dubuque. The analysis of these programs seeks to identify whether the City's rehabilitation programs meet the need for improving the condition of housing in Area A, and whether the City's investments have been significant enough to create positive spillover effects on nearby properties. Deficiencies and issues with the existing City programs are also identified. Data regarding usage of the City's programs over a four-year period is used for the analysis.

Finally, the study concludes with a focus on Area A, which is the area of Dubuque that the hedonic price regression highlighted as having the lowest willingness to pay for. Seven recommendations are provided, aimed at improving the attractiveness and desirability of Area A for residential uses, in order to attract and retain households.

FACTORS THAT AFFECT HOUSEHOLDS' LOCATIONAL CHOICE

Just as the historical pattern of development affects the built environment and thus housing choice, several factors beyond consumer preferences, such as demographics, housing and workforce characteristics, affect a household's locational choice. These can restrict the type and location of households' housing choices. This section also examines the affordability of housing in the Dubuque housing market and residential zoning and land use, both of which affect the availability of housing and guide housing locational choices.

Demographics, Workforce, and Housing Characteristics

Demographic characteristics analyzed in the following section compare population, age, and race data between the city of Dubuque and Dubuque County. Workforce characteristics analyzed in this section compare workforce size and composition, educational attainment, and household income between the city of Dubuque, Dubuque County, and the state of Iowa. Data pertaining to general housing characteristics includes housing type, occupancy, and tenure in both the city of Dubuque and Dubuque County. Data was collected from the 2000 and 2010 U.S. Census and the 2011 American Community Survey, unless otherwise noted.

Population

The trend of out-migration that the city of Dubuque has been facing since the 1930's continues today, with households fanning out beyond the city center. As of 2010, the city of Dubuque's population was 57,637, which is a decrease of 0.1% since 2000 (Table 1). Dubuque is the ninth largest city in Iowa, with 1.9% of the state's total population. Between 2000 and 2010, the population of Dubuque County as a whole increased by over 5%. This rate of increase is slightly higher than the rate of growth for the rest of the state. As previously stated, the population decrease experienced in the city of Dubuque and population growth experienced in Dubuque County indicates that newcomers to Dubuque County are choosing to live in areas of the county other than the city of Dubuque.

Table 1: Population of Dubuque, Dubuque County and Iowa, 2000 – 2010

	2000	2010	% Change
City of Dubuque	57,686	57,637	-0.1%
Dubuque County	89,143	93,653	5.1%
lowa	2,926,324	3,046,355	4.1%

Source: U.S. Census Bureau 2000, 2010

Age

The city of Dubuque's median age was 36.9 years in 2000, which is consistent with Dubuque County and Iowa. As of 2010, the median age increased to around 38 years old for all three geographical areas. This median age is slightly higher than the national average in 2010 of 37.2 years, indicating that Iowa's population is only slightly older than the rest of the nation.

Figure 2 illustrates the change in the city of Dubuque and Dubuque County's population from 2000 to 2010 by age group. During this period, the city of Dubuque experienced a decrease in its population of children 19 and under. The county also experienced this decrease, although to a lesser extent. The city also saw a decrease in its population age 35 to 54 years by over 12%. Because these age groups together form families, this data suggest that the city of Dubuque lost family households over this decade. However, the city's population ages 20 to 34, considered "young professionals" increased by about 10% over this period, which is a demographic the City of Dubuque wants to attract.

Both the city and county experienced an increase of over 40% in the pre-retirement age group of 55 to 64 year olds. Dubuque County also saw an increase of about 10% in the population age 65 and over. This data may indicate an increase in demand for senior housing alternatives.

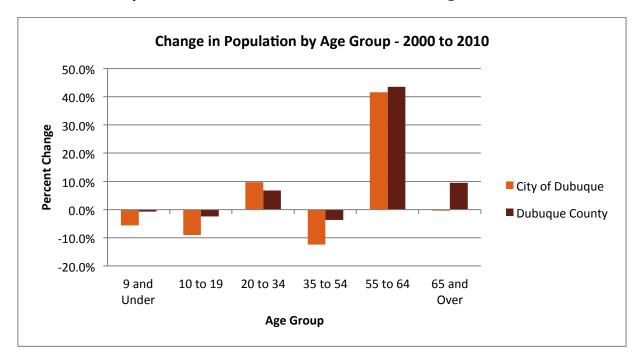


Figure 2: Change in Dubuque and Dubuque County Population by Age Group, 2000 – 2010 Source: U.S. Census Bureau 2000, 2010

Household Type

The U.S. Census Bureau defines a household as all individuals living in a single housing unit. A family household is defined as a group of two or more related people (by birth, marriage, or

adoption) living in a single housing unit. As of 2010, there were a total of 23,506 households in the city of Dubuque, up 4.2% from 22,560 households in 2000 (Figure 3). Family households in the city of Dubuque, however, decreased by 3% during this time, from 14,313 in 2000 to 13,888 in 2010. Dubuque County experienced an increase in both households and family households during this decade. The number of households in Dubuque County increased by 9.3% from 2000 to 2010, from 33,690 in 2000 to 36,815 in 2010 and the number of family households increased by 4.3%, from 23,111 in 2000 to 24,103 in 2010.

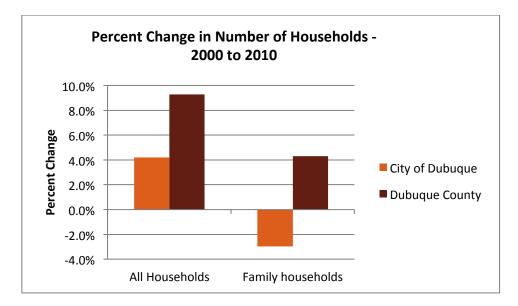


Figure 3: Percent Change in Number of Dubuque and Dubuque County Households, 2000 – 2010 Source: U.S. Census Bureau 2000, 2010

The fact that the city of Dubuque lost family households during the past decade, while Dubuque County gained family households, supports the assumption made previously that the city's decrease in population ages 19 and under and 35 to 54 has caused a loss of family households. It also supports the suggestion that newcomers to the area, particularly families, are choosing to live in other areas of Dubuque County over the city of Dubuque.

Race

Diversity of the city of Dubuque's population increased from 2000 to 2010. In 2000, the city's population was just 3.8% non-white, while in 2010, the non-white population constituted 8.3% of the total population (Table 2). While the city of Dubuque has a more diverse population than Dubuque County, the county also experienced an increase in its non-white population, from 2.9% in 2000 to 5.9% in 2010.

⁹ U.S. Census Bureau (2012). Current Population Survey-Definitions. Retrieved March 21, 2013, from U.S. Census Bureau: http://www.census.gov/cps/about/cpsdef.html

Table 2: White and Non-white population in Dubuque, 2000 – 2010

	2000	Percent	2010	Percent
Total Population	57,686		57,637	
White Population	55,466	96.2%	52,869	91.7%
Non-White Population	2,220	3.8%	4,768	8.3%

Source: U.S. Census Bureau 2000, 2010

African-Americans make up a majority of the city of Dubuque's minority population. The distribution of the African-American population by census tract is shown in Figure 4. Most of the African-American residents are concentrated in and around the downtown area.

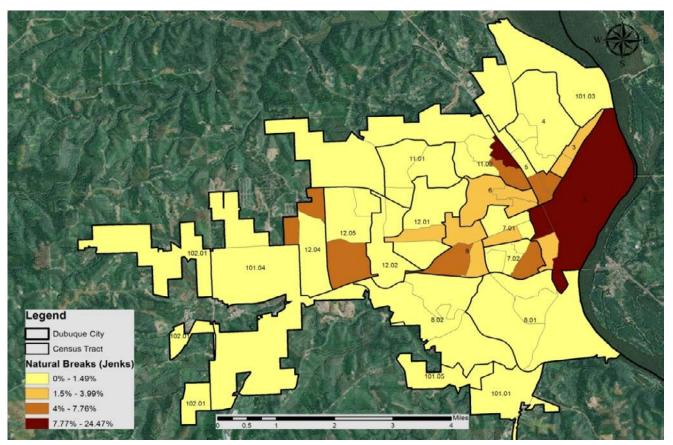


Figure 4: Percent African American population by Census Tract in Dubuque, 2010 Source: U.S. Census Bureau 2010

Members of Workforce

The U.S. Census Bureau considers all individuals age 16 and over in determining members of a geographic area's workforce. Of Dubuque's population age 16 and over, 68.8% are members of the workforce (Table 3). Dubuque County's workforce constitutes a slightly higher percent of all individuals age 16 and over, at 70.7%. Both are consistent with the rest of Iowa.

The unemployment rate for the state of Iowa was 4.3% in 2011, the same rate as experienced in Dubuque County. Unemployment in the city of Dubuque was roughly 1% higher than both the county and state, at 5.4%.

Table 3: Members of the Dubuque, Dubuque County, and Iowa Workforce

	City of Dub	uque	Dubuque (County	lowa	
	Number	Percent	Number	Percent	Number	Percent
Population Age 16+	46,911		74,078		2,406,676	
Workforce Population	32,270	68.8%	52,344	70.7%	1,648,600	68.5%
Employed	29,748	63.4%	49,137	66.3%	1,542,978	64.1%
Unemployed	2,517	5.4%	3,182	4.3%	103,262	4.3%

Educational Attainment

The highest level of education an individual achieves often dictates the type of employment available and therefore the amount of money they may earn; income increases with education level. As a result, those with more education can generally afford a wider range of housing options.

As shown in Figure 5, an equal percentage of the city of Dubuque, Dubuque County and state of Iowa population age 25 and over did not receive a high school diploma or equivalency (9.4%). In general, Iowa had a higher percentage of the population that received some education after high school than the city of Dubuque and Dubuque County (57.3% vs. 55.2% for the city and 53.9% for the county). Roughly 17% of the population in the city of Dubuque, Dubuque County and the state hold bachelor's degrees. In addition, the city of Dubuque had a higher percent of the population with advanced degrees (10.4%) than the county (9.4%) and state (7.8%).

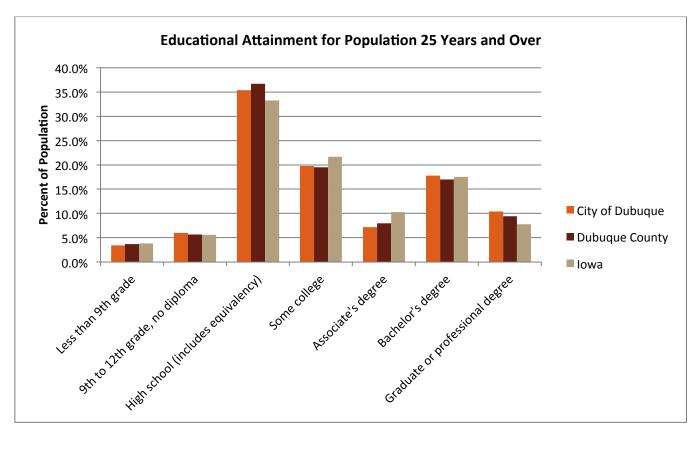


Figure 5: Educational Attainment for the Population 25 and Over in Dubuque, Dubuque County and Iowa Source: America Community Survey 2011

Household Income

Although the educational levels of Dubuque's population are in line with, or higher than, the rest of the county and state of Iowa, the median household income in Dubuque, as of 2011, was substantially lower than Dubuque County, and both were lower than the median for the state of Iowa (Table 4). Because household income is a major determinate of housing choice, this data indicates that Dubuque households can generally afford a narrower range of housing options than others in the county. The Housing Affordability section will address this subject further.

Table 4: Median Household Income in Dubuque, Dubuque County and Iowa

	City of Dubuque	Dubuque County	lowa
Median Household Income	\$43,304	\$49,556	\$50,028

Source: American Community Survey 2011

Throughout the city of Dubuque, median household income ranged widely across census tracts, from a low of between roughly \$19,000 to \$38,000 to a high of between roughly \$60,000 to \$100,000 (Figure 6). In general, household incomes are lowest in the eastern part of the city, and increase moving westward.

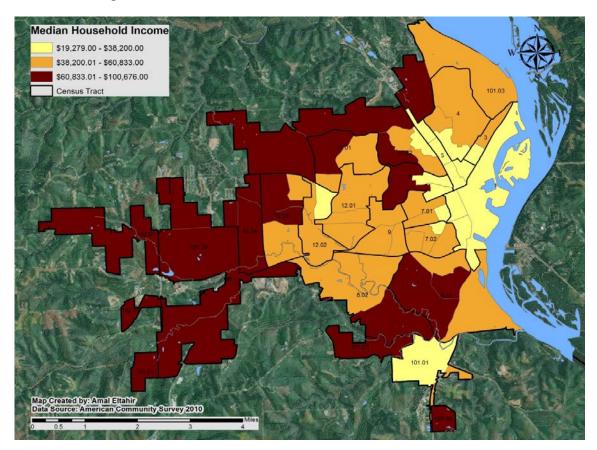


Figure 6: Median Household Income by Census Tract in Dubuque, 2010

Source: American Community Survey 2010

Industries

Figure 7 shows that the largest percentage of Dubuque's over 30,000-member workforce is employed in educational services, health care, or social assistance (27.2%). Roughly equal percentages of the workforce work in retail trade and manufacturing (13.6% and 12.8%, respectively). The fourth largest industry includes arts, entertainment recreation, and accommodation and food services, in which 11.3% of Dubuque workers are employed. The industry group that includes professional, scientific, management, administrative and waste management services employs 8.8% of Dubuque workers. Agriculture, forestry fishing, hunting and mining employ the fewest number of Dubuque workers, at less than 1% of the workforce.

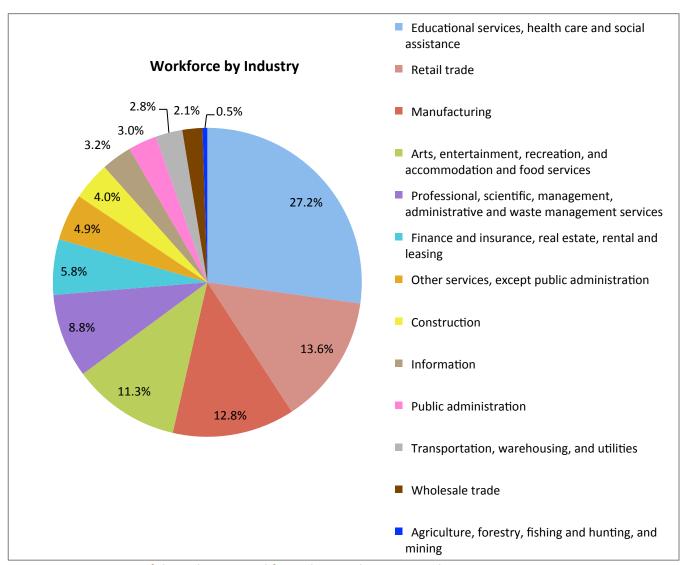


Figure 7: Percentage of the Dubuque Workforce that Work in Major Industries Source: American Community Survey 2011

Major Employers

According to the Greater Dubuque Development Corporation, the ten companies listed in Table 5 employ a total of 10,920 people. This constitutes about 22% of Dubuque County's employed labor force. Table 5 also shows that four of the top ten largest employers fall into the educational services, health care and social assistance industry category, which supports the data in Figure 7. Two employers (John Deere and Eagle Window & Door) are manufacturing firms, which is the industry with the third largest share of Dubuque workers. The 1,300 jobs provided by IBM Corporation are included in the professional, scientific, management, administrative and waste management services, which employs the fifth largest share of Dubuque workers.

Table 5: Top Ten Dubuque Employers

Rank	Company	Employees
1.	John Deere Dubuque Works	2,400
2.	Dubuque Community School District	1,946
3.	IBM Corporation	1,300
4.	Medical Associates Clinic P.C.	1,046
5.	Mercy Medical Center	1,000
6.	The Finely Hospital	859
7.	The City of Dubuque	691
8.	Diamond Jo Casino	600
9.	Eagle Window & Door	550
10.	Prudential Retirement	528

Source: Greater Dubuque Development Corporation¹⁰

Housing Occupancy

Within the city of Dubuque, in 2010, there was a total of 25,029 housing units, both owner and renter-occupied (Figure 8). Of these units, 93.9% were occupied, and 6.1% were vacant. This vacancy rate is slightly higher than that of Dubuque County, where 94.5% of the County's 38,951 units were occupied, and 5.5% were vacant. Comparing homeowner and rental housing unit vacancy, the vacancy rate was just over 1% for both the city and county's homeowner housing units and around 7% for rental units.

¹⁰ Greater Dubuque Development Corporation . (2013). *Major Employers*. Retrieved March 24, 2013, from Greater Dubuque Development Corporation : http://www.greaterdubuque.org/busadvantages_majoremp.cfm

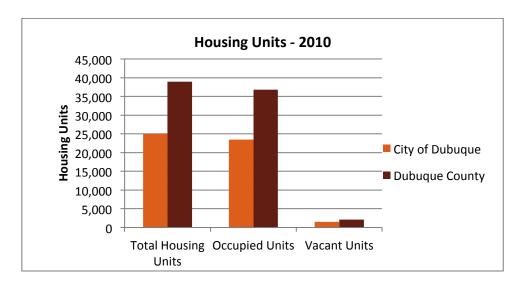


Figure 8: Housing Units in Dubuque and Dubuque County, 2010

Source: U.S. Census Bureau 2010

In 2009, IBM opened a new technology service delivery center in Dubuque, creating about 1,300 new jobs. Although the city experienced a tight rental market as a result of the influx in new workers, the 7.6% city-wide vacancy rate for rental units, as of 2010, was slightly higher than the generally accepted 7.4% vacancy rate standard for a healthy housing market. However, the vacancy rate in the city of Dubuque varied considerably by area. As Figure 9 shows, several census block groups within the city had a vacancy rate of below 3%, while others had a vacancy rate of up to 21.46%. This suggests that there is much higher demand for housing in certain areas of the city compared to others.

¹¹ Belsky, E. S., Drew, R., & McCue, D. (2007). Projecting the Underlying Demand for New Housing Units:Inferences from the Past, Assumptions for the Future. *Harvard University Joint Center for Housing Studies*.

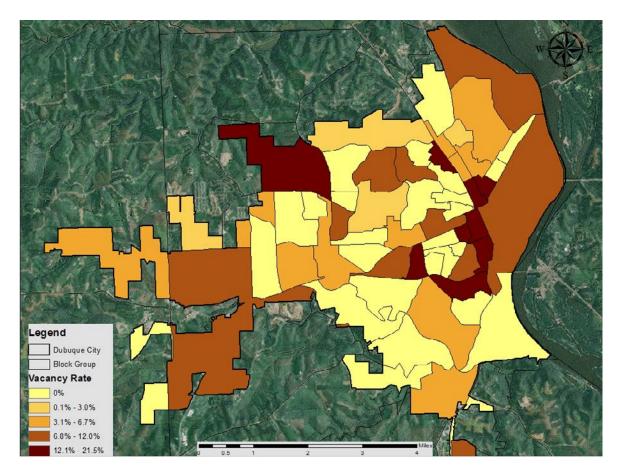


Figure 9: Housing Unit Vacancy Rate by Census Block Group in the City of Dubuque, 2010 Source: U.S. Census Bureau 2010

Housing Tenure

Of the 23,506 occupied housing units within the city of Dubuque in 2010, 65.7% were owner-occupied while 34.3% were occupied by renters (Figure 10). Dubuque County has a larger percentage of its 36,815 occupied housing units occupied by homeowners (73.3%) than renters (26.7%). This is largely due to the fact that the city of Dubuque contains 88% of Dubuque County's rental housing. While far from always the case, renters are generally less financially secure than homeowners, which impacts the economic makeup of the city's population compared to the rest of the county.

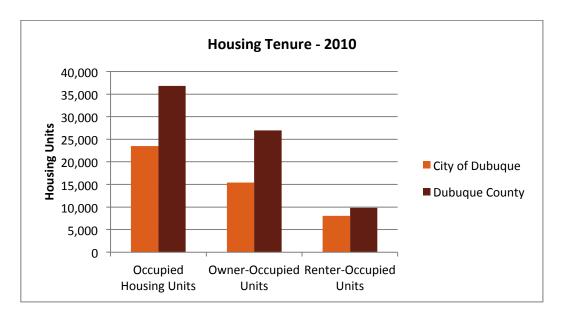


Figure 10: Housing Tenure in Dubuque and Dubuque County, 2010

Source: U.S. Census Bureau 2010

Key Findings

- From 2000 to 2010 the total population in Dubuque County increased by over 5%, while the city of Dubuque lost population.
- The city of Dubuque lost 3% of its family households from 2000 to 2010. This is also evident through population loss in the cohorts that together form families (age 19 and under and ages 35-54).
- The city of Dubuque's "young professional" (ages 20-34) and "pre-retirees" (ages 55-64) populations have grown since 2000.
- Median household income for Dubuque County (\$49,556) was notably higher than for the city of Dubuque (\$43,304).
- The city of Dubuque contains 88% of multi-family housing units in Dubuque County. Most of these multi-family units are concentrated in and near downtown.
- Vacancy rates vary across the city of Dubuque's census block groups, ranging from as high as 21.5% to 0%, suggesting higher demand for housing in certain areas.

Housing Affordability Analysis

Due to the trends exposed in the demographics section, this section analyzes whether the affordability of housing in the city of Dubuque plays a role in the rapid population growth in towns surrounding the city of Dubuque, or the trend of family households choosing to locate in Asbury or Peosta. Determining if there is an affordability problem could be critical for future development, in regards to determining the type of housing to be built in the city of Dubuque. This analysis uses the

generally accepted definition of affordability—that households should not devote more than 30% of their annual gross income to housing costs. 12 Based on this definition, two methods were used to determine the affordability of housing in the Dubuque housing market.

First, the percentage of cost-burdened homeowners and renters in the city of Dubuque are compared to the percentages in Dubuque County and the State of Iowa. Cost-burdened households are those paying more than 30% of their annual gross income on housing costs. However, this does not mean that every household chooses to move to a house that requires 30% of their income. Some households occupy housing that is below this level, while others choose to live in homes that require more than 30% of their income.

Second, this analysis measures the supply of housing in different value ranges against households' ability to pay. This data is then compared to those of Dubuque County Data from the American Community Survey 5-year estimates on income and home value were used for this analysis. Income data was used to determine 30% of a household's annual gross income. Then, the 30% of annual gross income was split this up into monthly affordable housing payments. For example, a household making \$75,000 could afford a monthly mortgage payment of \$1,875. Assuming a 4% interest rate (which is above the current market rate), the amount of the mortgage a household would be able to afford if they devoted 30% of their annual gross income was calculated. The calculations were done using bankrate.com and www.mortgagecalculator.org. For example, a household making \$75,000 annually could afford a \$392,750 mortgage. It is important to note that this calculation does not assume a down payment. A down payment is considered a barrier to entry for homeownership.

Cost-burdened Homeowners and Renters

The percentage of homeowners and renters who are cost-burdened is a strong indicator of the affordability of a housing market. As seen in Table 6, the percentage of cost-burdened homeowners in the city of Dubuque (20.80%) is slightly higher than Asbury (18.50%) and Dyersville (16.80%). However, it is consistent with Dubuque County (19.18%) and the state of Iowa (19.67%). The percentage of cost-burdened renters in the city of Dubuque, Asbury and Dyersville are all consistent with Dubuque County and the State of Iowa (Table 6). Peosta is the only municipality that is not consistent. The percentage of cost-burdened homeowners is 8.38% and the percentage of costburdened renters is 67.35%.

Table 6: Percentage of Cost-burdened Renters and Homeowners

Municipality	Percent Cost-burdened Homeowners	Percent Cost-burdened Renters
Iowa	19.67%	44.68%
Dubuque County	20.80%	44.24%
City of Dubuque	19.18%	44.92%

¹² U.S. Department of Housing and Urban Development. (2013, May 9). Affordable Housing. Retrieved May 14, 2013, from HUD.gov: http://www.hud.gov/offices/cpd/affordablehousing/

Asbury	18.50%	44.44%
Peosta	8.38%	67.35%
Dyersville	16.80%	45.24%

The percentage of homeowners and renters that are cost-burdened in the Dubuque housing market is higher in lower-income groups (Figures 11). In Dubuque County, 5.7% of owner households making less than \$20,000 are cost-burdened. This percentage continues to decrease as income increases. In Dubuque County there are no owner households earning \$75,000 or more that are cost-burdened. In the city of Dubuque the trend is similar. As Figure 11 shows, the percentage of homeowners that are cost-burdened is higher for households making less than \$50,000 annually. As income increases above this level, the percentage of owner households that are cost-burdened almost disappears. Only 0.7% of owner households making over \$75,000 a year are considered cost-burdened in the city of Dubuque, and none in Dubuque County.

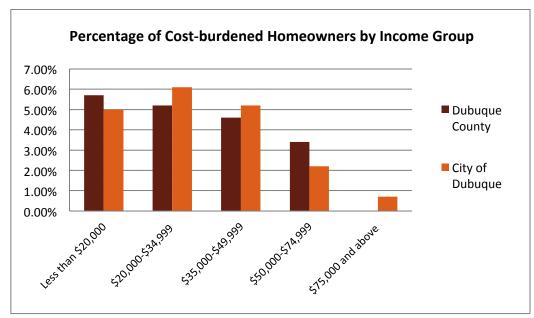


Figure 11: Percentage of Cost-burdened Homeowners by Income Group

Source: American Community Survey 2011

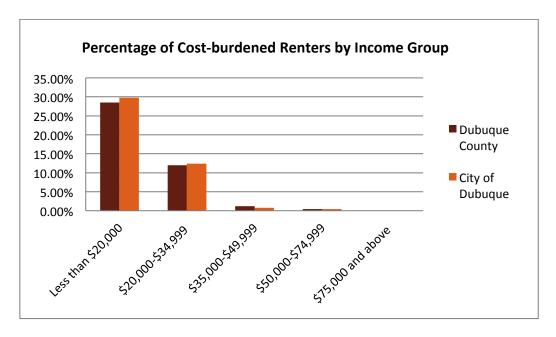


Figure 12: Percentage of Cost-burdened Renters by Income Group

The trend for cost-burdened renters is much more pronounced. In Dubuque County 28.5% of renters earning less than \$20,000 are cost-burdened (Figure 12). In the city of Dubuque 29.5% of renters in this income group are cost-burdened. The percentage of cost-burdened renters declines as income increases, dropping to 12% in Dubuque County and 12.4% in the city of Dubuque for renters earning between \$20,000 and \$34,999. Moving to the next income group (\$35,000-\$49,999) the percentage of cost-burdened renters drops sharply to 1.2% in Dubuque County and 0.8% in the city of Dubuque. No renters earning \$75,000 or above that are considered cost-burdened. This could be because more households in those income groups choose homeownership.

Federal assistance is available in the Dubuque housing market for individuals making less than 50% of the Area Median Income (AMI), as determined by the U.S. Department of Housing and Urban Development. In addition, public housing agencies must provide 75 percent of vouchers to applicants whose income does not exceed 30% AMI. Currently there are 1,063 Housing Choice Vouchers allocated in Dubuque County. As of November 5, 2012 the waiting list for vouchers was approximately 538 households.

As discussed previously, Dubuque County's senior population (ages 65 and over) increased by almost 10% between 2000 and 2010. As of 2010, seniors constituted 15% of the total county population. Because of this, it is important to take into account the housing needs of the elderly population within the Dubuque housing market.

Seniors face different issues related to housing than do younger populations, including mobility difficulties caused by conventional housing design, as well as affordability. Many seniors must make ends meet on very limited incomes. The Social Security income for seniors within the Dubuque

housing market was just \$698 in 201213. Such limited incomes result in many senior households being housing cost-burdened.

In 2010, there were 9,058 senior-lead households in Dubuque County (Table 7). A great majority of these households, 78.9%, were owner-occupied. Of these senior homeowners, 19.4% paid over 30% of their income towards housing costs on a monthly basis (Table 8). This is consistent with the percentage of cost-burdened households in the general population in Dubuque County.

Table 7: Households with Householder Age 65 and over – Dubuque County

Age of Householder	Households	
Owner-Occupied Households		
65-74	3,737	
75-84	2,569	
85+	847	
Total 65+	7,153	
Renter-Occupied Households		
65-74	621	
75-84	713	

Source: American Community Survey 2011

Table 8: Householders Age 65+ by Percent of Income put towards Monthly Ownership Costs – Dubuque County

% Of Income	Householders	% Of Householders
<20%	4,779	60.6%
20-24.9%	915	11.6%
25-29.9%	641	8.1%
30-34.9%	420	5.3%
35% +	1,115	14.1%
Not computed	22	0.3%

Source: American Community Survey 2011

The proportion of senior renters who are housing cost burdened is more problematic than for senior homeowners. While just 21% of senior households in Dubuque County live in rental housing, 58% of these renters pay over 30% of their income for rent (Table 9). Since 16% of senior renters over age 65 were not computed, this percentage may actually be higher. The proportion of costburdened senior renters is higher than the percentage of all cost-burdened renters in Dubuque County, which is roughly 45%.

¹³ National Low Income Housing Coalition (2012). *Out of Reach 2012: Iowa*. Washington, DC: National Low Income Housing Coalition.

Table 9: Householders Age 65+ by Percent of Income put towards Rent – Dubuque County

% Of Income	Householders	% Of Householders
<20%	120	8%
20-24.9%	203	13%
25-29.9%	95	6%
30-34.9%	231	15%
35% +	688	43%
Not computed	246	16%

There are several subsidized independent living facilities in Dubuque County dedicated for seniors. Because these facilities are subsidized, units are reserved for low- and moderate-income seniors. Rental rates at these facilities are set at a price determined to be affordable for each resident. There are a total of 489 subsidized independent living units within the Dubuque housing market (see Appendix 1 for a listing of non-subsidized senior living facilities). As discussed above, there are at least 919 senior renter households paying unaffordable rents. Thus the current supply of affordable independent housing units for seniors in Dubuque County is grossly insufficient.

This unmet need for affordable senior rental housing is accentuated by the low vacancy rate reported by most of the subsidized independent senior housing complexes. While The Rose of Dubuque appears to have a very high vacancy rate, this complex opened its doors very recently. Based on the existing need for affordable senior housing in the community, it is likely that these units will fill quickly. Additionally, besides The Rose of Dubuque, all of these facilities reported having waiting lists, many of which were double-digit, and provided anecdotes of low-income seniors having great difficulty obtaining affordable housing.

Not all seniors, however, are able to live independently. While there are a number of nursing homes within Dubuque County (see Appendix 1), some seniors do not require the high level of medical care nursing homes provide. Assisted living facilities are an attractive option for seniors who need some assistance with activities of daily living, but who wish to live in a more home-like atmosphere. However, the cost of assisted living facilities may be a problem for many Dubuque area seniors. While most nursing homes in Dubuque County accept residents with Medicare and/or Medicaid, most of the assisted living facilities (see Appendix 1) do not.

Home Values and Ability to Pay

In addition to knowing the percent of the population that is cost-burdened in the Dubuque housing market, it is important to know whether home values in the Dubuque housing market match residents' ability to pay. For this discussion, ability to pay is measured as 30% of a household's annual gross income.

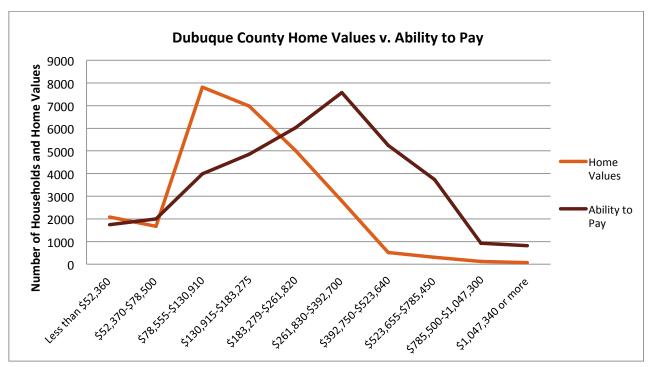


Figure 13: Dubuque County Home Values v. Ability to Pay

Figure 13 shows Dubuque county home values and households' ability to pay in Dubuque County. The "home values" line shows the number of homes valued in a specific range. For example, there are 7,823 homes valued between \$78,555 and \$130,910 in Dubuque County. The "ability to pay" line shows how many households could afford a home valued within that range. For example, there are 3,994 households that could afford a mortgage valued between \$78,555 and \$130,910. It is important to remember that our definition of affordability is an upper-bound. This means, for example, that households that can afford a mortgage between \$183,279 and \$261,820 can also afford a mortgage in any of the designated ranges below that amount. Figure 13 shows that Dubuque County households' ability to pay in the Dubuque housing market is higher than home values in the market. This means that there is not a mismatch between home values in the Dubuque housing market and households' ability to pay.

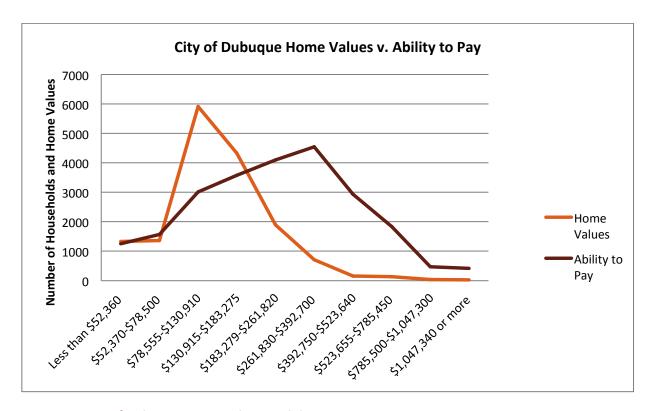


Figure 14: City of Dubuque Home Values v. Ability to Pay

A mismatch between home values and households' ability to pay in the city of Dubuque may be a contributing factor for the migration trends found in the demographic section. So this analysis was performed for the city of Dubuque, specifically. Figure 14 shows that household's ability to pay is higher than home values in the city of Dubuque, as well. This means there is not a mismatch between home values in the city of Dubuque and households' ability to pay. This furthers our hypothesis that this is not an ability to pay issue. There may be a willingness to pay issue, meaning households are not finding the type of housing they want.

It is also important to measure whether rents asked by landlords match residents' ability to pay. Once again, ability to pay is measured as 30% of a household's annual gross income. The number of available rental units is important, primarily to lower-income households who are forced to rent because they are less able to make a down payment and enter the homeownership market.

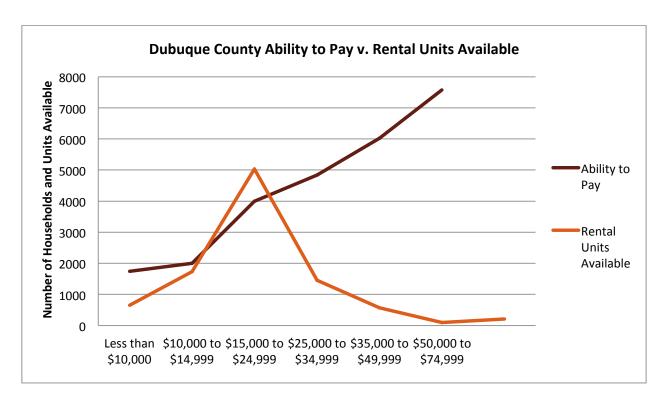


Figure 14: Dubuque County Ability to Pay v. Rental Units Available

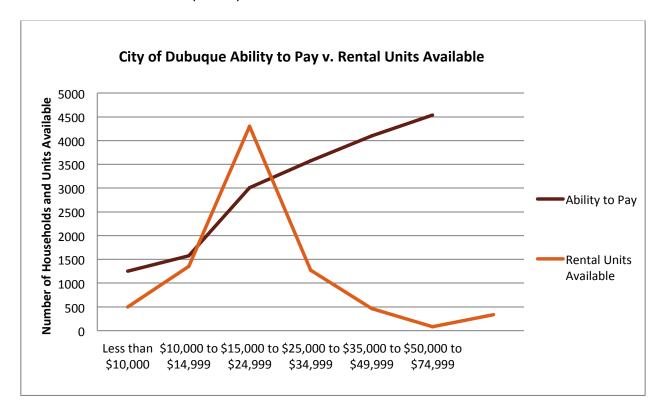


Figure 15: City of Dubuque Ability to Pay v. Rental Units Available

Source: American Community Survey 2011

Figures 14 and 15 show contract rent in Dubuque County and the city of Dubuque compared to household's ability to pay. 14 As mentioned in the demographics section, 88% of Dubuque County's multi-family housing is located in the city of Dubuque, so the trends in Figures 14 and 15 are very similar.

Both Figures 14 and 15 show that demand is higher than supply for household's earning \$15,000 or less annually. In Dubuque County, there are 1,738 households in Dubuque County and 1,251 in the city of Dubuque earning less than \$10,000 per year, and only 651 units available (494) in the city of Dubuque that are available for less than \$250 per month, the affordable level for this income group. The gap in supply and demand decreases for households making between \$10,000 and \$15,000 per year; 1,355 units are available for 1,573 households in the city of Dubuque and 1,730 are available in the County for 1,997 households. The shortage of apartments available at low-end rents could force households into more expensive rental units, contributing to the percentage of cost-burdened renters, discussed above.

The highest numbers of rental units are available to households earning between \$15,000 and \$25,000 annually, where there is a surplus of units available. 5,031 rental units are available for 3,994 households in Dubuque County and 4,300 rental units available for 3,008 households in the city of Dubuque.

Then, as income increases, the number of rental units available decreases. This could be because households are beginning to move from the rental market to the homeownership market. Also as mentioned above, affordability is an upper bound. So, households in the higher income categories are able to find rental housing that would be affordable to them, based on the surplus of rental units at certain lower price points.

Key Findings

- The percentage of cost-burdened homeowners (20%) and renters (45%) in the city of Dubuque, Asbury and Dyersville are consistent with Dubuque County and the State of Iowa.
- · There are higher percentages of cost-burdened owners and renters in lower-income categories.
- There are much higher percentages of cost-burdened renters in the Dubuque housing market than cost-burdened owners. In both Dubuque County and the city of Dubuque almost 30% of renters making less than \$20,000 are cost-burdened, and roughly 12% making between \$20,000 and \$34,999 are cost-burdened.
- · Demand is outpacing supply for rental units affordable to household's earning below \$15,000 per year
- Affordability for seniors is an issue in the Dubuque rental housing market. 58% of senior renters are cost-burdened. This is much higher than the general population.

¹⁴ The American Community Survey refers to contract rent as rent asked for vacant units.

 Dubuque County households' ability to pay for housing in the Dubuque housing market is higher than home values in the market. This is true in the city of Dubuque, as well.

Residential Zoning & Land Use

A zoning ordinance directly affects the supply of housing within a community. A zoning ordinance designates districts, which are assigned to specific land within a community. These districts stipulate the type of land uses that are permitted, the amount of land required for each structure, how tall a structure can be, and how far the structure must sit from the front, rear, and side lot lines. This indirectly determines the affordability of the housing market and the spatial distribution of a community's economic-make up. For example, a section of town which is zoned to allow only single-family home on large lots will prohibit those that cannot afford that type of dwelling from living in the area.

This section provides an overview of current residential land use and zoning in the city of Dubuque. Types of permitted dwellings and yard requirements are explored. Such requirements, as outlined in the Unified Development Code of the City of Dubuque, reveal characteristics of the current supply of housing in Dubuque. They also reveal barriers to the type of housing that can be built in the future, which has important implications for the potential for housing redevelopment and new housing development.

Overview of Residential Zoning

The city of Dubuque Unified Development Ordinance (UDO) establishes five residential zoning districts. Most of the residentially zoned land in Dubuque is zoned R-1 Single-Family Residential, though closer to downtown R-2 Two-Family Residential and R-2A Alternate Two-Family Residential zones are more prevalent (see Figure 16). R-3 Moderate Density Multi-Family Residential and R-4 Multi-Family Residential zoned land, as well as land zoned for mixed-use development are mostly concentrated near downtown, although pockets of land zoned as such are dispersed throughout the city. Areas of agriculturally zoned land exist mainly near Dubuque's borders where single-family homes are permitted on lots of at least 10 acres. The Rural Residential Overlay District permits single-family homes that meet the standards of the R-1 District. Areas with this overlay district are located among the agricultural areas on the west side of town. The Dubuque UDO also permits planned unit developments (PUD) of residential areas. A PUD is required for manufactured home parks, although the residential PUDs shown in Figure 16 are not all manufactured home parks. Residential PUD land is dispersed throughout the city, though predominately towards the north, south, and west sides.

Dubuque's R-1 District permits only single-family dwellings on lots of at least 5,000 sq. ft., as does the R-2 District. However, the R-2 District does allow duplexes and two-family townhouses. Duplexes and townhouses require a lot area of 6,000 sq. ft. The R-2A District was established to preserve the residential character of Dubuque's older neighborhoods. As such, smaller lot sizes of 2,500 sq. ft. are permitted for single-family homes and duplexes. Two-family townhouses require lots of at least 5,000 sq. ft. The higher-density R-3 and R-4 zones allow multi-family housing of up to six and twelve units, respectively. In both districts, at least 2,000 sq. ft. of lot area is required per

unit, though structures can be up to 40 ft. tall in the R-4 District rather than just 30 ft. in the R-3 District.¹⁵ See Appendix 4 for more information regarding district requirements.

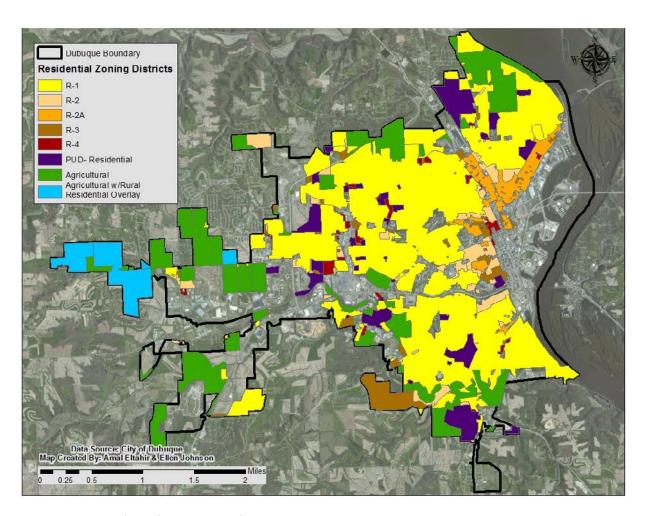


Figure 16: Residential Zoning in Dubuque

Key Findings

- Areas in and near downtown feature smaller lot sizes and zoning that allows multi-family uses and higher density development, which is, in general, more attainable to lower-income households.
- The larger lot sizes and lack of permitted multi-family housing in the single-family zoning districts that are prevalent outside of the area in and around downtown make those areas less attainable to lower-income households.

 $^{^{15}}$ City of Dubuque. (2013). City of Dubuque, Iowa City Code Title 16 Ch. 5. Dubuque, Iowa .

CONSUMER PREFERENCES AND HOUSING CHOICE

Hedonic Regression and Interviews

The data in the previous sections explained factors that guide housing locational choices based on demographics, affordability, and housing types regulated by zoning. Data in the demographics section showed a decrease in the number of family households in the city of Dubuque and an increase in the number of family households outside of the city but within Dubuque County. The data also showed variation in vacancy rates and socio-economic characteristics across neighborhoods. The affordability section showed that, in general, there is not an ability to pay issue. These findings signal that there is a willingness to pay issue. Demand is higher for certain neighborhoods and certain types of housing. Given these findings, the next step in a meaningful housing market analysis is to discern the forces behind housing locational choices. This section focuses on two key questions: 1) What makes some neighborhoods more attractive than others? And 2) what do people care about when they make their housing choices?

Consumer preferences can be inferred from the sales price of a house. A hedonic regression model, using housing sales data from 2000-2012, quantifies and isolates the contributions of different variables measuring physical housing and neighborhood qualities to housing price (See Appendix 2 for details on replicating the hedonic model). Market pricing for physical housing attributes, such as number of bedrooms or total living area, already exists, so the regression focuses mostly on the relationship between housing sales price and neighborhood variables.

The end result is a map showing the willingness to pay for neighborhoods in Dubuque. To create this map, structural characteristics were held constant. This is the equivalent of moving a house with the same physical characteristics across neighborhoods and arriving at an estimate of neighborhood value based on average willingness to pay. Quantifying the impact of significant neighborhood attributes on housing choices allows policymakers to identify factors that influence where people decide to live, and use the information to inform policy to achieve the housing-related goals set by City Council.

While the variables included in the regression were a good overall predictor of housing sales price, the model did not include all of the variables that explain housing price. This was due to limited data availability and unquantifiable factors that go into housing selection decisions. There was also the realization that ability to pay guides housing choice as much as willingness to pay. So to supplement the statistical analysis, interviews were conducted with 17 actors in the Dubuque housing market, representing different perspectives on, and roles and interests in, the market.

The interviews attempted to answer the same two questions as the regression analysis, since trying to answer these questions without asking people involved in the market would be misguided and shortsighted. The interviews help to explain the results for variables included in the regression, offer insight into the relative magnitude of significant variables, and identify variables not included in the regression, or not quantifiable, but still important to housing choice. However, since the interviews contained only a small sample, the results are not representative of the entire

population, or even subsets of the population, and it is not possible to draw conclusions from the responses.

Housing Condition

The hedonic regression model tested the significance of housing condition to homebuyers' housing decision—i.e. if physical quality is really an issue contributing to the willingness to pay for certain neighborhoods. The model showed that homebuyers have a higher willingness to pay for housing in better condition, and lower willingness to pay for housing in below-average condition. On average, households are willing to pay \$14,715 more for a house with an above-average condition rating than for a house with the same characteristics but with a normal condition rating. In addition, homebuyers expect to pay \$18,403 less for the same house if it is in below-average condition.

Figures 17 shows the areas of Dubuque with the highest concentration of below-average housing condition and Figure 18 shows the areas of Dubuque with the highest concentration of aboveaverage housing condition. The maps are based on Dubuque County Assessor ratings. The Dubuque County Assessor rates the condition of residential structures according to the Iowa Real Property Appraisal Manual, which includes a scoring matrix that compares one unit relative to another and assigns a grade ranging from "excellent" to "very poor". The grading criteria are based on several factors, including quality of construction, framing, mechanical items, fenestration, design and shape. Overall, 53% of the city of Dubuque housing stock was rated as normal. A considerable portion (19%) of the Dubuque's housing stock was given a rating of below normal or worse.

Figure 17 shows that the city center has the highest concentration of houses rated in below-average condition, while housing rated in above-average condition is located just beyond the neighborhoods in and near downtown. About 68% of the city's total residential buildings that were rated below average are located in Area A. If a house is located among a large number of properties in belowaverage condition, it may sell for less than a house with the same characteristics in a neighborhood with homes rated above average. Another potential issue is that a property owner in a neighborhood with a cluster of properties in below-average condition has less incentive to maintain their property, since the cluster of below-average condition properties create negative externalities, meaning the property is less likely to appreciate in value commensurate with the investment expenditure.

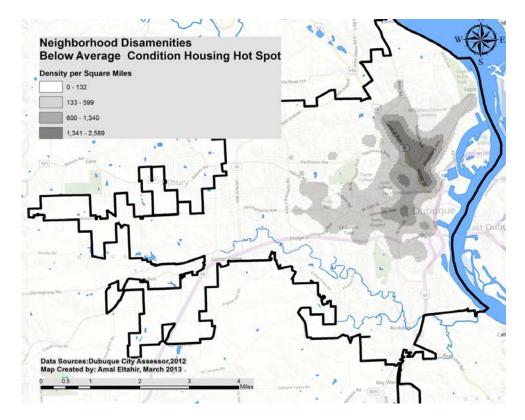


Figure 17: Below Average Housing Condition in Dubuque

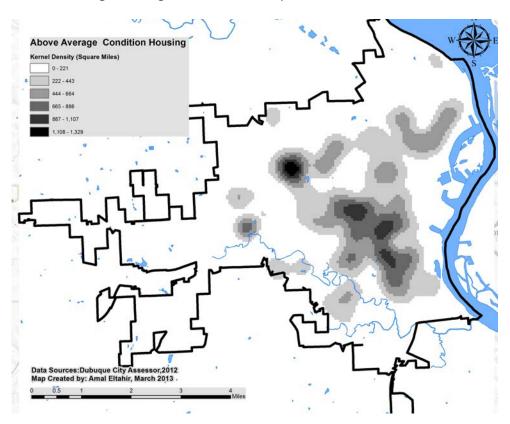


Figure 18: Above Average Housing Condition in Dubuque

Housing condition was mentioned by almost all of the interviewees as an issue for housing located in and near downtown. Realtors said the condition of housing in and near downtown was a deterrent to potential buyers. "That's the big concern for homebuyers," one realtor said. "I just tell people to expect unforeseen repair costs." Another realtor said the deteriorating housing stock was more significant for new arrivals to Dubuque. Another realtor said first-time buyers had trouble finding reasonably priced housing in good condition.

Housing condition is also a significant issue according to representatives of area neighborhood associations. These respondents discussed the failure of owners to maintain properties, and the overall negative impact this has had on the neighborhoods. Representatives of the neighborhood associations said that some properties were not maintained because the residents, especially elderly residents, cannot afford to make home repairs, while others simply choose not to. They also identified the increasing proportion of rental units and absentee landlords as factors that have made the situation worse. The neighborhood association representatives generally acknowledged and accepted the difficulty faced by landlords trying to find a balance between the profit from renting the unit and maintaining a property. Landlords also discussed this balancing act. "Definitely in the older properties, due to all the repairs and maintenance, you don't have as much profit to work with," a member of the landlord association member said.

Evidence also emerged from the interviews that rehabilitating older houses could attract homebuyers to these downtown neighborhoods. We spoke with a young professional resident of the Washington Neighborhood who moved in recently. All of the houses on the resident's block had been fire damaged and restored by the City. According to the resident, the house has entirely new mechanical equipment, air conditioning and plumbing. "All of the people on my block are under 40 years old and participated in the City restoration program," the resident said. "That is a unique demographic for the neighborhood."

The issue of housing condition was most acute for the participants in the Circles Initiative. All of the participants interviewed said they had difficulty finding apartments that would accept Section 8 housing vouchers located outside of a certain area. A member of the landlords association also recognized this phenomenon, stating "There are parts of the city, like from 21st to 23rd Street and Washington Street, where you might have a tough time renting and making sure units stay rented if you don't find tenants on Section 8,". All of the Circles Initiative participants said that the available units were not well-maintained. "The apartments I was looking at were in horrible condition, just gross—crappy carpet, holes in the wall," one participant said. "When I was looking at them, I just couldn't wait to get out of there."

Housing Age

The model also showed that preference for building age is one of the drivers of location choices. The model showed that, on average, controlling for all other characteristics (including being located in a historic district) homebuyers have a lower willingness to pay for older housing and expect a 0.1% decrease, or a discount of about \$200, in house price for each year of age. This remains true even if the house maintained the same condition rating. For example, an average 50 year-old house is expected to sell for \$10,000 less than a new house with the same characteristics. However, the model also showed that on average, buyers are willing to pay about \$17,000 more for a house within a historic preservation district.

Figure 19 shows the median year housing structures were built by census block groups. The map shows that older residential structures are generally located downtown and newer residential development is located on the west and south sides. Housing units built in 1939 or before accounted for more than 30% of the total housing units, with the vast majority concentrated in the downtown area.

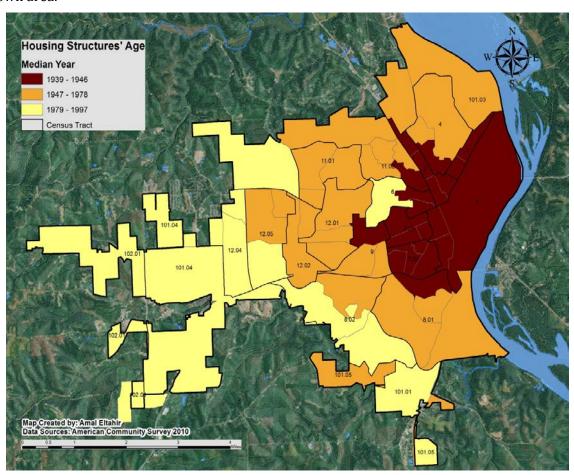


Figure 19: Housing Age by Census Tract in Dubuque

According to the realtors interviewed, newer housing is in high demand for potential homebuyers, while older housing is typically regarded as less desirable. Newer construction in the Dubuque housing market is located in Asbury, Peosta, and the west and south sides of the city of Dubuque. According to realtors and developers, newer construction sells for between \$200,000 and \$350,000, "You can't build anything cheaper these days," a developer said about the price range for newly-constructed houses in the Dubuque area. According to one realtor, the high price of newly-constructed housing has resulted in a lack of supply of newer affordable housing, which has adversely affected lower-income and first-time homebuyers.

However, the interviews also showed that there were respondents that valued the older housing in and near downtown. The respondents who expressed these values were already living in and near downtown, likely due to these preferences. They were attracted to the charm and style of the older houses and the sense of place older houses create in these neighborhoods. These respondents acknowledged also that the price of buying an older house was in-line with their budgets. Realtors said they encounter a subset of clients that prefer to live in the historic districts. Houses in these districts are generally larger and more expensive than the rest of the older housing in and near downtown. Houses in the historic districts also are usually well-maintained, due to the protections afforded in the Zoning Code.

Crime and Safety

Generally, homebuyers consider safety a top priority in their quest for housing. In addition, from an investment standpoint, the presence of crime raises concern about future property values. According to the model, higher-crime density in a neighborhood lowers a homebuyers' willingness to pay.

The model showed that a 3% increase in the number of crimes within a half-mile lowers the value of the average house by \$6,000. This suggests that, generally, households have a significant aversion for living in close proximity to locations where crime is committed. As Figure 20 shows, crime density is disproportionately distributed across the city, with the highest concentration of crime incidents in and near downtown.

However, a household's sense of safety is more difficult to quantify. Most interview respondents acknowledged the presence of crime in and near the downtown area. Although, most interviewees felt that the perception that downtown is more dangerous may not be rooted in reality.

One realtor said new arrivals in Dubuque were not concerned about crime. Newcomers were more likely to not to be interested in housing in and near downtown due to housing condition. Long-term residents who had read or heard about crime incidents in and near downtown tend to believe there is a huge problem. Other interviewees distinguished between the views of residents in the west end and those that live in and near downtown. Downtown residents said that friends and relatives from other parts of the city have an irrational sense of the level and nature of criminal activity in and near downtown. However, some older residents living in and near downtown idealized the good old days, and talked about how these neighborhoods have changed for the worse and how crime has increased.

Other respondents stated there was a higher crime rate in and near downtown without remarking on the difference between perception and reality. Some residents who live in and near downtown said the negative perception of the area is fair, and some acknowledged that there are certain parts of downtown where they feel unsafe. Still others said that there was crime, but these were calculated, non-random acts. A representative of one of the neighborhood associations, who had moved to Dubuque from a large metropolitan area, said the level of crime in the downtown area is about what would be expected for the population density.

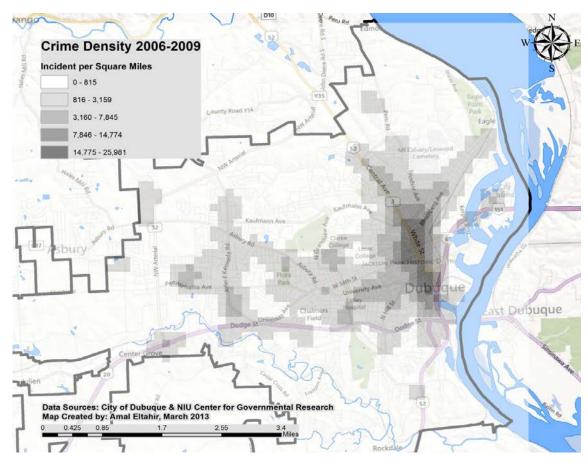


Figure 20: Crime Density in Dubuque

Proximity to Environmental Amenities

The model also identified neighborhood characteristics that had a positive impact on house price. Figure 21 shows the distribution of positive environmental amenities, such as access to open space. Clearly, the outlying areas of the city have the biggest share of assorted green space. The City has made efforts to increase the amount of open space in the downtown area with the Bee Branch Creek Restoration and Gateway Project. The model indicates that projects like the Bee Branch would be expected to have a positive impact on nearby housing. Being close to or having direct contact with a park or forest increases the value of the average house by roughly \$11,000.

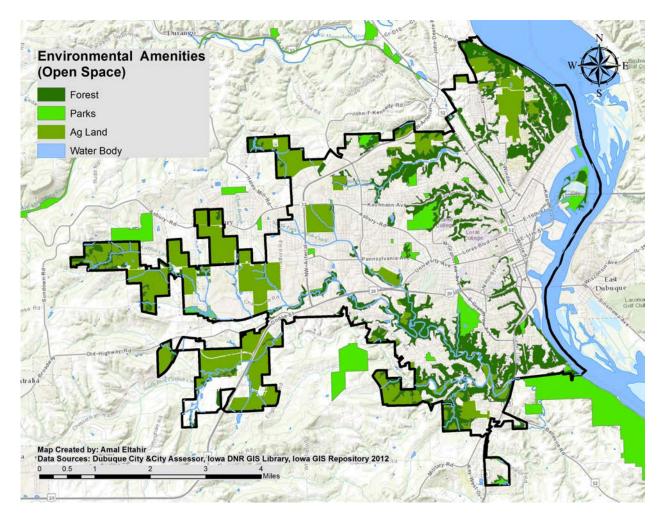


Figure 21: Distribution of Environmental Amenities in Dubuque

The model also showed that being located in the floodplain had a positive effect on housing prices. This can be interpreted as a measure of proximity to the Mississippi River or a creek—thus, location near a body of water positively influenced housing prices. On average, proximity to any body of water (i.e., located either partially, or entirely, within the floodplain) increased house price by \$21,865. However, being located behind the flood levee had a negative impact on housing price, which could suggest that these houses had been adversely affected by flooding or that the housing stock had not changed since the flood levee was built.

Parks, open space and other environmental amenities were mostly identified as valuable amenities by those interviewed, especially among those living in and near downtown. Respondents highlighted parks as good for kids and for neighborhood gathering places. All of the neighborhood association representatives mentioned activities organized by their associations held at nearby parks. Others mentioned proximity to the river as a feature they like about the downtown neighborhoods. A developer of single-family housing discussed how the terrain and environmentally-sensitive areas on the south side restrict the amount of land available for development, due to the City's zoning ordinance protecting environmentally-sensitive areas. But

said this was beneficial. "We're dealing with creeks, glens and ridges," the developer said. "We get some really nice spots, with nice views and access to open space, and you know somebody won't come in later and block these views or fill in the open space." However, among the realtors, none mentioned open space. When prompted, one realtor said, "Dubuque's not very big, so distance isn't that much of an issue. There are parks all over the city, so neighborhood amenities are not that big of a deal."

Proximity to Downtown and Commercial Activity

The model did not measure proximity to commercial zones or retail activity. However, the model suggests that people do not want to live in or near downtown. The willingness to pay for housing, on average, drops by \$1,240 with each mile closer to downtown. Also, on average, being located within one kilometer (or .68 miles, which is generally accepted as the distance for identifying a food desert) to a grocery store was not found to a have a significant effect on house price.

Yet proximity to retail and commercial locations appeared to be a fairly important factor in locational choice, according to interviewees. One realtor said that proximity to shopping centers along the Northwest Arterial was desirable for higher-income homebuyers. For residents in and near downtown, the ability to complete daily errands—to the bank, drug store, laundromat, church—and entertain themselves—at bars, restaurants and shops downtown—without relying on a private vehicle was identified as an asset to these neighborhoods.

A Point Neighborhood resident said the neighborhood had enough commercial activity to satisfy daily needs but anything beyond that would require a car or bus trip to the west end. The Point resident and a Circles participant mentioned taking trips out of the downtown area to shop at a big box retailer. However, not all types of retail and commercial activity are desirable. One respondent pointed to the gun shops, pawn shops and bars along Central Avenue as undesirable. Another respondent complained about drunks stumbling around after bar close near Bluff Street, White Street, Jackson Street and Washington Street.

School Quality

The regression analysis included school catchment areas only as a control variable. The model did not attempt to use measures of school quality to predict house value. However, those interviewed for the study, especially realtors, cited school quality as one of the most important concerns for potential homebuyers.

The realtors said that the perception of under-performing schools in and near downtown led potential homebuyers to look for housing in the west end or farther west. "The upper-end buyers want to be near certain schools," one realtor said. "Popular neighborhoods have been anywhere within a mile or two of schools—but the closer the better," said another realtor. "Near Eisenhower, Hoover, Kennedy, Brands, the new Carver school are all popular." One Circles Initiative participant pulled their child out of a downtown elementary school due to bullying, fighting and lack of adult supervision immediately before and after the school day, and said school quality would be a major factor in considering where to live in the future. However, another Circles participant was satisfied with the quality of the downtown schools, and said her children like the school because of the friendships they have made.

Unquantifiable Attributes

This section summarizes a collection of other attributes that interviewees said influenced their decision of where to live, or what they like about where they live. These qualities were not included in the regression analysis since they are generally difficult to measure.

The most common response for the residents living in and near downtown was they value placed on personal relationships with their neighbors, the sense of community and places that facilitate this sort of interaction. Various interviewees valued the walkability of the downtown area. A few of the interviewees stated simply that they liked living in a quiet neighborhood. A Circles Initiative participant liked the wide sidewalk in front of their house, since the house is on a hill and it is difficult for her children to play in the front yard. Another liked the prevalence of front porches, where neighbors congregate and socialize when the weather is nice. Another liked the abundance of churches. Others cited the proximity to services, such as the public library, the Boys and Girls Club, and the Multi-Cultural Family Center.

The number one complaint among residents of the neighborhoods in and near downtown was the lack of civic responsibility. Multiple respondents identified litter in the streets as a manifestation of this problem. Others cited disrespect for traffic signs, people walking out in front of cars while the respondents were driving or kids running through stop signs on bikes. A handful of respondents said the large number of unsupervised children was an issue. Another person cited large gatherings with drinking, yelling and loud music as common. Neighborhood association representatives indicated interest among residents in their activities such as holding monthly meetings featuring speakers from the City or other civic organizations, organizing neighborhood clean-ups, holiday parties and other events;. However, actual participation rates have been low. Some said more homeownership would create a greater sense of civic duty.

Views on how to improve neighborhood cohesion differed greatly. Some of the residents in or near downtown said they would like to see more young people moving into the neighborhood. However, a representative of the Washington Neighbors association said he thought that there was a generational gap among the current residents—the older, long-time residents were not interacting much with the younger, newer residents. A young professional resident of the Washington Neighborhood said that her neighbor, a long-time resident, held views about the neighborhood that were very different from her own. The Washington Neighborhood association representative lamented that the neighborhood was no longer family-friendly.

Respondents also identified racial issues. Some respondents valued racial diversity. But others blamed increasing racial diversity for problems in these neighborhoods. A representative of the North End Neighborhood association explained that Dubuque residents were not used to seeing an influx of minority groups. "I think it's a culture clash," the association representative said. "Neighborhood composition has been changing for the last 10 years or so, a declining older white population and more rental units, and with that more minorities and lower-income residents. The main challenge for the neighborhood has been the different ethnic and minority groups coming into a traditionally white, blue collar neighborhood."

Willingness to Pay: Price and Location

Combining all of the factors described above, Figure 22 shows the distribution of the average willingness to pay for land from a housing perspective. The map represents the willingness to pay based on neighborhood and the environmental characteristics, not structural characteristics. Land zoned for commercial or industrial uses are not included. Land zoned for residential or agricultural uses are included, since agricultural land could potentially be converted into residential land. Within the city boundary, homebuyers have the highest willingness to pay for housing in Area C (shown in blue). This area covers the south, southwest, and north-central areas of the city of Dubuque. The model indicates that households have the lowest willingness to pay for land in and near downtown, identified as Area A (shown in red), On average, the willingness to pay for housing drops by \$1,240 with each mile closer to downtown.

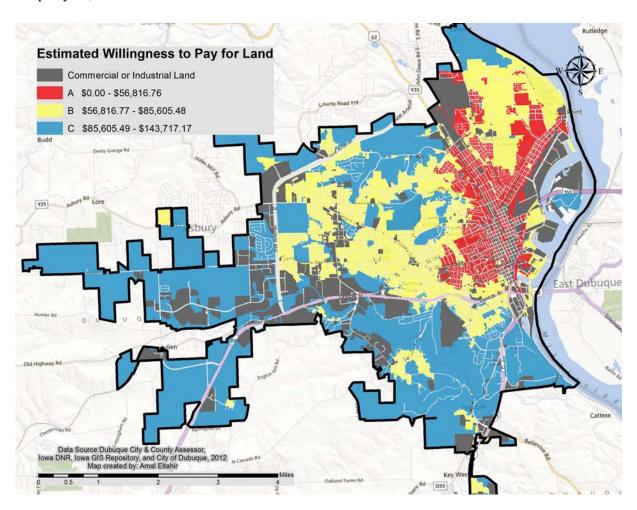


Figure 22: Distribution of willingness to pay for housing location in Dubuque

Interview responses indicate that housing price by location generally follows the pattern of willingness to pay for land prices as illustrated in Figure 22. Realtors identified location and price as the two most important characteristics in determining where residents decide to live. The realtors were asked to distinguish between first-time homebuyers and more experienced homebuyers with greater resources. For first-time homebuyers, realtors generally indicated that

the houses they could afford were between \$80,000 and \$120,000, which meant first-time homebuyers can generally afford housing in and near downtown, mid-town or the west end. Housing prices in and near downtown were estimated to range mostly from \$50,000 to \$70,000. More affluent homebuyers, with a price range of greater than \$120,000, had more housing options and opportunities to buy in the west end, Asbury and towns farther west, like Peosta. Realtors said it would be difficult to find a house in Asbury or Peosta for less than \$175,000.

The realtors unanimously identified the west end of Dubuque or farther west as the location most in demand. Although, one realtor highlighted the south side as popular for more affluent buyers, especially those who liked the prestige of living near the country club. While a few realtors said first-time homebuyers might consider living in or near downtown, the resounding majority said that the downtown area was the least desirable part of the city, and their clients were not looking for housing in this area for a variety of reasons, One realtor said demand for housing in and near downtown was generally for investment, with the goal of renting the units.

According to members of the Dubuque Area Landlords Association and Circles Initiative participants, the cost of rental units generally followed a similar spatial pattern as for owneroccupied housing. Units in the west end of Dubuque rented for between \$900 and \$1200 per month. One landlord compared the difference in rents in and near downtown to the west end. "You can get a 3-bedroom apartment near downtown for \$550 but only get a 1-bedroom unit in the west end for \$550," the landlord said. Circles participants lived in and near downtown and these units rented for between \$750 and \$850 for multiple-bedroom units. Another landlord, who owns or manages over 100 rental units (mostly multi-family, but a few single-family units) in various locations the city except the south side, said these properties rent from about \$400 to \$750 per month. A landlord association representative estimated rents for new units in the Millwork District at between \$700 and \$1000.

Key Findings

- Homeowners prefer living in the city of Dubuque over living in the rest of the county. On average, a house in the city of Dubuque would sell for about \$14,000 more than a house with the same characteristics outside of the city of Dubuque, but within the Dubuque County.
- Within the city of Dubuque, house price drops by \$1,240 with each mile closer to downtown, which suggests there is a higher demand for housing on the west end of Dubuque
- Above-average building condition increases house price by \$14,715. On the other hand, home buyers expect to pay \$18,403 less for the same house in below-average condition.
- Controlling for all other characteristics, homebuyers have a lower willingness to pay for older housing. On average, house price decreases by \$200 for each year of age. Homebuyers have a preference for newer housing.
- Proximity to parks and open space increases the value of the average house by roughly \$11,000.
- On average, proximity to the Mississippi river and other bodies of water increased house price by \$21,865.

- A 3% increase in the number of crime incidents within a half-mile lowers the value of the average house by \$6,000.
- In general, the interviews called attention to other factors that are important to housing selection. While the sample size of the interviews was not large enough to draw conclusions about the entire population, that is not to say that the issues raised by the interviewees do not merit a closer look by City Staff before considering future policy interventions. These factors include:
 - o Newly-constructed housing is in high demand, although some individuals value the style, character and sense of place by the older housing stock in and near downtown.
 - o While there is clearly a presence of crime in the downtown area, a household's sense of safety is more difficult to quantify. Perception of the area as unsafe may not be the reality, as a higher crime rate would be expected in areas of higher-density development.
 - o While the hedonic price model showed being close to downtown as having a negative impact, residents of the in and near downtown neighborhoods liked being close to commercial and retail activity within these neighborhoods and downtown.
 - The model did not include measures of school quality. However, those interviewed, especially realtors, cited school quality as one of the most important concerns for clients.
 - o Residents interviewed from the in and near downtown neighborhoods place high value on personal relationships with neighbors and sense of community. At the same time, some residents said that older, long-time residents and newer, younger residents were not interacting much. Also, while some valued racial diversity, others blamed increasing racial diversity for problems in these neighborhoods.
 - o The main complaint of residents of the in and near downtown neighborhoods was the lack of a sense of civic responsibility among residents.

EVALUATION OF EXISTING CITY HOUSING PROGRAMS

As shown in the Consumer Preferences and Housing Choice section, housing condition has a significant impact on a household's willingness to pay. Area A contains the highest percentage of below-average condition housing in Dubuque. The City of Dubuque offers several programs aimed at improving the condition of existing housing. The rationale for these programs is that once the City invests in certain properties or gives property owners an incentive to invest in their own properties, spillover effects will occur. One spillover effect is that other property owners in the neighborhood will be motivated to improve their own properties. The other spillover effect is that properties nearby those that have received City investment will experience an increase in property value. The following analysis explains the City's existing housing programs, seeks to identify whether the rehabilitation programs meet the existing need for improving the condition of housing in Area A, whether there are deficiencies or issues with the programs, and at what point in City investment should spillover to neighboring property values occur.

Overview of Existing Programs

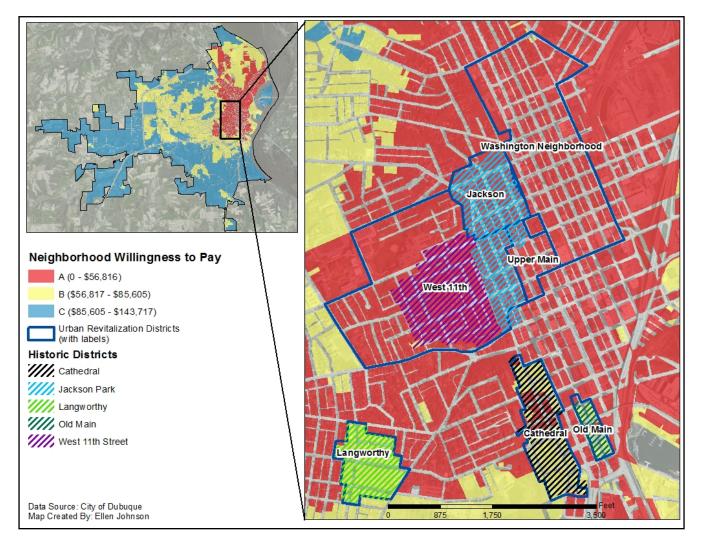
The City of Dubuque Housing and Community Development department offers the following housing rehabilitation programs for property owners:

- **Homeowner's Rehabilitation** provides long-term, low-interest loans to homeowners to rehabilitate their properties. Funds can be used for interior and exterior improvements. Properties must be owner-occupied single-family or duplex dwellings. Household income cannot exceed 80% of area median income. All properties located within the city are eligible.
- **Operation Upkeep** provides loans for homeowners to improve their home's exterior. Loans are forgiven after five years for low-income households (under 50% AMI) and loans are deferred until the homeowner moves for moderate-income households (up to 80% AMI). Properties must be owner-occupied, single-family or duplex dwellings. Up to \$5,000 may be granted. All properties located within the city may be eligible.
- Washington Neighborhood Homeowner Rehabilitation Program provides a \$5,000, five-year forgivable loan or \$10,000, 0% interest loan due on sale or with a 20-year term for the rehabilitation of homes in the Washington Neighborhood. Properties must be owneroccupied; there are no income limits.
- **Urban Revitalization Program** offers a 10-year, complete exemption from the increase in property tax liability that results from making property improvements to residential properties within a designated Urban Revitalization district. Improvements must increase the assessed value of the building by at least 10% for single-family homes and 15% for multi-family dwellings. Properties can be single-family homes, duplexes, or apartment buildings. No income limits apply.
- Historic Preservation Housing Grant is a competitive grant program for exterior rehabilitation projects in a historic district or City-designated Landmark; properties must be at least 50 years old. These projects must maintain original building materials and character-defining features. Up to a \$5,000 forgivable loan may be given, which is fully forgiven if the owner remains in the home or HUD-income eligible tenants reside at the property. Household income cannot exceed 80% AMI for owner occupants, and non-profit organizations must rent units to tenants at or below 80% AMI.
- **Historic Preservation Revolving Loan Fund** is available for properties that are at least 50 years old and located in a historic district. The loan is for exterior rehabilitation projects. Projects must meet Secretary of the Interior's Standards for Rehabilitation. Loans of up to \$25,000 may be given, at a 3% interest rate for 10 years. No income limits apply.

Overall, all programs can be utilized in at least some parts of Area A. Both the Homeowner's Rehabilitation and Operation Upkeep can be used anywhere in Area A. However, these programs can also be utilized anywhere in the City, meaning that the improvements they enable are not necessarily concentrated in Area A where housing condition is most deteriorated. The remaining four programs, the Washington Neighborhood Homeowners Rehabilitation Program, the Urban Revitalization Program, the Historic Preservation Housing Grant and the Historic Preservation

Revolving Loan Fund are location-specific. The eligible locations for these projects are shown in Figure 23, compared with the location of Area A.

Figure 23: Eligible Locations for Location-Specific Housing Rehabilitation Programs for Property Owners



The City of Dubuque Housing and Community Development department also seeks to improve the condition of housing in Dubuque through more direct means. With the following two programs, the City purchases housing, rehabilitates the housing, and resells the housing to owner-occupants.

- Bee Branch Homes for Sale: As part of a neighborhood revitalization program, the City is offering newly renovated and historically restored homes for sale near the Bee Branch Creek Restoration and Gateway Project. The Housing & Community Development department purchases, restores, and resells single-family homes to mixed-income buyers. Purchase incentives are based on a maximum income scale. The City has targeted a total of ten homes. As of April 2012, four properties had been sold and five were under renovation.
- **Historic Washington Neighborhood Row Houses for Sale**: The Housing & Community Development department is selling completely renovated and historically restored single-

family townhomes to moderate-income buyers in the Washington Neighborhood. The program also offers 10-year property tax abatement. The townhomes include six units along Washington Street.

Usage of Existing Programs

Housing Rehabilitation Programs for Property Owners

The City of Dubuque invested \$8,338,538 and assisted property owners in the rehabilitation 260 properties over the four-year period from FY 2008 to FY 2011. Table 10 shows the number of properties served and the amount of dollars spent by the City for each of the City's housing rehabilitation programs. By far, the Urban Revitalization program was used most, both in terms of number of properties (126) and City investment (\$6,666,080), compared to the other programs. The average tax exemption enabled by the City through this program was \$52,905.40. These properties were located in one of the City's seven Urban Revitalization districts, as shown in Figure 23. Urban Revitalization districts are located within Dubuque's older neighborhoods and were established by the City of Dubuque under Chapter 404 of the Code of Iowa, which allows for the property tax exemption for new improvements offered by this program. 16 The program that assisted the next highest number of properties was the Homeowner's Rehabilitation program (58 properties). On average, the city contributed \$17,039.41 per property. This average City contribution is nearly equal to that of the 30 properties served through the Washington Neighborhood Rehabilitation Program. The average City contribution per property for both Operation Upkeep and the Historic Preservation Housing Grant was much lower than the City's other housing rehabilitation programs, because these loans are capped at \$5,000. However, Operation Upkeep assisted 36 properties over the four-year period, while the Historic Preservation Housing Grant assisted just 6 properties. The Historic Preservation Revolving Loan Fund also helped very few properties over this period (4), although the average city contribution per property was much higher (\$34,622).

Table 10: Housing Rehabilitation Programs - Properties Served and Dollars Spent by City, FY2008-2011

Table 10. Housing Kenabintation Frograms - Frogerices Served and Donars Spent by City, 172000 2011						
Fiscal Year	Homeowner's Rehabilitation Program	Operation Upkeep	Washington Neighborhood Rehabilitation Program	Urban Revitalization Program	Historic Preservation Housing Grant	Historic Preservation Revolving Loan Fund
2008-2009	12 properties; \$222,700	6 properties; \$24,000	3 properties; \$78,369	16 properties; \$1,252,800	1 property; \$5,000	-
2009-2010	21 properties; \$261,144	15 properties; \$15,490	12 properties; \$141,340	29 properties; \$1,033,230	2 properties; \$8,400	1 property; \$25,000
2010-2011	17 properties; \$326,000	5 properties; \$15,490	3 properties; \$63,927	23 properties; \$1,575,550	3 properties; \$13,705	3 properties; \$28,866

¹⁶ City of Dubuque.(2013). *Urban Revitalization Program*. Retrieved May 12, 2013, from City of Dubuque: www.cityofdubuque.org/index.aspx?NID=828

2011-2012	8 properties; \$178,445	10 properties; \$14,582	12 properties; \$250,000	58 properties; \$2,804,500	-	-
Total	58 properties; \$988,289	36 properties; \$69,562	30 properties; \$533,636	126 properties; \$6,666,080	6 properties; \$27,105	4 properties; \$53,866
Average Assistance	\$17,039.47	\$1,932.28	\$17,787.87	\$52,905.40	\$4,517.50	\$34,622

Source: City of Dubuque Housing & Community Development Dept.

Housing Rehabilitation Projects by the City

The City of Dubuque's most recent efforts to purchase deteriorated housing, rehabilitate the housing, and resell the housing to owner occupants have been concentrated in the Bee Branch area and the Washington Neighborhood, as described previously. The City has renovated, or is in the process of renovating, 16 homes under these programs. City of Dubuque staff has indicated that moving forward their purchase/rehab/resale activities will be concentrated in the Washington Neighborhood.

Analysis of Housing Rehabilitation Programs

Housing Rehabilitation Programs for Property Owners

The following analysis addresses the impact of the City's six housing rehabilitation programs for property owners on the condition of housing in Area A, and will identify issues with the spatial distribution of these programs and property owner's income eligibility requirements.

As was shown earlier in this report, housing condition is, in general, worse in Area A than in the rest of the city. Housing rated as having "below average" as identified by the Dubuque County Assessor is concentrated in Area A. In 2012, 41% of residential structures in Area A (2,316 out of 5,655 total residential structures) have a condition rating of below average. Of Dubuque's total number of residential buildings with a below average condition rating, 68% located in Area A.¹⁷

In order to analyze whether the City's six housing rehabilitation programs are having a significant impact on the condition of Area A's housing stock, a variety of assumptions must be made due to the lack of property-specific data: 1) That the properties assisted through the City's housing rehabilitation programs were in below average condition prior to work enabled by City funds. 2) That the properties moved to at least average condition after work was completed. This may not be the case, however, since the City's programs do not have requirements regarding the condition of housing that is eligible for assistance. Some properties that were assisted may have already been rated average or above average by the County Assessor. It is also possible that some properties have remained in below average condition even after City-funded rehabilitation because the amount of funding from City programs may only have enabled owners to make small repairs. 3) That properties assisted through the City's housing rehabilitation programs were all located in Area

¹⁷ Dubuque County Assessor, 2012

A. Many of the programs can be utilized anywhere in the City and no data was available regarding the location of all of the properties assisted through the City's programs.

Based on these assumptions, in the best case scenario, a total of 260 properties in Area A improved in condition through City assistance. If these 260 properties were included in the count of belowaverage condition housing prior to 2012, then a total of 2,576 out of the 5,655 total residential structures in Area A were rated with below average condition. If we assume that no other residential structures were improved in Area A, then prior to 2012, 45% of residential structures in Area A were rated below average condition. Thus, City programs, in the best case scenario, improved the condition of 4% of residential structures in Area A from FY2008 to FY2012, bringing the percentage of residential structures having a below average condition rating to 41%, as reported above. While this estimate is based on numerous assumptions and is thus likely high, in the best case scenario City programs only enabled the improvement of a small fraction of housing in below average condition in Area A.

The City program that offers the largest amount of assistance per property is the Urban Revitalization Program. Properties eligible for this program must be located in an Urban Revitalization District. As shown in Figure 23, three of these districts, albeit the smallest of the seven, constitute areas that predominately fall within Area B of our study, where a lower percentage of residential structures have a below average condition rating. This is not to say that housing in these areas is not in need of improvement. However the fact remains that need for improving housing condition is greatest in Area A, and Urban Revitalization Districts cover less than half of Area A.

A similar problem exists with the Washington Neighborhood Homeowners' Rehabilitation Program. The program is flexible in terms of how funds can be used, and the average loan amount is substantial, over \$17,000 on average between FY 2008-2011. However, funds can be used only in the Washington Neighborhood, which constitutes a small fraction of the residential structures in Area A. While the idea of this program is to offer incentives in order to improve the Washington Neighborhood, the fact that similar programs for other parts of Area A, besides Urban Revitalization areas and historic districts, do not exist is problematic in terms of incentives for improvement of the entire area.

Another issue with both the Urban Revitalization program and Washington Neighborhood Homeowners' Rehabilitation Program is that, unlike other housing rehabilitation programs for property owners, no income limits apply for property owners to be eligible for funds. Thus, funding may be given to property owners that are financially able to fund repairs on their own, which may result in funding not being available for property owners who cannot afford to pay for repairs without City assistance.

Finally, the housing rehabilitation programs offered by the City of Dubuque are generally geared towards owner-occupied properties. While the Urban Revitalization Program and both Historic Preservation programs provide assistance to all residential property owners, the rest of the programs require properties be owner-occupied. None of the programs are reserved specifically for rental properties. This is problematic because almost half (47%) of the approximately 10,167

occupied housing units in Area A are renter-occupied¹⁸. As previously stated, 41% of residential structures in Area A (2,316) are in below-average condition. While we do not have data on the percentage of these below-average condition structures that contain rental units, based on the percentage of housing units in Area A that are rentals, it can be estimated that nearly half of the residential structures in Area A that have below-average condition contain rental units. The City lacks programs specifically aimed at improving the condition of rental units, although the need is great for such programs in Area A.

Housing Rehabilitation Programs by the City

The City's two programs aimed at purchasing, rehabilitating, and reselling houses have resulted in the renovation of 16 homes. It is impossible for the City to renovate and resell all deteriorated homes in Area A due to the significant expense of these projects. However, program requirements can be changed to increase the impact of the program.

Currently, houses are sold to income-qualified homebuyers. If the market price for the house increases over the period of time the owner lives in it, the owner can resell the property at the increased market price. This eliminates an affordable housing unit from the market, and potentially provides a significant financial gain to the individual seller thanks to the City's investment. To prevent this from happening and to maintain a stock of affordable housing, deed restrictions could be added to limit the amount of profit a seller can make on the house, and to require the property be resold to income-qualified buyers.

Spillover Effects of Housing Rehabilitation Programs

In order to further assess the impact that the City's housing rehabilitation programs may have on the neighborhoods in which assisted properties or City projects are located, the following analysis looks into the potential for spillover effects on nearby properties that occur due to City investment.

Academic literature generally uses increase in sales price as an indicator of the positive effects of rehabilitation projects. The magnitude of the increase and geographic reach of the investments in housing tends to depend on the scale and concentration of investment, although it is important to recognize that the following studies are context dependent. A study done in Cleveland, Ohio concluded that the effect of residential rehabilitation projects on nearby properties extended only to 150 feet away. Nearby house prices rose by roughly 13 cents per dollar when located within 150 feet of a rehabilitation project. This means with an average investment amount of \$31,000 (multiplied by .127) a house would be expected to sell for almost \$4,000 more when located within 150 feet of the rehabilitation project. However, beyond 150 feet, the effect of a rehabilitation project on nearby properties is negligible.

¹⁸Note: The number of total occupied units in Area A is an estimate based on block group data from the 2010 American Community Survey 3-year estimates. It was estimated that all or a portion of a total of 25 block groups are located within Area A. Thus this estimate is likely high due to the fact that it includes data from entire block groups, although for some block groups, only about half of parcels are located within Area A.

The Cleveland study also found that the magnitude of the effect on the sale price of nearby properties was determined by the amount of investment made in properties within 150 feet. The greatest increases in neighboring house price came from large-scale investments (greater than \$32,500), while no impact on nearby property values was seen from small-scale investments (less than \$15,000). Mid-range investments (\$15,000 to \$32,500) increased house sales prices in some neighborhoods, but this depended on other neighborhood characteristics.¹⁹

Based on the results of these studies, some of the City of Dubuque's housing rehabilitation programs offered to property owners and projects done by the City may have some spillover effects on the value of neighboring properties, while others may not. Based on the average amount of assistance granted by the City to property owners, improvements made possible through the Urban Revitalization program (average City contribution of \$52,905.40 per property), the Historic Preservation Revolving Loan Fund (average City contribution of \$34,622), and the City's purchase/rehabilitate/resell projects may have a positive impact on the value of properties within 150 feet, since these investments are greater than \$32,500. However, programs that make smallerscale investments in properties, Operation Upkeep (average City contribution of \$1,932.47 per property) and the Historic Preservation Housing Grant (average City contribution of \$4,517.50 per property), are unlikely to increase nearby property values. The Homeowner's Rehabilitation Program and the Washington Neighborhood Rehabilitation Program both constitute middle-scale investments (around \$17,000 per property) according to the study, and thus may potentially cause a positive increase in nearby property values.

It is important to remember that property owners who receive assistance through one of the City's programs may also contribute some of their own funds to the project. Thus some of the programs which allocate smaller amounts of funding may enable property owners to make large investments that are substantial enough to cause spillover effects on neighboring properties.

The Cleveland study concluded that the positive effect of residential investment can be maximized if the investment sites are selected to be 150 feet apart from each other, and thus recommended policy encouraging investments that are concentrated and large enough to observe the effect while discouraging small spatially diverse investment. 20 The City of Dubuque's purchase/rehabilitate/resell activities have been concentrated to certain areas, and future investment in this way should, as well. That is not to say that the City should restrict the usage of its programs to properties within 150 feet of each other, as this may undermine the overall goal of rehabilitation in the area. In addition, the study does not take into account that even improvements made through small-scale investments, may cause others in the neighborhood to improve their properties. Even simple property maintenance can improve the look and atmosphere of the neighborhood even though actual property values may not increase.

¹⁹ Baku, E. Ding, C. Simons, R. (2000). The Effect of Residential Investment on Nearby Property Values: Evidence from Cleveland, Ohio. Journal of Real Estate Research, Vol. 19. Retrieved April 16, 2013 from http://www.rasimons.com/documents/articles/the- $\frac{\text{effect-of-residential\%20} investment-on-nearby.pdf}{^{20}} \text{lbid}.$

Key Findings

- The City of Dubuque has invested over \$8.3 million into 260 properties since 2008. However, the impact that these programs have had on overall housing condition in Area A is very small. At the most, 4% of structures in Area A were assisted through these programs.
- The Urban Revitalization program, the most well-funded and highly-utilized housing program, is not eligible for use in a majority of Area A, where need is greatest.
- Income limits do not exist for some programs, which may cause property owners who do not need assistance to receive assistance over property owners who do.
- None of the rehabilitation programs specifically target rental properties, and most are not available for rental properties, although almost 50% of the housing units in Area A are rentals.
- Housing renovated by the City and purchased by income-eligible homebuyers can be re-sold to new owners at market rate, resulting in a windfall for the original buyer and a loss of affordable housing created by the City.
- Larger investments made by the city (over \$32,000 per property) may cause the value of properties nearby (within 150 feet) to increase, thus increase home value in the neighborhood. Large-scale investments made by the City should be spread out within this range to take advantage of this.

OVERALL CONCLUSIONS AND RECOMMENDATIONS

The demographic section showed that between 2000 and 2010, the city of Dubuque lost population while surrounding towns saw significant population growth. In addition, while the percentage of Dubuque County family households increased, the percentage of family households in the city of Dubuque declined by 3% from 2000 to 2010. This suggests that households, particularly family households, are choosing to live outside of the city of Dubuque. Also, vacancy rates across the city of Dubuque vary considerably, which suggests that within the city of Dubuque there is a higher demand for certain neighborhoods. The affordability analysis found that, although there are both cost-burdened renters and homeowners in Dubuque, the levels are consistent with Dubuque County and the rest of the state. In addition, when comparing household's ability to pay for housing with the home values and rents asked in the city of Dubuque, generally housing is affordable to most income ranges.

These findings suggest that there is a willingness to pay issue in Dubuque. The results from the hedonic regression analysis, supported by interviews, identified that certain factors influence a household's willingness to pay. The model found that above-average housing condition, newer housing, proximity to parks and open space, proximity to the Mississippi river and other bodies of water and location within a historic district have a significant, positive impact on house price. On the other hand, below-average housing condition, older housing structures, and crime have a significant, negative impact on housing sale price, and are therefore undesirable characteristics.

Combining all of these factors, the portion of the city of Dubuque that households have the lowest willingness to pay for was identified. The area, called Area A, consists of neighborhoods located in and around downtown Dubuque. Area A is the oldest residential area of the city. It is also where

crime incidents and below-average housing condition are most prevalent. In order to fulfill the Dubuque City Council's goal of creating a choice of livable neighborhoods and opportunities for residents' children to want to stay or return to Dubuque, it is important to improve the desirability of Area A.

As mentioned above, Area A has many characteristics that are unattractive to potential residents. There is a lack of newer housing in the area. Housing units built in 1939 or before account for more than 30% of the city's total housing units, with the vast majority located in Area A. In addition, 68% of the city's housing that is considered in below-average condition is located in Area A. This area is also where crime incidents are the highest in the city.

In addition, the city of Dubuque contains 88% of the county's multi-family housing. This, combined with the lack of land zoned for multi-family uses in neighboring towns, could mean that demand for multi-family housing must be met within the city of Dubuque. Area A already has a greater proportion of high-density development and rental properties than the rest of the city, and a higher concentration of units available to Housing Choice Voucher holders.

However, Area A also has many characteristic that are attractive for potential development. Area A consists of neighborhoods located in and around downtown, which means it is in close proximity to job opportunities, shopping and entertainment options. It also follows a traditional neighborhood design, which includes gridiron pattern streets, sidewalks on both sides of the street, and housing close to the street, which promote social interaction. The area is also accessible for walking, biking and has good access to public transportation.

Based on this study's findings, the goals of the Dubuque City Council and conversations with City Staff, the overall vision for Area A is as follows:

Area A is home to a diverse, yet integrated population with a variety of decent rental and ownership housing options that are attractive to young professionals, families and older adults with a range of incomes.

The following recommendations will help to reach this vision and improve the desirability of Area A for residential uses to attract and retain households:

Recommendations

- 1. The City of Dubuque should revise its existing programs aimed at improving the condition of housing in various ways to make these programs more effective.
 - a. The City should continue its purchase/rehabilitation/resale activities and expand these activities throughout Area A. However, projects should be concentrated in order to allow spillover effects to nearby properties, as discussed in the Evaluation of Existing City Housing Programs section. (See Appendix 3 for further discussion on spillover effects).
 - b. The City should consider establishing a housing rehabilitation program specifically geared towards improving the condition of rental properties. Currently, there are no City housing programs specifically geared towards rental properties, besides a program to provide assistance for property owners to install handicapped-accessibility measures in

- rental structures. While rental properties are eligible for some existing City programs, they are ineligible for most. Because almost half of the housing units in Area A are rentals, funding set aside for rental housing rehabilitation is imperative to improve the overall housing condition in Area A.
- c. The City should establish a program similar to the Urban Revitalization program in Area A, which would allow all housing in Area A to be eligible to receive property tax abatement for improvements of residential structures. The Urban Revitalization program is the highest-funded and most widely-utilized City housing program dedicated to improving the condition of housing, yet only a small proportion of housing in Area A is eligible for use of the program, while areas outside of Area A are eligible. A program similar to the Urban Revitalization program specifically targeted to Area A will give more property owners in Area A the opportunity to invest in their properties.
- d. In order to fund the programs recommended above, the City should explore the possibility of creating a new source of funding for the Dubuque Housing Trust Fund. Currently, the Dubuque Housing Trust Fund (DHTF) receives all of its funding through the Iowa Finance Authority. However, other dedicated sources of revenue could be explored. One option is an increase in recording fees on deeds and mortgages, with new revenue dedicated to the DHTF. Other options include a one-cent increase in the property tax levy rate or monetary contributions as part of an inclusionary zoning ordinance.
- e. For the City's purchase/rehabilitation/resale activities, requirements for the continued affordability of the housing should be added to the property deed. This will ensure that properties the City invests in and sells to income-qualified households will continue to be re-sold at affordable prices to other income-qualified households. Such requirements in the deed could specify the amount of profit a seller can make from the property, and specify the income limits of qualifying homebuyers. Currently, the City sells the properties it rehabilitates to households at or below 80% AMI. The same requirements should be applied to future buyers.

2. The City should strengthen its property maintenance requirements for rental housing.

Area A has a concentration of aging housing stock and properties that are rated below-average by the Dubuque County Assessor, as well as a concentration of rental properties. One strategy to encourage landlords to maintain their housing units is to perform rental inspections more often to ensure that properties are in compliance with the Housing Code. The City of Dubuque assesses property every seven years. This is the longest time period between rental inspections of any other large city in Iowa.

The City of Dubuque should also examine the Housing Code to see if there are opportunities to increase the authority of the City to enforce the Housing Code. For example, some cities have created Administrative Oversight Boards, who have the ability to issue fines or revoke rental permits. This would change the City's enforcement strategy from passive (performing inspections every seven years and in response to complaints) to active.

3. The City should seek opportunities for infill residential development in Area A.

Vacant parcels within the Dubuque city limits represent opportunities for infill development. There are currently 511 vacant parcels currently within the Dubuque city limits. Figure 24 shows the location of vacant parcels within the city of Dubuque. The majority of vacant parcels are located east of Central Avenue on the city's east and northeast sides. These parcels were identified by the City of Dubuque as parcels that can potentially be developed.²¹ These are parcels that are not used agriculturally and where there are currently no dwellings, although some may contain an accessory structure. Some vacant parcels are used for parking, while others have been left completely vacant.

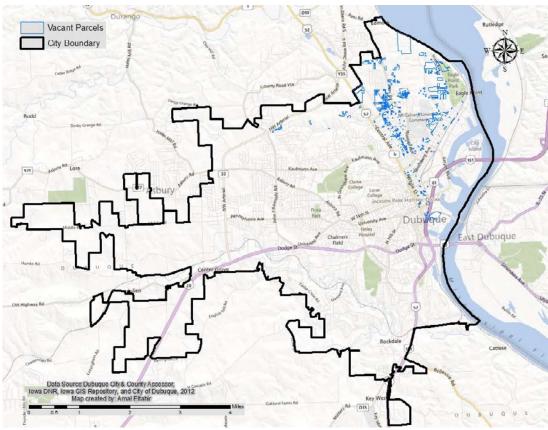


Figure 24: Vacant Parcels in Dubuque

Figure 25 illustrates the location of vacant parcels overlaid on the neighborhood land values map produced from the hedonic price regression. Of these parcels, 259, or 50.7%, are located within Area A.

²¹ David Johnson, personal communication, City of Dubuque, 3/20/13.

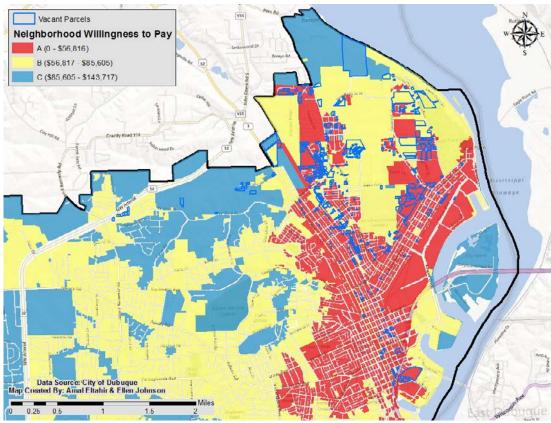


Figure 25: Vacant Parcels and Neighborhood Willingness to Pay

To inform possibilities for development and redevelopment in Area A, it is important to understand the intended land use of these vacant parcels. While the current land use of vacant parcels is by definition vacant, most vacant parcels have a zoning designation that indicates intended land use if the parcel were developed. Table 11 shows the distribution of current zoning designations for the 259 vacant parcels within Area A.

Table 11: Zoning & Intended Land Use of Vacant Parcels in Area A

Intended Land Use	Zoning	# of Vacant Parcels	% Of Vacant Parcels
Single-Family Residential	R-1	49	18.9%
Single & Two-Family Residential	R-2, R-2A	144	55.6%
Multi-Family Residential	R-3, R-4	9	3.5%
Planned Residential	PR	2	0.8%
Industrial	LI, HI	20	7.7%
Commercial/Office	C-1, C-2, C-4, PC, OR	35	13.5%
TOTAL		259	100%

Source: City of Dubuque

A vast majority of vacant parcels in Area A (78.8%) are zoned for residential uses. Most (55.6%) are zoned for single and two-family residential use, which is a reflection of the residential area in which many of the vacant parcels are located. Another 18.9% are zoned for single-family residential use, while a total of 3.5% of vacant parcels are zoned for multi-family housing developments. The intended residential use of a majority of the vacant parcels in Area A offers many opportunities for residential infill development within the established neighborhoods of Area A.

4. Public-private partnerships aimed at developing vacant parcels should be explored.

The majority of vacant parcels that the City has identified as ready for development are located within Area A, mostly east of Central Avenue and north of downtown. Most of the vacant parcels in Area A are zoned for residential uses. However, results from the regression analysis indicate that new residential development in this area may not be desirable for those seeking housing. For this reason, the City should explore public-private partnerships to facilitate and incentivize development of these parcels. Possible partners include local universities and colleges, businesses located in or near downtown, and non-profit developers or organizations.

Colleges and universities in Dubuque have a long-term interest in the revitalization of Area A, located in the backyard of these institutions. A revitalized Area A could help attract future students and faculty and improve their quality of life while in Dubuque. Partnerships between these institutions and the City of Dubuque could entail financial contributions for the development of new housing, locating new off-campus student housing in Area A (these institutions have purchased housing off-campus in the past for the purpose of renting to students), or offering faculty and staff financial incentives for purchasing a home in Area A.²²

Development of workforce housing could also be an option for Area A. In response to a housing shortage in the late 1940s, John Deere Dubuque works constructed 111 brick houses between Chaney Road and Carter Road.²³ In addition, IBM had an interest in workforce housing as part of the deal to establish an office in Dubuque. These firms are two of the largest employers in the city and located not far from the concentration of vacant parcels in Area A. These and other private firms could help incentivize new housing development, which could be done in conjunction with a livenear-your-work (LNYW) program. A LNYW program could involve these and other downtown businesses, the City, and higher education institutions, and could offer financial assistance to employees who purchase homes in Area A. The goals of the LNYW program would be to stabilize targeted neighborhoods by promoting homeownership and have the added benefit of reducing employee commuting time.

²² Clark University offers faculty and staff a \$5,000 interest-free loans plus an annual raise to purchase a house and live in surrounding neighborhoods (Coglan, Ian. (2011). "Case Studies in University Led Neighborhood Revitalization." Development Concepts, Inc. June 30, 2011, Retrieved from Development Concepts, Inc.: http://www.developmentconcepts.com/blog/2010/06/case-studies-in-university-led-neighborhood-revitalization/); the UniverCity program, a partnership between the City of Iowa City and the University of Iowa, offers income-qualified University employees and others working near the University the option to purchase homes renovated by the City at affordable prices. (http://www.icgov.org/?id=1995)

²³ Lyon, Randolph W. "John Deere Dubuque Works." Encyclopedia Dubuque. http://www.encyclopediadubuque.org/index.php?title=JOHN DEERE DUBUQUE WORKS accessed April 24, 2013.

While research generally supports policies working towards the de-concentration of low-income residents, research (see literature review in Appendix 3) also shows the positive effect—in terms of increased sales prices—for properties located nearby new construction projects, even if the new construction contains affordable units. And given the low willingness to pay for housing in Area A, as indicated by the regression analysis, affordable or workforce housing may be a viable option to pursue.

5. The City should consider establishing a new zoning district that conforms to the smaller lot sizes permitted in the existing District R-2A, yet permits only single-family structures to ensure that redevelopment of existing structures and new infill development does not contribute to an increase in housing density.

Figure 26 overlays the neighborhood land value map produced by the hedonic price regression in the on top of the Dubuque's residential zoning districts. All land zoned R-2A Alternate Two-Family, which is meant to preserve Dubuque's older neighborhoods, falls within Area A, as does much of the city's land zoned R2.

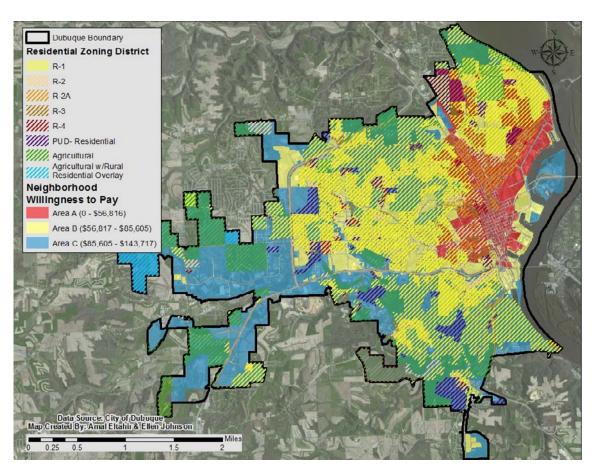


Figure 26: Residential Zoning Districts and Neighborhood Value in Dubuque

City of Dubuque planning staff has mentioned that interest in downzoning parcels currently zoned R-2A was expressed in the past. The City should consider doing so to reduce density in Area A in the future. Existing non-conforming uses, including two-family dwellings, would be grandfathered in. The new R-1A district could combine the permitted uses in the existing R-1 district with the bulk regulations of the R-2A district. This would mean that the only type of permitted residential use would be single-family, detached dwellings. However, the bulk regulations of the R-2A district would be retained for the new district, as this district was established to "stabilize and preserve the residential character of existing areas."24

The bulk regulations for the R-2A district require smaller lot sizes than the R-1 and R-2 districts, setbacks closer to the public right-of-way and neighboring parcels, and greater lot coverage of the dwelling. These regulations have been determined as appropriate for the R-2A zoned land, most of which is located within Area A of this study. Therefore, it is appropriate to retain these regulations for the new R-1A zoning district (see Table 12).

Table 12: Bulk Regulations for the R-1A district – Single family detached dwelling

Lot Area	Min. lot frontage	Max. lot coverage	Min. front setback	Max. front setback	Min. side setback	Min. rear setback	Max. height
2,500 sq. ft.	25 ft.	50%	10 ft.	50 ft.	3 ft.	10 ft.	30 t.

6. When reducing housing density in Area A, look for ways to provide affordable rental and ownership housing in other areas of the city. This could be achieved through inclusionary zoning and density bonuses.

Area A has a higher density of rental properties compared to the rest of Dubuque. It also contains census tracts with the lowest median gross rents in the city. From a homeownership perspective, Area A also has the lowest median house values in Dubuque. So as the City looks to reduce the density in Area A, by converting multi-family units to single-family units and rehabilitating singlefamily residences, it will be important to look for opportunities to provide affordable rental and ownership housing in other areas of the city.

To do this, the City could enact an Inclusionary Zoning Ordinance. This would require a portion of all new housing developments, above a certain size, to be offered at prices affordable to low and moderate-income renters and homebuyers. Generally, Inclusionary Zoning Ordinances are coupled with Density Bonuses. Density Bonuses allow developers who agree to build affordable units to build a greater number of market rate units than the zoning allows. One example is Montgomery County, Maryland's Moderate Priced Dwelling Unit (MDPU) Ordinance. The ordinance requires new

²⁴ City of Dubuque. (2009). *Unified Development Code, Section 2, Article 3.* Dubuque: City of Dubuque.

housing developments of more than 20 units to offer 12.5% to 15% of the new units to moderate to low-income households. In exchange, developers are granted a 22% density bonus.

The Inclusionary Zoning Ordinance can also focus on providing certain types of housing, like senior housing. Our findings showed that 58% of senior households in Dubuque are cost-burdened. The Inclusionary Zoning Ordinance could be used to provide incentives for developers in the area to build affordable, senior rental and ownership housing.

The Inclusionary Zoning Ordinance should be mandatory to ensure that affordable units are constructed. However, the ordinance can include mechanisms to bypass the requirement. For example, developers can avoid this requirement if they make a monetary contribution, defined in the ordinance, to the Dubuque Housing Trust Fund.

7. Encourage the addition of strategically-placed open space in Area A.

The Bee Branch Creek Restoration project is an important step in creating more access to open space in Area A. The hedonic price regression analysis indicated that access to open green space is a significant neighborhood amenity. Going forward, the City should continue to look for ways to add open space in Area A. This could be done by identifying currently vacant parcels that could be turned into park space. Vacant parcels that should be considered are those located towards the interior of Area A, where open space is most lacking. Because most individual parcels are too small for creation of a park, multiple, contiguous parcels should be bundled to create a park.

APPENDICES

Appendix 1: Senior Housing Facilities

Non-subsidized Independent Senior Living Facilities – Dubuque County

Facility	City	Beds/Units	Vacancy Rate*
Oak Park Place	Dubuque	51 units	2%
Henry Stout Senior Apartments	Dubuque	33 units	0%
Applewood Senior Apartments III	Dubuque	43 units	0%
Sunset Park Place	Dubuque	7 units (townhomes)	0%
The Woodlands	Dubuque	42 units	0%
Mt. Pleasant Home	Dubuque	40 units	0%
Dubuque Retirement Community	Dubuque	185 units	38%
Bethany Home	Dubuque	52 units	4%
Village Cooperative of Asbury	Asbury	50 units	2%
River Bend Retirement Community	Cascade	31 units	23%
The Residences	Asbury	12 units (townhomes)	8%
Ellen Kennedy Living Center	Dyersville	26 units (condos)	8%
Heritage Manor	Dubuque	17 units	-
Total		589 units	

^{*}Vacancy rate as of November 2012

Nursing Home Facilities – Dubuque County

Facility	City	Number of Beds	Vacancy Rate*
Bethany Home	Dubuque	66	0%
Stonehill Care Center	Dubuque	177	
Ennoble Skilled Nursing & Rehab Center	Dubuque	83	8%
Dubuque Nursing & Rehab Center	Dubuque	85	10%
Luther Manor	Dubuque	106	1%
Heritage Manor	Dubuque	80	-
Sunnycrest Manor	Dubuque	77	0%
Total		674 beds	

^{*}Vacancy rate as of November 2012

Assisted Living Facilities – Dubuque County

Facility	City	Units	Vacancy Rate*
Oak Park Place	Dubuque	47	2%
Sunset Park Place	Dubuque	55	0%
Seventh Heaven	Dubuque	3 (group home)	0%
Luther Manor	Dubuque	30	13%
Ellen Kennedy Living Center	Dyersville	32	13%
Total		167 units	

^{*}Vacancy rate as of November 2012

Appendix 2: Hedonic Regression

Figure 1: Variables included in the Hedonic Regression

Indonesia Vedeble	later de d'Messerre	C-4!		Does it Matter to
Independent Variable	Intended Measure	Coding	Tolerence	Homeowners
	S	tructural Attributes		
	Preference for new development vs			
Building Age	old ones	Age in 2012		Yes
Number of Bedrooms	Prefrence for a house Size	Count		Yes
Garage Count	Preference for new or suburban	Count		Yes
		Assessor Rating(Average, below		
Building Condition	Does the condition matter	average, above average)		Yes
Living Area	Does Size matter	Area in square feet		Yes
	Nei	ghborhood Attributes		
			Within 5 minutes walk	
			(quarter mile) of a transit	
Transit	Access to transit	1= property has access to transit	stop	No
	Access to employment, services, and			
Downtown	amenities of downtown	Distance in miles from downtown		No
	Convenience to grocery shopping			
Grocery	(whether/not in a food desert)	1= within 0.68 miles	0.68 miles	No
	Value of historic preservation, Histoic			
	Value, cultural and significant	1= property is within a historic	Completely contained by the	
Historic District	architectural style	district	district	Yes
	Value Public services associated with	1=property is within the city of	Completely contained by the	
Dubuque City	Dubuque city	Dubuque	district	Yes
Asbury	Value of services associated with	1=property is within the city of	Completely contained by the	No
	Value of Public services associated	1=property is within the city of	Completely contained by the	
Peosta	with Peosta city	Peosta	district	Yes
	Value of Accessibilty & low traffic	1= property is adjacent to the	Adjacent to (50 feet	
Proximity to a Major Road	neighborhood living	road	tolerance)	No
Sex Offender Residence 10th of	Crime risk aversion, property value	1= offender is within 0.1 mile/0.25		
a mile	depreciation, prestige, social capital	mile		No
	Enviror	mental quality Attributes		
		1= property is adjacent to or part		
Proximity to OpenSpace	Amenity of open space	of open space	20 feet tolerance	Yes
proximity to the river	Amenities associate with the river	Distance in miles from the river		Yes
Proximity to an Air Emission	Value of Air quality	1= within 1 mile from air emission		No
Proximity to a waste treatment	Value of the Unpleasant odors, views,			
facility	and traffic	1= within 1 mile from the facility		No
Being in the Floodplain	value of Flood Risk aversion	1= property is within 100-year	At least part of the parcel in	No
Whether the property is		·	Property is copmletely	
protected by the Levee	value of the levee protection	1= protected by the levee	contained by the levee	No
Elevation	Value of elevation	Measure in feet	·	No

	S Number of o		
Model 4.8584e+13	38 1.2785e+12 F	Prob > F = 0.0000	
Residual 1.6022e+142			
-		R-squared = 0.2313	
Total 2.0881e+14 214	158 9.7310e+09	Root MSE = 86488	
Price	Coef.	P> t	[95% Conf. Interval]
A	200 5004		* 256 2440 462 0542
Age	-209.6981		*-256.3449 -163.0513
Living Area	50.1651		47.64664 52.68355
Above Normal	16292.46		13186.9 19398.02
Below Normal	-18327.3		*-22368.97 -14285.63
Garage	4952.662		2487.245 7418.079
Bedrooms	2334.648		58.6517 3710.644 * 17662 07 12868 87
Sale Year Dummy	-15265.97		*-17663.07 -12868.87
Distanceto the river	-8894.727		*-15491.38 -2298.07
Historic District	16627.75		6743.573 26511.92
Dubuque	14229.74		7560.054 20899.42
Asbury	-8542.195		-16074.59 -1009.797
Peosta	5401.213		-3614.218 14416.64
Open Space Dummy	10804.3		7424.402 14184.2
Elevation	0.0732969		0115087 .1581025
Floodplain	21865.43		14324.02 29406.84
Levee protected	-33378.04		*-46923.19 -19832.9
Major Road Dummy	-7068.218		-15984.4 1847.961
Transit Dummy	-7745.871		*-11797.57 -3694.169
Sexoffender	-596.6104		-5197.393 4004.172
Air Emission	-1475.579		-6979.187 4028.028
Grocery	-183.6526		-3900.857 3533.552
Distanceto Downtown	-1240.318		-1844.013 -636.6244
Carver	17332.15		9194.209 25470.09
Irving	-2166.501		-10013.63 5680.631
Hoover	4775.418		-3806.371 13357.21
Bryant	1624.485		-8005.592 11254.56
Audobon	-13456.64		*-21136.01 -5777.266
Kennedy	1731.187		-6276.362 9738.736
Fulton	-22411.49		*-30755.08 -14067.9
Eisenhower	-2183.284		-10346.12 5979.551 * 18647.35 3734.011
Lincoln	-10691.13		*-18647.35 -2734.911
Sageville	-1024.622		-14940.7 12891.46
TableMound	-9207.128		*-17550.09 -864.1615
Marshal	-38092.93		*-47156.26 -29029.6
Crime Half mile	-5.974126		*-7.517721 -4.430532
Municipal Waste Water	12669.94		2464.844 22875.04
Landfill Dummy	9011.804		-3934.54 21958.15
Constant	80199.5	0	66417.38 93981.62

Replicating the Hedonic Regression Model

To describe housing location preferences in the Dubuque housing market we used revealed preference approach, hedonic price model. It is an econometrics method widely used for nonmarket valuation. By means of regression and hypotheses testing, the model produces an estimated function that shows contributions of the individual housing characteristics to the total sale price and it represents the estimated effect those characteristics have on house price.

According to theory, the price of a house is a function of its structural characteristics (i.e. number of bedrooms, living area, and age), neighborhood characteristics (i.e. the school quality, crime rate), and environmental characteristics (i.e. proximity to open space). We regressed housing sale prices on many housing attributes to estimate the marginal value (hedonic price) of neighborhood characteristics. Our hypothesis was that housing price is positively correlated to the number and quality of neighborhood amenities associated with it. We expected property values to be reduced in areas that lack amenities and/or with environmental dis-amenities i.e. higher crime rates and lessdesirable neighborhood attributes.

The value homeowners attach to each individual housing characteristic is used to infer their preference for these characteristics and to estimate the marginal value that a household places on each attribute. By looking at the magnitude of the willingness to pay, we identify the critical neighborhood characteristics. We were then able to estimate home buyer's willingness to pay for certain neighborhoods, based on these characteristics. We kept structural characteristics constant and only changed the neighborhood attributes to determine the price differentials based on neighborhood amenities.

We used GIS tools to calculate or match housing units to spatial characteristics such as: proximity to open space, 100-year flood plain, and distance to the downtown cultural district. In addition, location variable, such as: city and the school catchment area. We calculated elevation using the Three Meter Digital Elevation Model of Dubuque County Iowa Imagine 16-bit Raster. For simplicity, we extracted the elevation at the centroid of the lot. Downtown Dubuque Cultural Corridor is certified by the state historical society as cultural and entertainment district. We digitized the historical society's demarcation of the district to use as a proxy for downtown Dubuque. Air emission point location data was obtained from Iowa DNR GIS Library for facilities with operating permits for Title V of the Federal Clean Air Act or considered "major" permits. It includes emission points for a few facilities that are considered minor, but must have a Title V operating permit for part of their operation.

Incident locations (latitude/longitude of address points) for crimes committed during the 2006 to 2009 period were obtained from Northern Illinois University Center for Governmental Studies. By using the GIS spatial joining tool we were able to count the number of crimes within a half-mile buffer from the house and to count the number of sex-offenders within a 10th of a mile buffer. In addition, we measured the distance between a particular parcel and another point (i.e., a wastewater plant or landfill).

To organize, and later develop and analyze, the willingness to pay across neighborhoods, we calculated these neighborhood characteristics for all the parcels in the study area. After testing for validity and significance of the model, we used the price function produced by the model to calculate the willingness to pay for neighborhood for all parcels within the city by multiplying the coefficients by the neighborhood characteristics. Finally, we created a three-class GIS thematic map showing the distribution of willingness to pay for neighborhoods in the city of Dubuque. Areas with the highest willingness to pay are the most desirable places to buy or develop housing, and areas with lower willingness to pay are less desirable areas to buy or develop housing.

Limitations and Model Evaluation

It is important to note that we were unable to explain all of Dubuque homeowners' housing location choices due unobservable attributes that we could not account for. For example, proximity to friends and family ranks high among the reasons for choosing a neighborhood. In addition, we were unable to include all the relevant neighborhood characteristics due to data availability. For example, we were not able to include the number of bathrooms because the sales data does not include number of bathrooms. In addition, there are other external factors that might affect housing location decisions such as interest rates and taxes, which we didn't account for in our data.

The statistical software we used to run the model, STATA, uses the ordinary least squares (OLS) method as the estimator of the variables parameters. This requires OLS estimator to be unbiased and consistent²⁵ for the model to be valid. There are potential biases and threats to the validity of the model that can result from the violation of the basic assumptions, which in turn cause the OLS estimator to be biased and inconsistent. The threats are: Omitted variable26, functional form misspecification, correlation of the error term across observations, and simultaneous causality. To control for these biases in our model we took these precautionary measures: 1) we used a very large sample size (21,459 observations), which makes it tolerate higher correlations among the predictor variables.2) to control the autocorrelation we added the year of sale to the variables list. 3) We used logarithmic transformation to normalize price observations as prices showed lognormal distribution. 4) We ran the model using hetreroskedastic-robust standard errors to control for hereoskedasticty bias 5) we created a dummy variable for each elementary school catchment area showing whether or not the house falls within the catchment area. The idea is to use it as a neighborhood fixed effect instrument to minimize the bias caused by any unaccounted for variable.

Overall, after checking for all the possible violations, our model assessment showed no alarming biases or threats to its validity. That is statistical inferences and generalization can be made with

²⁵ The assumptions that satisfy this condition are: 1) the relationship between the predictor variables and the natural log of the price is linear 2) the expected value of the error term is zero 3)the errors are homoscedastic and not auto-correlated 4) there is no perfect multi-collinearity among the predictor variables. According to Gauss-Markov theorem, if these assumptions are met, the OLS method provides the best linear unbiased estimator (Howland, 2005).

²⁶ Omitted variable bias arises when an important explanatory variable not included in the model is correlated with another included one. This situation causes the OLS to be inconsistent causing the coefficient of the included variable to inflate or deflate

99% confidence level. Despite these considerable simplification and the inherent limitations, the hedonic price model is the best means to study housing quality and its impact on property values.

Appendix 3: Literature Review

The results of our regression analysis highlighted the importance of housing condition and age of housing stock to homebuyers in Dubuque. The purpose of the literature review is to get a sense of the spillover effects created by the City's housing rehabilitation programs on surrounding properties, since we were not able to measure such spillover effects in our analysis. The intent is for the literature to help guide future City investments in new housing and rehabilitation projects, loans and grants.

The academic literature generally indicates positive effects, as indicated by the increase in sale price of nearby property, from rehabilitation and new construction projects. The magnitude of the increase and geographic reach of the investments in housing tends to depend on the scale and concentration of investment. Some studies attempted to discern the tipping point at which gentrification occurs, though the results appeared to be inconsistent across studies and context dependent.

A study titled "Gentrification and Neighborhood Housing Cycles: Will America's Future Downtowns Be Rich?" by Jan K. Brueckner and Stuart S. Rosenthal concludes, somewhat intuitively, that the age of housing stock affects where high- and low-income neighborhoods are located in U.S. cities. Based on an analysis of detailed census tract data from 331 individual Metropolitan Statistical Areas, the researachers' model predicted a suburban location for wealthier households in an initial period when young dwelling units are found only in the suburbs. The model predicted eventual gentrification once central redevelopment created a young downtown housing stock. Controlling for other determinants of where lower income residents live (such as proximity to amenities and public transit), empirical work indicates that if the influence of spatial variation in dwelling ages were eliminated, central city and suburban disparities in neighborhood economic status would be reduced by up to 10 percentage points.²⁷

A study titled "Old Homes, Externalities, and Poor Neighborhoods: A Model of Urban Decline and Renewal" by Stuart S. Rosenthal examines the economic status (measured by average income of the neighborhood relative to average income of all census tracts in the MSA) of different neighborhoods (delineated by census tracts) in 35 different MSAs from 1950-2000. The study revealed that over long cycles of up to half a century, more than half of the individual neighborhoods in a metropolitan area can be expected to transition from high to low income or vice versa. The study found that nearly two-thirds of all low-income neighborhoods in 1950 had become higher-income by 2000. Only about 27% of upper-middle income tracts in 1950 were still upper-middle income in 2000. The study found that the average change in neighborhood relative income status was between 12%

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²⁷ Brueckner, J. K., & Rosenthal, S. S. (2009). Gentrification and Neighborhood Housing Cycles: Will America's Future Downtowns Be Rich? The Review of Economics and Statistics. Retrieved April 12, 2013 from: http://www.mitpressjournals.org/doi/pdf/10.1162/rest.91.4.725 accessed

and 13% per decade. The author challenges the reader to visit nearly any low-income urban neighborhood in the U.S. and not find low-income families living in houses originally built for higher-income households, which the author interprets to mean that neighborhoods cycle through regular periods of decline and renewal. These cycles arise, according to the author, due to the deterioration of older housing stock, demolition, and replacement with new dwelling units.²⁸

A study titled "The Effect of Residential Investment on Nearby Property Values: Evidence from Cleveland, Ohio" concluded that the effect of residential investments on nearby properties hardly extends beyond 300 feet. According to the authors of the study, this conclusion is consistent with previous work on the subject. In general, the study indicated no impact from new construction on property values beyond 300 feet away, while the impact of a rehabilitation project extended only to 150 feet away. The study found that a dollar investment in new construction would raise housing prices located within a 150-foot area by 6.1 cents, which means at an average investment amount of \$82,000 (multiplied by .06) a house would sell for about \$5,000 more if a new house was constructed within 150 feet. For rehabilitation projects, nearby house prices would rise by about 13 cents per dollar of investment—with average investment amount of \$31,000 (multiplied by .127) a house would be expected to sell for almost \$4,000 more if it is located within 150 feet of the rehabilitation project. But beyond 150 feet, the effect of a rehabilitation project on nearby properties would be negligible.

The Cleveland study found effects on the sale price of nearby property was determined by the scale of investment within 150 feet, and the characteristics of the neighborhood. The study found remarkable increases in the coefficients of large-scale investments, no impact on nearby property values from small-scale investments, and middle-scale investments were dependent on neighborhood characteristics. (The study defines large-scale rehabilitation as investments of larger than \$32,500, middle-scale between \$32,500 and \$15,000, and small-scale as less than \$15,000. For new construction, large-scale meant over \$70,000, middle from \$70,000 to \$60,000, and small as less than \$60,000.) The effect of new construction was much greater in either low-income or predominantly white areas, while rehabilitation had a much larger impact in wealthier areas for unknown reasons. The study concluded that the positive effect of residential investment can be maximized if the investment sites are selected to be 150 feet apart from each other, and thus recommended policy encouraging investments that are concentrated and large enough to observe the effect, while discouraging small and spatially diverse investment.

A literature review as part of the Cleveland study led the authors to conclude that there is an effect of the concentration of a large number of new housing units on the value of existing nearby properties, but that effect is restricted geographically. The authors cited a study by Simons, Quercia

²⁸ Rosenthal, S. S. (2008, May). Old Homes, Externalities, and Poor Neighborhoods: A Model of Urban Decline and Renewal. Journal of Urban Economics, 816-840. Retrieved April 27, 2013 from Journal of Urban Economics: http://www.sciencedirect.com/science/article/pii/S0094119007000678

and Maric from 1998 that showed a positive impact of new housing construction on nearby property values, finding that sale price of an existing house on average increased by \$670 for each new unit built within two to three city blocks, but rehabilitation had only a small negative effect on sales prices nearby.²⁹

A study by Joseph F. De Salvo titled "Neighborhood Upgrading Effects of Middle-Income Housing Projects in New York City" focused on a sample of 50 neighborhoods in which middle-income housing projects were built. Neighborhoods for the sake of the study encompass an area from one to three city blocks around the project site. These projects, known as the Mitchell-Lama program, permitted the construction or rehabilitation of co-operative or rental housing by private sponsors with public assistance and supervision. The study found that assessed values increased by 9.89% per year in the neighborhoods that contained the projects, while control areas—the remainder of the neighborhood's borough—increased only 4.64% annually. The author of the study cautioned that while there was strong evidence of the positive effects of these projects on nearby property, there was no way to say for certain that the projects caused the price increases. Further, the upgrading effect was only present in medium-quality neighborhoods; locating a project in the poorest-quality or highest-quality neighborhoods would not ensure the greatest upgrading effect. The study measured neighborhood quality by estimating average market rent per room, assuming that a better quality neighborhood would attract a higher market rent.³⁰

A study titled "Non-profit Housing Investment and Local Area Home Values" by Kelly D. Edmiston used a repeat sales method to estimate the impact of proximity to Community Development Corporation housing investments on neighboring home values in low- and moderate-income neighborhoods in Jackson County, Missouri. The CDC investments represented larger rehabilitation projects, or in some cases, new construction. The analysis identified several hundred additional projects that were either interior projects (such as plumbing) or small-scale exterior projects (such as roofing, gutters, or porch repair) but excluded these due to the limited impact the author expected these projects to have on nearby housing values.

The results suggested that CDC housing investments have a substantial effect on the appreciation of nearby home values. The appreciation between the first and second sales averaged about 4.6 percentage points annually for homes within 500 feet of a CDC investment project. However, the results showed that CDC housing projects had no measurable impact on the prices of homes from 500 feet to 1,000 feet away. Another study cited by the author found that spillover benefits of housing investment rarely extend beyond one block or about 500 feet. The author noted that for the average house purchased in the study area in 2005 and sold in 2008, prices in low-to-moderate

http://www.sciencedirect.com/science/article/pii/0094119074900084

²⁹ Baku, E., Ding, C., & Simons, R. (2000). The Effect of Residential Investment on Nearby Property Values: Evidence from Cleveland, Ohio. Journal of Real Estate Research Volume 19. Retrieved from Journal of Real Estate Research: http://www.rasimons.com/documents/articles/the-effect-of-residential%20investment-on-nearby.pdf

De Salvo, J. P. (1974). Neighborhood Upgrading Effects of Middle-Income Housing Projects in New York City. Journal of Urban Economics, 269-277. Retrieved April 28, 2013, from:

income neighborhoods fell 1.5 percent, while the price of homes within 500 feet of a CDC housing investment increased by 10.8 percent.

A literature review done for the Jackson County, Missouri, study stated that many of the studies using home values to measure spillover benefits of housing investment were done by researchers using data from New York City's Ten-Year Plan, which started in 1987. One of these studies examined two large-scale efforts in large census tracts by non-profits to construct new affordable housing in New York City, and found that property values within defined boundaries around the new developments rose faster than property values within the same zip code but outside of the defined boundaries. Another study based on the NYC Ten-Year Plan compared values of properties close to smaller-scale rental housing rehabilitation projects with the values of similar properties further away but within the same neighborhood. The study showed that both non-profit and forprofit rehabilitation projects generated significant benefits to surrounding properties. Another study cited by the author focused on the impact of housing investment by CDCs in Indianapolis and found higher overall home value appreciation in areas served by the CDCs. Another study estimated fiscal benefits of rehabilitation housing investment nationally ranged from 54 cents to 56 cents per municipal dollar invested. According to the author, other studies have found a generally positive influence of affordable housing on surrounding property conditions.³¹

A study titled "Targeting Investments for Neighborhood Revitalization" by Galster, Tatian and According focused on the "Neighborhoods in Bloom" program in Richmond, Virginia, which started in 1998. The program concentrated federal CDBG and HOME funds along with money from the general fund and resources from the Local Initiatives Support Corporation (LISC) on a small number of blocks in each of seven neighborhoods.

The targeted areas had exhibited symptoms of distress, identified in the study as higher-thancitywide percentages of persons in poverty, female-headed households, crime rates, and vacant and renter-occupied property. City surveys in target areas prior to the Neighborhoods in Bloom (NB) intervention indicated that 70% of properties had code violations. Single-family home sales for 1998-1999 averaged \$44,490 inside NB neighborhoods, but \$98,500 throughout the rest of Richmond. The City spent roughly \$16.6 million in the NB targeted areas from July 1999 to February 2004. The bulk of the spending (\$13.9 million) was for site-specific investments: acquisition (27%), clearance and demolition (2%), new construction (25%), and rehabilitation of dilapidated housing (46%).

Housing prices in Richmond started rising rapidly in late 1998-early 1999, but grew considerably faster in NB target areas. The model used for the study estimated that the average sales price in the NB areas increased 10.85% per year faster than prices of comparable homes in the city overall. As a

³¹ Edmiston, K. D. (2012). Non-profit Housing Investment And Local Area Home Values. *Economic Review Q1*, 67-96 Edmiston, Kelly D. "Non-profit Housing Investment and Local Area Home Values." Economic Review QI. pp. 67-96. 2012. Retrieved April 22, 2013 from: http://www.kc.frb.org/Publicat/EconRev/PDF/12q1Edmiston.pdf

result, prices in the target areas reached the citywide average for comparable homes in 2002-2003, and shortly after surpassed the citywide average for comparable homes. The study also estimated that the \$21.33 million invested by the City and LISC during the first 6 years of the program increased the aggregate value of single-family homes in NB target areas by \$44.98 million more than if they had increased at the same rate as the rest of Richmond.

Appendix 4: Zoning in the City of Dubuque

City of Dubuque Zoning Districts (Dubuque, Iowa City Code, Title 16 Ch. 5. 2012)

Permitted Residential Types

- AG District- The AG Agricultural District permits single-family dwellings, just so the principle use of the property is for agricultural purposes (Ch.16-5-21)
- R-1 District- Single-family detached dwellings are the only type of residence allowed in the R-1 Single-Family Residential District. (Ch.16-5-2)
- R-2 District- Dubuque's R-2 Two-Family Residential District permits single and two-family dwellings, which can be either a townhouse with two units, or a duplex. (Ch.16-5-3)
- R-2A District- The R-2A Alternate Two-Family Residential District was established to preserve the residential character of Dubuque's older neighborhoods by establishing bulk requirements that conform to existing conditions. Like in the R-2 District, single and twofamily dwellings are permitted. (Ch.16-5-4)
- R-3 District- In the R-3 Moderate Density Multi-Family Residential District, multi-family dwellings and townhouses of up to six units are permitted, as are single and two-family dwellings. Elderly housing, group homes, and nursing homes are permitted on a conditional basis (Ch.15-5-5).
- R-4 District- Dubuque's R-4 Multi-Family Residential district permits higher density developments adjacent to major roadways. Multi-family dwellings and townhouses of between 3 and 12 units are allowed, as are single and two-family dwellings. On a conditional basis, elderly housing and nursing homes, group homes, and multi-family structures of 13 units or more are allowed (Ch.16-5-6)
- OR District- The OR Office Residential District was created to allow for the adaptive reuse of existing buildings along arterial roads and downtown, for both office and residential purposes. Undeveloped land cannot receive this zoning designation. However, existing buildings can be zoned OR to allow for reuse of the building. Permitted residential uses include multi-family dwellings, single-family dwellings, townhouses, two-family dwellings, and elderly/nursing homes (Ch.16-5-7).
- Other Districts- Dubuque has several other zoning districts that permit a range of uses, including services, retail, and residential. This includes the C-1 Neighborhood Commercial district, C-2 Neighborhood Shopping Center, C-2A Mixed Use Neighborhood, C-3 General Commercial, C-4 Downtown Commercial, and C-5 Central Business districts. The designation of these districts is meant to be limited where appropriate and residential spaces are generally permitted only above businesses (Ch.16-5-10-16-5-15). A PUD Planned Unit Development designation also exists, which allows for flexible development, including residential development, within a parcel of at least two acres (Ch.16-5-24).

Lot Size & Yard Requirements

- AG District- Single-family dwellings are permitted in this district, though require a lot size of
- R-1 District- Single-family dwellings must sit on lots of at least 5,000 sq. ft. Minimum setback requirements are 20 ft. in the front and rear, and 6 ft. on the sides. Dwellings may not be over 30 ft. in height.
- R-2 District- Single-family dwellings in this district have the same lot size, setback, and height requirements as the R-1 District. A lot area of at least 3,000 sq. ft. is required for townhouses; while two-family dwellings (duplexes) must have a lot area of at least 6,000 sq. ft. The setback and height requirements are the same for both types of two-family dwellings as exist for single-family units.
- R-2A District- Single and two-family duplexes in this district require a minimum lot area of 2,500 sq. ft., while two-family townhouses require 5,000 sq. ft. Setbacks required are the same for all types of permitted dwellings. A minimum of 10 ft. is required for the front yard, 10 ft. for the rear yard, and 3 ft. for the side yards. As in the other districts, 30 ft. is the maximum height allowed.
- R-3 District. In the R-3 District, single and two-family dwellings types, as well as group homes, require a lot area of at least 5,000 sq. ft. Multi-family dwellings require 2,000 sq. ft. of lot area per unit, while townhouses require 1,600 sq. ft. per unit. These dwelling types have the same setback requirements: a minimum of 20 ft. from the front and rear lot lines, and 4 ft. from the side lot lines. Elderly housing and nursing homes must sit on lots of at least 20,000 sq. ft. and meet setback requirements of 20 ft. in the front, rear, and sides. A maximum height of 30 ft. applies to all types of permitted and conditionally permitted dwellings.
- R-4 District- Permitted dwelling types in this district, as well as group homes, are subject to the same lot size, setback, and height requirements as the permitted dwellings in the R-3 District. However, Multi-family dwellings of between 3 and 12 units are allowed to be up to 40 ft. tall. Elderly housing and nursing homes must meet the same requirements as these types of structures in the R-3 District, with the exception that the maximum height permitted is 40 ft. instead of 30 ft.
- OR District- Two-family and single-family dwellings must sit on lots of at least 5,000 sq. ft. Multi-family structures and townhouses must have a lot size of at least 1,200 sq. ft. per unit, while elderly housing and nursing homes require lots of at least 10,000 sq. ft. All types of residences in this district must meet setbacks of at least 20 ft. in the front, 10 ft. in the rear, and 3 ft. on the sides and can be up to 40 ft. in height.