Demographic Change Analysis in the Lowertown Neighborhood of Saint Paul, Minnesota USA

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Abstract

The Lowertown neighborhood in Saint Paul, Minnesota has been in transition for the last several decades. For a long time the neighborhood lay forgotten to rest of the city. Lowertown has seen resurgence in popularity. While Lowertown has become popular in recent years, the process of resurrecting the area has been in the works for quite some time. The main purpose of this paper was to obtain and analyze data describing the Lowertown neighborhood and to identify changes. Research examines descriptive data from the 1990, 2000, and 2010 censuses to reach an understanding how the study area has changed. The research also examines the role that artists may have played in changing the demographics of the neighborhood.

Introduction

This paper examines the demographic change in the Lowertown neighborhood of Saint Paul, Minnesota from 1990 to 2010. It also discusses the possible roles of artists in this change.

The Lowertown neighborhood of Saint Paul is located on the eastern edge of downtown Saint Paul. The neighborhood is generally considered to consist of the area from Jackson Street to the Bruce Vento Nature Sanctuary and from the Mississippi River to East 7th Street (Cuningham Group, 2011).

At the beginning of the 20th century, Lowertown was a major center of industry of the entire Upper Midwest (Cuningham Group, 2011). The end of the Great Depression brought years of neglect to the neighborhood. It wasn't until the 1970's that the City of Saint Paul and the McKnight Foundation decided to reinvest in Lowertown. They invested $10 million and created the Lowertown Redevelopment Corporation (LRC) (Cuningham Group, 2011).

Jackson (1991) describes the development of the Lowertown neighborhood from a period of neglect to one of redevelopment. Jackson (1991) writes of fourteen blocks in Lowertown being designated to the National Register of Historic Places in 1983. Development of the Lowertown area encompassed a variety of projects such as the Galtier Plaza, development of the Union Depot train station, a hotel, and the development of artist lofts modeled after New York City artist lofts (Jackson, 1991).

According to Tartoni (2007), arts districts are often located in former industrial neighborhoods that offer artists an affordable environment to live and work. The success of these art districts is related to the values they provide to the community and the amount of government

funding these communities are able to generate (Tartoni, 2007).

The role that artists play in the demographic change of a neighborhood is often complex and changing (Ley, 2003). Ley (2003) states artist neighborhoods follow a similar trajectory of social class over a given period of time. Artists move into areas that are poor economically and on the fringe of modern society. Once a neighborhood has been established as an "artist" neighborhood the cultural value of the neighborhood rises in the eyes of others (Ley, 2003). Ley suggests that some people with such professions as students, journalists, and educators are often early "successors" to artists in a neighborhood. Professionals with more economic means often follow the early successors. These professions often include lawyers, doctors, and business people (Ley, 2003).

The Cuningham Group (2011) describes Lowertown in a similar manner as Ley does in change over time of artist neighborhoods in Vancouver and Toronto Canada. The Cuningham Group (2011) writes "In the early years of the LRC, Lowertown was a community of artists. They were the pioneers." The Cuningham Group (2011) goes on to write Lowertown is now more than just an artist neighborhood. "It is a diverse, vibrant community of residents who appreciate the arts, creativity, sustainability, and their unique, historic built environment."

Evaluation of a neighborhood using Geographic Information Systems is best used when boundaries can be clearly marked (Talen, 2007). Tartoni (2007) used data from the 1990 census and the 2000 census to compare and contrast artist neighborhoods in Paducah, Kentucky.

Figure 1, adapted from Wikipedia (2014), and Figure 2 depict the location of Saint Paul in Ramsey County and in the State of Minnesota and the location of the

Lowertown neighborhood in the City of Saint Paul.

The main goal of this research was to collect demographic data and present the data in a way that shows the change in demographics from 1990 to 2010. A secondary goal of the paper was to evaluate the data and speculate the role that artists may have played in this change.
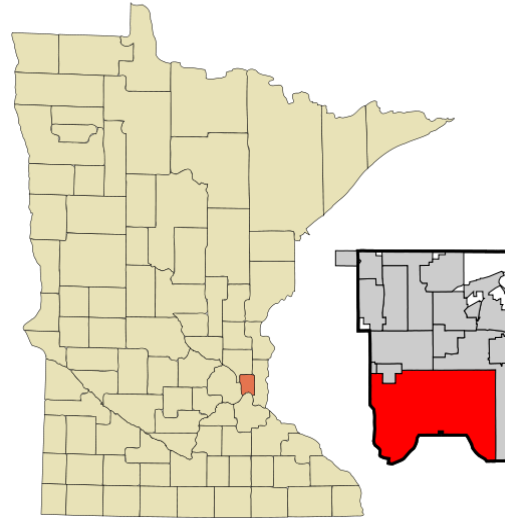

Figure 1. Left Image: Ramsey County (170 sq. miles in red) in Minnesota. Right Image: City of Saint Paul (56 sq. miles in red) in Ramsey County.
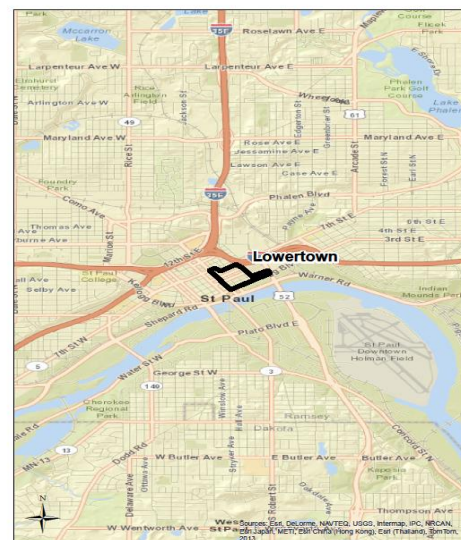

Figure 2. Lowertown neighborhood outlined in black (0.08 sq. miles) in City of Saint Paul.

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Methods

Acquisition of Data

The data for this paper were acquired through the use of the Community Analyst by ESRI. According to ESRI (2013), the Community Analyst is a web-based solution that makes community analysis fast and easy. The Community Analyst allows the user to evaluate communities in the US and Canada, generate reports on demographic and health data, determine population within a specific area or distance, and identify and segment community areas for resource allocation and planning (ESRI, 2013). Figure 3 depicts an image of the Minneapolis-St. Paul Metro Area in Community Analyst.
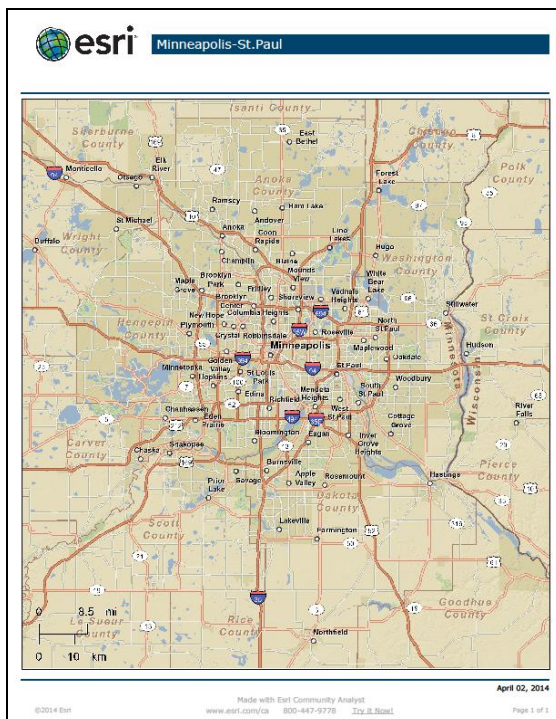

Figure 3. Minneapolis – St. Paul Metro Area as shown with the Community Analyst.

The process of collecting demographic data with the Community Analyst was straightforward. The first step was to locate the Lowertown area on an interactive map provided by ESRI. The draw polygon tool was used to create a polygon for the Lowertown area (Figures 4 and 5).
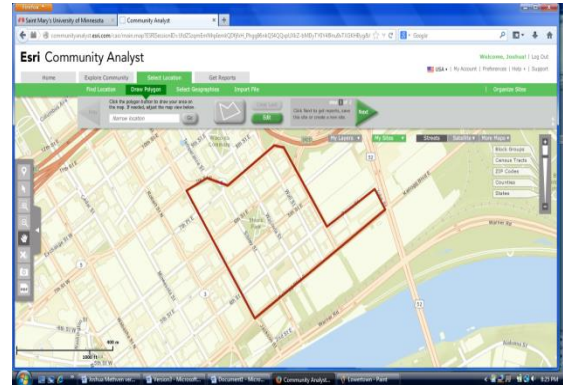

Figure 4. Screen Grab of the Draw Polygon Tool.

Figure 5. Map of Lowertown created with the Community Analyst.

Once the polygon was completed, demographic reports for Lowertown were available. The Community Analyst produced over forty different reports (Figure 6). The reports were examined to

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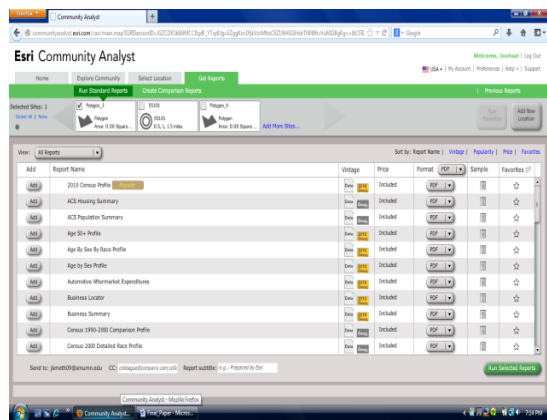determine which reports were best suited for this study. Figure 7 below represents an example of one report.

Figure 6. Example of reports from the Community Analyst generated from the Lowertown Polygon.

Figure 7. Generated report from the Community Analyst from the Census 2010 Summary Profile.

The eight reports used in this study contained abundant information (Table 1). The data were filtered to produce an overview of the general demographics of the area and to see the degree to which

change had occurred between 1990 and 2010. Determining which data was used was partially based on data that was available from the reports and on previous studies of artist neighborhoods.

Table 1. List of reports used to evaluate demographics in the Lowertown area.

| Census 2010 Summary Profile |
| Census 1990-2000 Comparison Profile |
| Census 2000 Summary Profile |
| Demographic and Income Profile |
| Tapestry Segmentation Area Profile |
| Household Income Profile |
| Housing Profile |
| Graphic Profile |

Numerous other artist neighborhoods profiled across the country from such places as New York City, Vancouver, Toronto, and Paducah, Kentucky all have had common themes of neighborhood renewal and socioeconomic change. Demographics used to illustrate the makeup and change of the Lowertown neighborhood from 1990 to 2010 are shown in Table 2. The data is by no means the only data available for Lowertown available through use of the Community Analyst.

Table 2. Demographic data used to evaluate the Lowertown Neighborhood.

| Total Population |
| Average (Mean) Household Income |
| Median Household Income |
| Housing Units by Occupancy |
| Population 25+ Educational Attainment |
| Population by Age |
| Population by Race |

Results

Total Population

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The population of Lowertown increased over the two decade period. From 1990 to 2000 there was an increase of 582 people, a 43.18% increase. From 2000 to 2010 there was an increase of 863, or a 44.72% increase (Table 3).

Table 3. Total Population of Lowertown in 1990, 2000, and 2010.

Year	Total Pop	Change
1990	1348	------------
2000	1930	+ 582
2010	2793	+ 863

Household Income

Household income for Lowertown was analyzed in two ways. The first was by Average Household Income. The second was Median Household Income.

Average Household Income

From 1990 to 2000 there was an increase in the Average Household Income of $22,702, a 74.58% increase. From 2000 to 2010 there was an increase in Average Household Income of $3,962 which was a 7.456% increase (Table 4).

Table 4. Average Household Income of Lowertown in 1990, 2000, and 2010 in U.S Dollars.

Year	Income	Change
1990	$ 30,439	-----------
2000	$ 53,141	+ $ 22,702
2010	$ 57,103	+ $ 3,962

Median Household Income

Median Household Income increased from 1990 to 2000 by $11,036, a 42.63 increase. From 2000 to 2010 the Median Household Income was essentially the same (-$15) (Table 5).

Table 5. Median Household Income of Lowertown in 1990, 2000, 2010 in U.S Dollars.

Year	Income	Change
1990	$ 25,890	-----------
2000	$ 36,926	+ $ 11,036
2010	$ 36,911	- $ 15

Income Discussion

There was a noticeable difference in values for Average Household Income and Median Household income for 1990, 2000, and 2010. This is a result of what each describes and how they are calculated. The formulas for average and median are as follows (Nova Southeastern University, 2013):

Average:

$$\overline{X} = \sum X/N$$

$\overline{X}$ (sometimes called the X-bar) is the symbol for mean (average).
$\sum$ (the Greek letter sigma) is the symbol for summation.
X is the symbol for the numbers (in this case Incomes of the Households).
N is symbol for number of incomes

Median:

$$Mdn = 1+ ((n/2) - \sum fo/fw)i$$

Mdn is the median.
L is the lower limit of the interval containing the median.
N is the total number of incomes.
$\sum fo$ is the sum of the frequencies or number of incomes up to the interval containing the median.
i is the size or range of the interval.
　　The median is the point in the distribution above which and below which 50% of the values (incomes) lie. The numbers need to be listed in order either

from lowest to highest or highest to lowest.

Due to the way that the average income is calculated extreme data points extremely high or extremely low can skew the average and thus leading to the dramatic difference in numbers. Table 6 illustrates this.

Table 6. Comparisons for Average Income and Median Income in years 1990, 2000 and 2010.

Year	Median	Average
1990	$ 25,890	$ 30,439
2000	$ 36,926	$ 53,141
2010	$ 36,911	$ 57,103

A look at the number of incomes in different income brackets helps to illustrate the effect more extreme data points have on the average. The noticeable jump in higher income brackets in 2000 and 2010 help to explain the dramatically higher average compared to the median. Figures 8, 9, and 10 illustrate this.
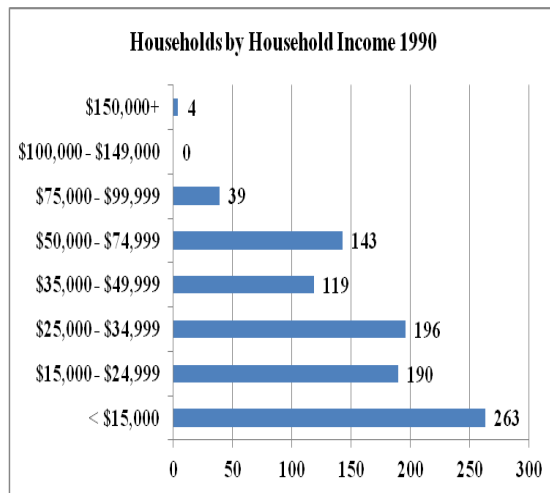
Figure 8. Households by Household Income for 1990.

In the 1990 data, there were very few households that had more than $100,000 in income. Only 4 households had more than this. The majority of the household income was in the bottom three categories.
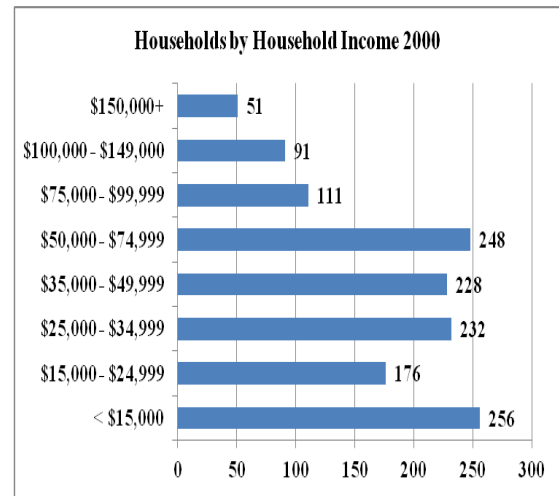
Figure 9. Households by Household Income 2000.

In the 2000 data, incomes of greater than $100,000 increased greatly over that of 1990. In 2000, there were 142 households with an income greater than $100,000 compared with just 4 in 1990. There was also a substantial increase in the $75,000 - $99,999 income bracket. There were 39 in this bracket in 1990 and 111 in 2000.
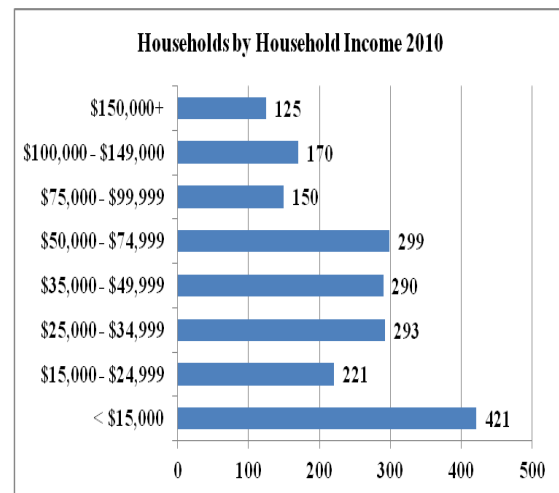

Figure 10. Households by Household Income 2010.

In the 2010 data, the number households with income over $100,000 increased to 295. The $75,000 - $99,000 bracket increased from 111 to 150.

Table 7 displays the percent increase in household income from 1990 to 2000 and 2000 to 2010 for those making more than $100,000.

Table 7. Percent increase in Household Incomes greater than $100,000.

Year	Households > $100,000	% Increase
1990	4	-------------
2000	142	3450%
2010	295	108%

Housing Units by Occupancy

The United States Census Bureau (2014a) defines Housing Units as "a house, an apartment, a mobile home or trailer, a group of rooms, or a single room that is occupied, or, if vacant, is intended for occupancy as separate living quarters." Housing Occupancy in Lowertown saw a drastic change from 1990 to 2010. Tables 8, 9, and 10 present the change that has occurred in the area.

Table 8. Housing Units by Occupancy for 1990.

Type	Number	% of Total
Owned	50	3.3 %
Rented	908	60.1 %
Vacant	554	36.6 %

Table 9. Housing Units by Occupancy for 2000.

Type	Number	% of Total
Owned	176	11.7 %
Rented	1,231	81.7 %
Vacant	99	6.6 %

Table 10. Housing Units by Occupancy for 2010.

Type	Number	% of Total
Owned	390	17.7 %
Rented	1,565	69.2 %
Vacant	296	13.1 %

Over the time period from 1990 to 2010 a noticeable change occurred. The percent of housing units owned increased from 3.3% in 1990 to 17.7% in 2010. The percent of housing units rented increased from 60.1% in 1990 to 81.7% in 2000 and decreased to 69.2% in 2010. The most significant change occurred in the number of vacant units in the neighborhood. The vacancy rate in 1990 was 36.6% and this decreased to 13.1% in 2010. There was also a noticeable increase in total housing units in the Lowertown neighborhood. There were a total of 1,512 units in 1990 and 2,261 units in 2010. This was an increase of 749 units.

Population 25+ by Educational Attainment

Tables 11, 12, and 13 present a picture of the population 25 and older and levels of education achieved for the years of 1990, 2000, and 2010. Seven different categories of data are included.

Table 11. Population 25+ by Educational Attainment for 1990.

Total	1,129	100%
Less than 9th Grade	29	2.5%
9th to 12th Grade	73	6.5%
High School Grad	271	24.0%
Some College	235	20.8%
Associate's Degree	71	6.3%
Bachelor's Degree	302	26.7%
Master's and above	149	13.2%

In Table 11 (1990) the majority of population 25 and over had obtained at least a high school degree. The category with highest percentage total included

those who had achieved a bachelor's degree with 26.7%. The next highest percentage were those had completed a high school education but no college with 24% followed by those who had completed some college but had not finished at 20.8%. Those with less than a high school degree compromised 9% of the population.

Table 12. Population 25+ by Educational Attainment for 2000.

Total	1,694	100%
Less than 9th Grade	45	2.6%
9th to 12th Grade	81	4.8%
High School Grad	314	18.5%
Some College	309	18.2%
Associate Degree	66	3.9%
Bachelor's Degree	453	26.7%
Master's and above	427	25.2%

      Table 12 (2000) saw a change in educational attainment for those 25 and older. In 1990, the largest categories were high school graduates and undergraduate graduates. In 2000, the categories with highest percentage were those with a bachelor's degree and those with master's degree and above. 26.7% of the population had bachelor's degree and 25.2% had a master's degree or more. More than half the population 25 and older had at least a bachelor's degree in 2000.

      Table 13 (2010) continued the trend of the population acquiring more education. The percentage of the population 25 and older with a bachelor's degree climbed from 26.7% in 2000 to 37.8% percent in 2010. The population

with a bachelor's degree or higher climbed to 57.3%. The population of those with a high school degree or lower declined to 14.1% in 2010 from a high of 33% in 1990.

Table 13. Population 25+ by Educational Attainment for 2010.

Total	1949	100%
Less than 9th Grade	49	2.5%
9th to 12th Grade	41	2.1%
High School Grad	185	9.5%
Some College	355	18.2%
Associate's Degree	200	10.3%
Bachelor's Degree	737	37.8%
Master's and above	381	19.5%

Population by Age

Like household income and education attainment the age structure of Lowertown has also changed. Figure 11 illustrates a bar chart of the age structure while Table 14 presents numbers for each age category in 1990, 2000, and 2010. Table 15 shows the Percent of Population by Age in 1990, 2000, and 2010.

      Throughout each of the decades the 25 – 34 age bracket contained the largest portion of the population. Most of the age brackets show an increase in population overtime while a few have a slight decrease in population.

      The overall trend in was an increase in the younger population and a decrease in the older. The 35 - 44 and 44 - 54 bracket showed variability.
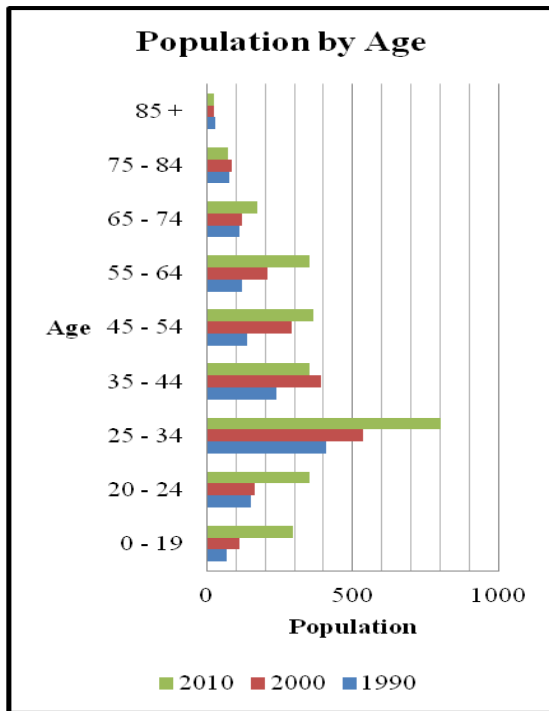
Figure 11. Population by Age for 1990, 2000, and 2010.

Table 14. Population by Age for 1990, 2000 and 2010.

Age	1990	2000	2010
0 - 19	68	111	296
20 -24	151	165	354
25 -34	409	534	801
35 - 44	240	391	354
45 - 54	140	291	363
55 - 64	119	206	353
65 - 74	113	119	174
75 - 84	79	88	72
85 +	29	25	26

Table 15. Percent of Population by Age in 1990, 2000, 2010.

Age	1990	2000	2010
0 - 19	5%	5.8%	10.6%
20 - 24	11.2%	8.5%	12.7%
25 - 34	30.3%	27.7%	28.7%
35 - 44	17.8%	20.3%	12.7%
45 - 54	10.4%	15.1%	13%
55 - 64	8.8%	10.7%	12.6%
65 –74	8.4%	6.2%	6.2%
75 - 84	5.9%	4.6%	2.6%
85 +	2.2%	1.3%	0.9%

The 25 - 34 bracket remained steady as the largest percentage of the population averaged between 28 and 30 percent of the total population in each decade.

Population by Race

According to the United States Census Bureau (2014b) "the racial categories in the census questionnaire generally reflect a social definition of race recognized in this country and not an attempt to define race biologically, anthropologically, or genetically." In defining race the United States Census Bureau (2014c) "must adhere to the 1997 Office of Management and Budget (OMB) standard on race and ethnicity." Figure 12 shows racial categories present on the U.S Census and their definitions.

Race	Definition
White	A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.
Black or African American	A person having origins in any of the Black racial groups of Africa.
American Indian or Alaska Native	A person having origins in any of the original peoples of North and South America.
Asian	A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent
Native Hawaiian or Other Pacific Islander	A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

Figure 12. U.S Census Race and Definitions.

Tables 16 and 17 contain data on the racial makeup in 1990, 2000, and 2010. The majority of residents in 1990, 2000, and 2010 identified white as their race. Those identifying as white declined from 85.7% in 1990 to 74.1% in 2010. Those indentifying as Black and Asian have seen almost 5% increases in population in the Lowertown area.

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Table 16. Population by Race for 1990, 2000, and 2010.

Race	1990	2000	2010
White	1155	1512	2071
Black	122	218	414
American Indian	19	16	20
Asian	20	102	171
Pacific Islander	0	1	1
Some Other Race	12	42	29
Two or More Races	19	35	88

Table 17. Percent of Population by Race for 1990, 2000, and 2010.

Race	1990	2000	2010
White	85.7%	78.3%	74.1%
Black	9.0%	11.3%	14.8%
American Indian	1.4%	0.8%	0.7%
Asian	1.5%	5.3%	6.1%
Pacific Islander	0.0%	0.1%	0.0%
Some Other Race	0.9%	2.4%	1.0%
Two or More Races	1.4%	1.8%	3.2%

Discussion

"Today Lowertown is a mixed use, mixed income community. Notably, Lowertown has a large population of artists who live and work in the community. A major reason for the stability of the artist community was the creation of the Lowertown Lofts Artist Co-op and the renovations of Tilsner and Northern Warehouse" (Cunningham Group, 2011).

The Cunningham Group (2011) states that Lowertown is on the brink of significant change. The Cunningham Group (2011) writes "Within the next five years, Union Depot will be reborn as a 21st century multi-modal station. It will become a hub for Amtrak, Greyhound, Jefferson, commuter rail and the Central Corridor Light Rail. When the real-estate market returns, Lowertown will emerge as a very desirable place to invest."

Forces have been at work over the last 40 years in the development of the Lowertown area. A minor goal of this paper was to look at the role that artists might have played in the development of the neighborhood. It might be unwise to say that all the change happened in Lowertown because of the artists' presence. It might also be unwise to state that all this change could have happened without them. When evaluating census data from 1990, 2000, and 2010, there appears to be a shift in the demographics of the population. The data reveals an increasingly populated, educated, and wealthy population. More people are living in the area. In 1990, there were 1348 people with an average income of $30,439. In 2010, there were 2793 people with an average income of $57,103. Those with the highest education levels also increased. Those who had a Master's degree or above increased from 13% in 1990 to almost 20% in 2010. Another sign of a neighborhood in flux is the number of housing units occupied. In 1990, the vacancy rate was 36.6% while by 2010 it dropped to 13.1%. The vacancy rate dropped while the number of housing units available increased from 1,512 in 1990 to 2,261 in 2010.

Without the artists would Lowertown have become what it is today and what it will be in the future? The question is tough to answer with a direct

yes or no. There are numerous variables playing into the development of Lowertown. That being said, Lowertown is following a very similar trajectory to other artist neighborhoods that have been studied. As mentioned previously by Ley (2003), once an artist neighborhood has been established its cultural value rises in the eyes of others. It appears similarities between the development of Lowertown and other artist neighborhoods across the nation exist.

Conclusions

This research provides insight into the demographics of the Lowertown neighborhood, St. Paul, Minnesota from 1990 to 2010. It is hoped future studies will be conducted to follow the progression of the neighborhood. Does it continue to mirror other artist areas or will it go in its own direction?

Acknowledgements

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