



Prepared for:
**Cleveland Heights – University Heights Public
Library**

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**Demographic and
Socioeconomic
Conditions and a
Patron Borrowing
Analysis of
Cleveland Heights
– University
Heights Public
Library Main and
Branch Libraries**

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Introduction

We provide here an analysis of the demographic and socioeconomic characteristics of the Cleveland Heights - University Heights Public Library's (CH-UHPL) service area and those of the neighborhoods in which the library's patrons live.¹ We also describe the borrowing patterns for the branch and Main libraries and the residential areas in which the libraries are the patrons' primary service facility.

The census-based demographic and socioeconomic data used for the analyses include income, number of children, race, Hispanic ethnicity, language spoken at home, ability to speak English, public-versus-private school attendance by grade level, housing tenure (owner/renter), educational attainment, employment status, and place of employment (Cleveland versus other). Data from the 2010 census and the Census Bureau's 2006-2010 American Community Survey are used. The analysis includes projected population to 2015 and 2020.

Rates of patronage by neighborhood provide insights into the market penetration of library services in each neighborhood and reveal potential issues of accessibility and quality of service among the branch locations. A matrix of borrower counts by lending branch and residential service area of the patrons provides insight into how a branch draws patronage from its own and other library service areas.

In addition to tables of data found in Appendix A, selected demographic and socioeconomic characteristics from the Census Bureau's 2006-2010 American Community Survey (ACS) are graphed and mapped. Library patrons are also mapped by branch visited, age, and service received (Appendix B).

Demographic and Socioeconomic Characteristics of the CH-UHPL Service Area

The CH-UHPL service area, which corresponds to the Cleveland Heights – University Heights School District, includes most of the city of Cleveland Heights, University Heights, and a portion of South Euclid see (Map 1 in Appendix B). A portion of Cleveland Heights is part of the East Cleveland Library District (46 census blocks with 2,906 persons and 1,403 housing units in the 2010 Census), and three census blocks in the City of Cleveland (2001, 2005, and 2006 in census tract 1188) with no population are included in the CH-UHPL district.

¹ Primary Main and branch library service areas were delineated by mapping patrons who borrowed from these facilities (in 2011 and the first quarter of 2012) and assigning 2010 census blocks based on the number and percentage of borrowers who primarily visited each facility. A little less than half (46.4%) of all visits by patrons in the district were to the Main Library. Because of this dominance of visits to the Main Library in almost every block, the process generally followed the rule that blocks with at least 20 percent of patron visits to Coventry, Noble, or University Heights branches were initially assigned that branch service area. In some cases there were two branches exceeding the 20 percent threshold, and the larger percentage was used for assigning the block. The Main Library was assigned to those with at least 80 percent of the block's visits to that facility. Then some blocks were reassigned to libraries in order to achieve contiguous and more compact service areas. This eliminated isolated blocks surrounded by the service area of another library. See Map 2 in Appendix B which shows the distribution of patrons by branch library association and the delineated primary service areas.

The district had a 2010 population of 57,954 persons, 12,918 (22.3%) of whom are children under 18 years old and 9,158 (15.8%) of whom are of school age (5 to 17). These percentages are similar, though slightly lower than the rest of Cuyahoga County (22.7% and 16.8%, respectively). With 24,179 occupied housing units, the average household size was 2.40, slightly higher than the county as a whole (2.35). The majority (58.6%) of households were renters (compared to 61.0% in the county).

Based on data from the 2006-2010 American Community Survey (ACS), median household income in the CH-UHPL service area (in 2009 dollars) was \$51,676, considerably higher than \$43,603 median among all Cuyahoga County households. Among persons age 25 and older in the service area, an estimated 94.1 percent have a high school diploma (or GED) or more education - with a 2.1 percent margin of error (MOE) at the 90 percent confidence level.² Approximately 55.1 percent have a bachelor's degree or higher education, almost double the percentage for the county (28.2%).

Unemployment has been very high in Cuyahoga County and the district. In the CH-UHPL service area, the estimated unemployment rate in the 2006-2010 period was 8.1 percent (MOE of 2.8%), compared to 10.5 percent (MOE 0.3%) in the county.

Since the unemployment rate is based only on persons in the labor force which includes only those either working or looking for work, the unemployment rate does not capture the discouraged unemployed persons not looking for work. Labor force participation, which includes persons age 16 and older who are either employed or unemployed looking for work, in the CH-UHPL service area was estimated to be 67.2 percent (2.3 MOE) - or two persons in three - in the 2006 to 2010 period, similar to the county (64.4%, 0.2 MOE). This small but statistically significant difference is likely due to a higher percentage of families in the rest of the county in which only one spouse is in the labor force.

The district has seen a significant increase in poverty in the last decade. The estimated poverty rate for children between the ages of 5 and 17 jumped from 6.1 percent in 2000 to 23.0 percent in 2010.³ Nationally, the poverty rate for children increased from 16.2 percent to 22.0 percent in that period.⁴

Many children in the service area attend private schools. The 2006-2010 ACS estimated that there were 3,725 children attending public schools in grades K-8, with a margin of error (MOE) at the 90 percent confidence level of 584. An estimated 2,317 (MOE of 409) were in public high school. Thus an estimated

² Data from the ACS is subject to sampling error. The smaller the population group, the larger the margin of error (MOE) will be. We report the MOEs at the 90 percent confidence level in the tables found in Table A1 in Appendix A.

³ Source: Small Area Income and Poverty Estimates, U.S. Census Bureau [http://www.census.gov//did/www/saipe/district.html].

⁴ Source: "Information on Poverty and Income Statistics: A Summary of 2011 Current Population Survey Data," U.S. Department of Health & Human Services, September 13, 2011. [http://aspe.hhs.gov/poverty/11/ib.pdf]

6,042 children living in the CH-UHPL district attended public schools.⁵ The ACS –based estimate for percent of children ages 5 through 13 in grades K-8 in public versus private schools in the 2006-2010 period is 61.3 percent (9.4 MOE), significantly less than the 79.2 percent estimate (0.8 MOE) for the county. Among children ages 14 through 18 in the district, some 69 percent (12.1 MOE) were enrolled in public schools versus private ones. This is again significantly less than the 82.4 percent (0.7 MOE) for the county as a whole.

Based on past trends, the district and other inner-ring older cities in the county are expected to continue to see population losses in the coming decade. There was a loss in population of 4,567 in the district from 2000 to 2010, a 7.3 percent decline (Table 1). The Noble library service area saw the largest percentage loss – 9.9 percent. Population loss in the district is also seen in the enrollment numbers of the school district (see Table 2 and Figure 1).

Rough projections of population for the district indicate a loss of approximately 2,600 persons between 2010 and 2020 - about a 4.5 percent loss in population compared to an expected 6.8 percent loss countywide (Table 3).

Table 1: Population Change

Service Area	2000 population	2010 population	Change 2000 to 2010	Percent Change
District	62,521	57,954	-4,567	-7.3%
Coventry	9,626	8,759	-867	-9.0%
Main	21,969	20,530	-1,439	-6.6%
Noble	12,407	11,176	-1,231	-9.9%
University Hts.	18,519	17,489	-1,030	-5.6%
Cuyahoga County	1,393,978	1,280,122	-113,856	-8.2%
Rest of County	1,331,457	1,222,168	-109,289	-8.2%
Branch Average	15,630	14,489	-1,142	-7.3%

⁵ This is very comparable to an average of a little more than 6,000 enrollment reported by the school district for the 2006/2007 through 2010/2011 school years.

Table 2: CH-UDSD First Quarter Enrollments

Year	Count	Rolling Average	Annual Percent Change in Count
2006/2007	6,166		
2007/2008	6,123	6,145	-0.7%
2008/2009	5,970	6,086	-2.5%
2009/2010	5,845	6,026	-2.1%
2010/2011	5,936	6,008	1.6%
2011/2012	5,831	5,979	-1.8%
Change 2006/2007 to 2011/2012			(335) -5.4%

Figure 1

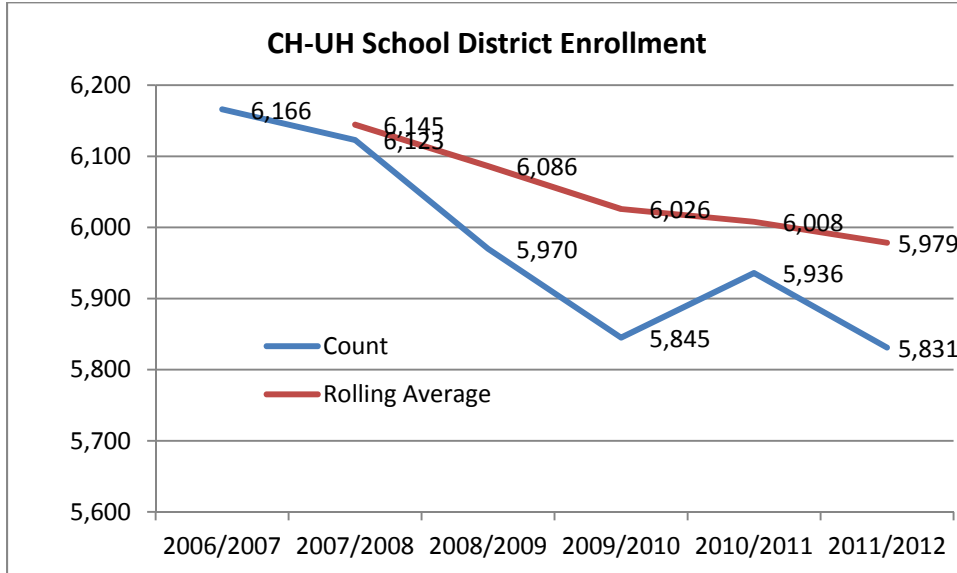


Table 3: Population Projection

	Projected		Change from 2010		Percent Change from 2010	
	2015	2020	2015	2020	2015	2020
CH-UHPL	56,634	55,353	-1,320	-2,601	-2.3%	-4.5%
Cuyahoga County	1,232,029	1,193,068	-48,093	-87,054	-3.8%	-6.8%

Demographic and Socioeconomic Characteristics of Library Branch Service Areas

There is much diversity in the demographic and socioeconomic characteristics of the neighborhoods and branch service areas of the district. The maps found in the appendix provide a visualization of this diversity among the characteristics chosen for this analysis. The graphs below provide insight into how the CH-UHPL branch library service areas compare in regard to these characteristics.

Population and Population Density

The average 2010 population size among the four service areas was 14,489.⁶ The Main Library service area had the largest in population with 20,530 persons, followed by the University Heights library service area with 17,489 residents (Figure 2). Noble (11,176) and Coventry (8,759) library service areas are smaller, the former having a little less than a fifth of the district's population and the latter having about 15 percent.

It should be understood that, to a significant extent, this reflects the geographic size of the areas that have been delineated as service areas. A view of population densities as shown by census block in Map 3 and generalized in Map 4 may be more appropriate in assessing the size of neighborhood population around each branch library.

In general, the branch libraries are well situated in regard to population concentrations in the district. Coventry and Noble libraries are either in or near high-density neighborhoods in the eastern and northern corners of the district, and University Heights library is well situated among population-concentrated residential areas in the City of University Heights, central parts of Cleveland Heights, and the eastern portion of the City of South Euclid that is in the CH-UHPL service area.

The district lost 4,567 persons, or 7.3 percent, between the 2000 and 2010 censuses – a slightly slower population loss than the county as a whole, which was 8.2 percent. Population change within the district varied significantly by neighborhood (Figure 3 and Map 5). Some neighborhoods in the City of University Heights declined in population, while others (on the western side) grew. The net change was a loss of approximately a thousand persons or 5.6 percent. There was little population growth in the rest of the district and overall losses in the broad center and in the northern end around the Noble branch.⁷ Noble and Coventry service areas saw losses of 9.9 percent and 9.0 percent, respectively, while the Main Library service area lost 6.6 percent of its population in the decade. Figure 4 shows change in the number of persons from 2000 to 2010.

⁶ Excluding the Main Library service area, the average 2010 service area population was 12,475.

⁷ The apparent heavy losses in population seen in the generalized map of population change in the Lakeview Cemetery corner of the district (northwest of the Coventry branch) is an anomaly caused by the population losses in adjacent parts of the City of East Cleveland and the method of generalization used in making the map.

The geographic distribution of population change in the next decade within the district is difficult to predict. Nevertheless, we offer Map 6 that shows a much generalized projection based on countywide trends at the census tract level.

Figure 2

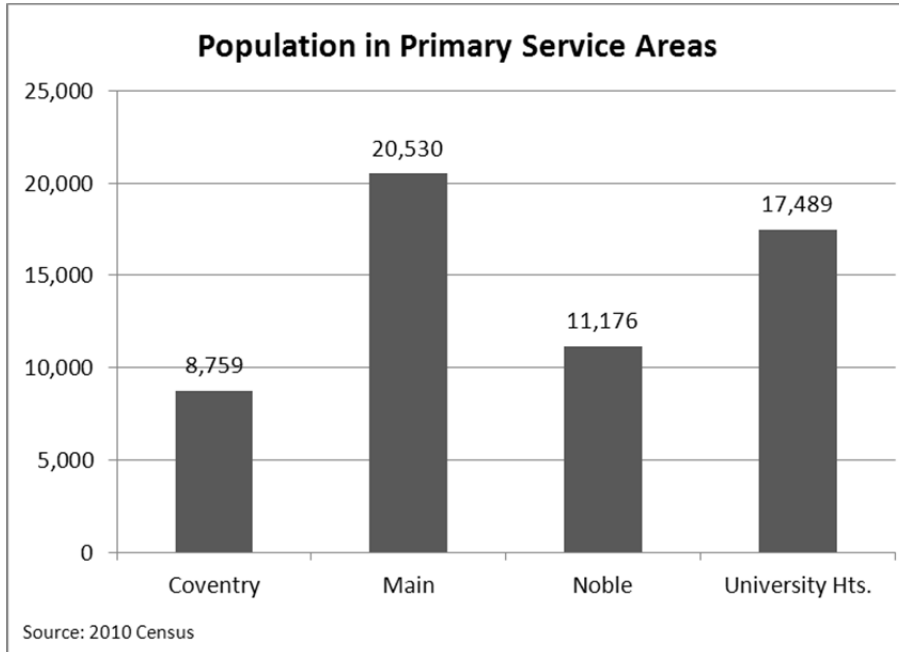


Figure 3

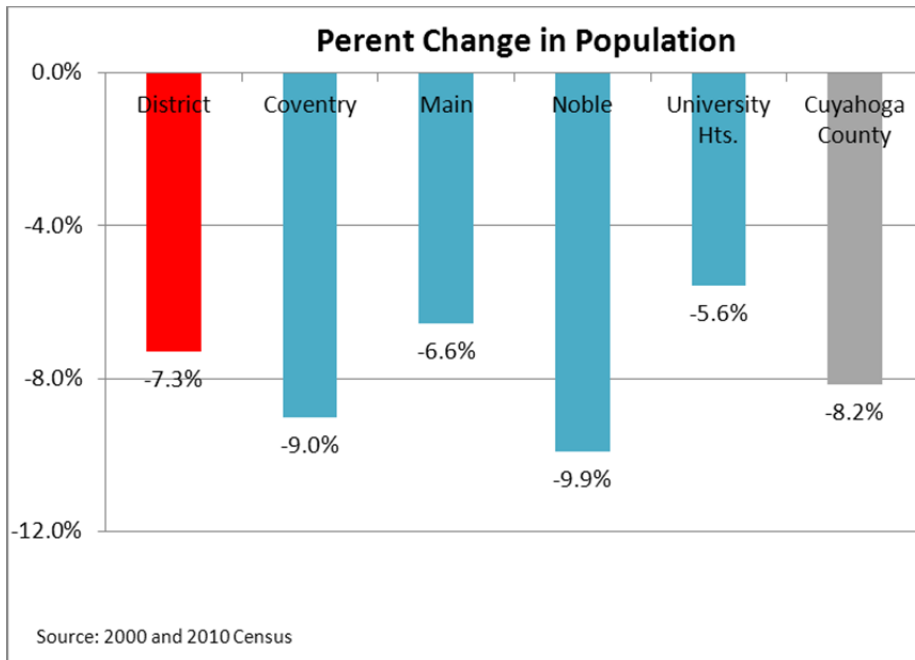
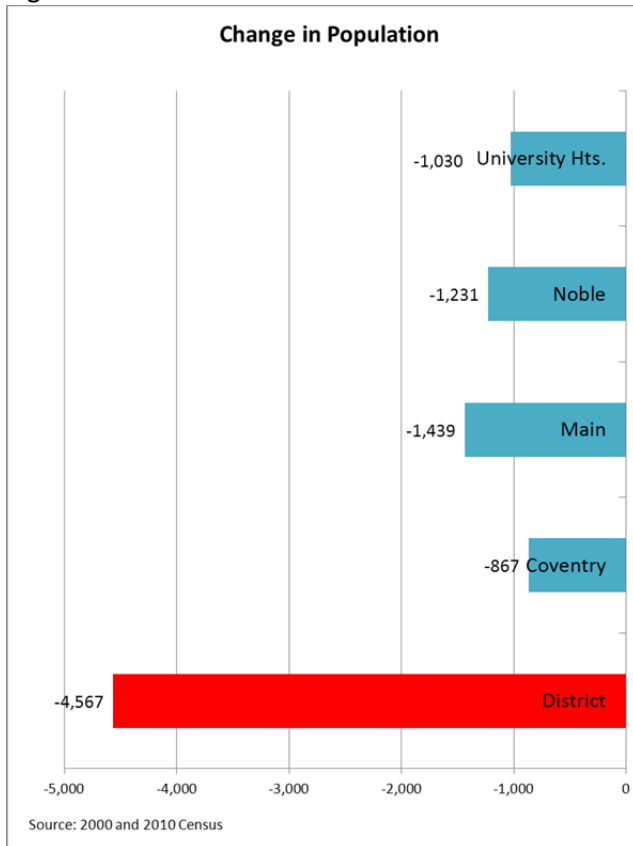


Figure 4



Children and Household Size

Over a fifth (22.3%) of the district's population was under 18 years of age in the 2010 Census, similar to the percentage countywide (22.7%). The library service areas with larger populations also had larger numbers of children (Figure 5). The Coventry branch area had the lowest percentage of children (14.4%) and school age children (9.8%) among the four services areas. Map 7 shows the percent of population that are children by census block. Noble's children were proportionately slightly more concentrated in the school age group (17.4%) than other parts of the district (and countywide).

Average household size in the district (2.40 persons per household) is similar to the countywide average (2.35). However, the Coventry library service area has a significantly smaller average – 1.87--while the University Heights area is significantly larger – 2.79 persons per household (Figure 6).

Figure 5

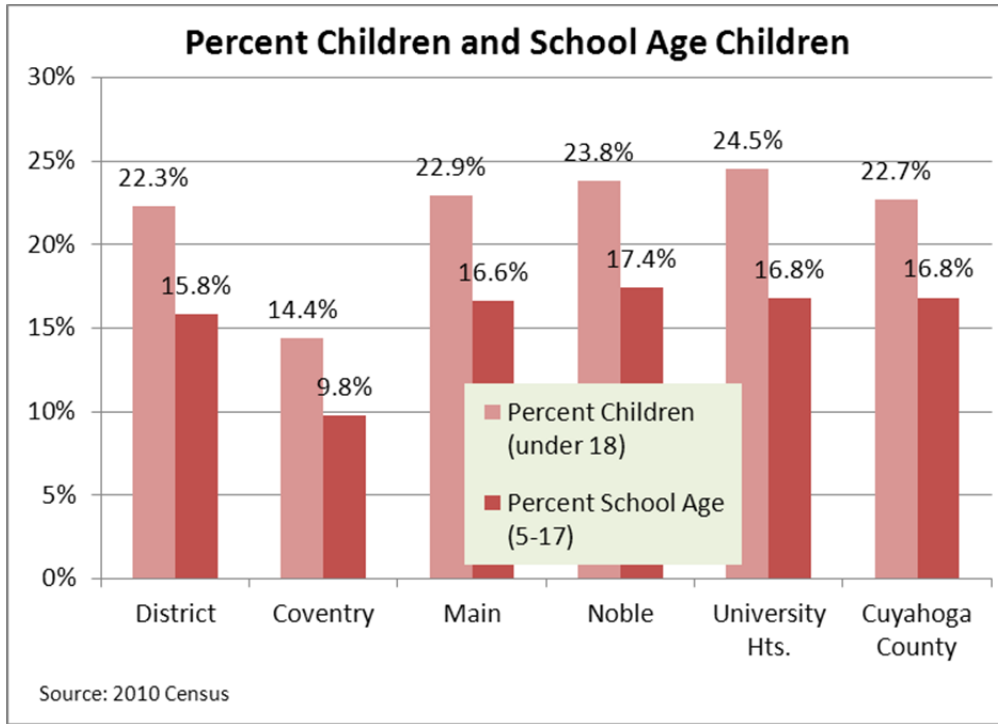
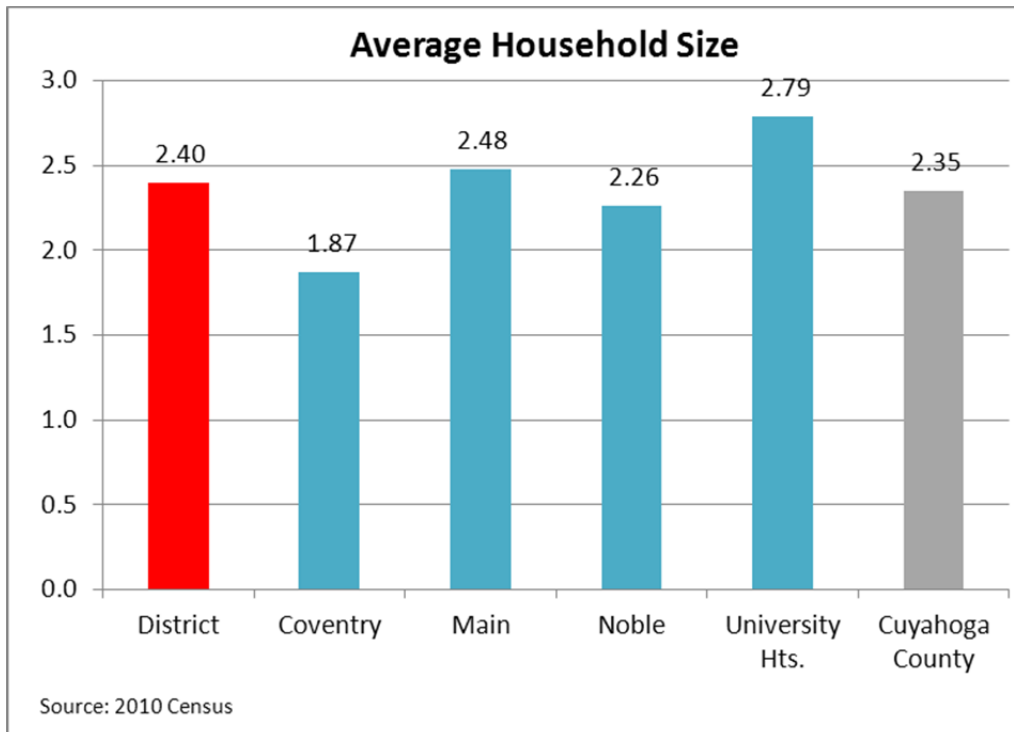


Figure 6



Selected Housing and Socioeconomic Characteristics

For the most part, the CH-UHPL district includes older, inner-ring suburban neighborhoods. Map 8 shows the percentage of housing units built before 1940. Newer housing is found in University Heights and South Euclid portions of the district with less than a quarter of the units that old.

Neighborhoods with the highest percentage of owner-occupied housing (Figure 7) are generally those with newer housing. The University Heights branch service area had the highest owner-occupancy (71.4%) in 2010; Coventry, with a dominance of larger apartment complexes in the area between Mayfield Road and Euclid Heights Boulevard west of Coventry Road, had the lowest (27.1%).

Neighborhoods with newer and higher owner-occupied housing are generally also higher in income and value of owner-occupied housing (Maps 9 and 10 and Figure 8). University Heights branch households had an estimated median of \$61,111 in the 2006-2010 estimates (in 2010 dollars); Coventry had the lowest median income at \$42,091, followed closely by Noble at \$47,160. Indeed, at the 90 percent confidence level, there is no statistical difference in median household income between Coventry and Noble branch households.⁸

Estimated unemployment rates in the 2006 to 2010 period in the district (8.1%) and its neighborhoods were lower than that of the county (10.5%), though margins of error are high and only the University Heights branch service area (6.7%) was clearly lower than the county rate (Figure 9).

The percent not in the labor force (percent of the population age 16 to 64 working or looking for employment) was estimated to be slightly lower in the district (32.8%) than in the county as a whole (35.6%), though the MOE range at 90 percent confidence includes the county range within it (Figure 10). This difference in labor force participation indicates that the district has higher rates of employment and/or more two-earner households than overall in the county. This seems apparent especially in the University Heights branch area.

Estimated percentages of high school diploma and college degree attainment indicate that the CH-UHPL district has a well-educated population compared to the county. More than 94 percent (94.1%) of the population age 25 and older in the district had their high school diploma in the 2006-2010 period, while the county had an 86.4 percent completion of high school rate (Figure 11). The Noble branch service area has an estimated rate (89.9%) that is lower than the other service area rates. Coventry (97.4%) and University Heights (95.6%) areas have the highest rates.

An even greater difference in educational attainment in the district in comparison to the county is seen in the percent with a bachelor's degree. More than half (55.1%) of persons age 25 and older in the

⁸ With a margin of error (MOE) of \$2,132 the actual median income in Coventry might have been as high as \$44,223, while with a MOE of \$3,656, Noble's median might have been as low as \$43,504 at the 90 percent confidence level. I-bars in the figures provide visual indication of these overlapping ranges for estimates from ACS sample data. The reader is advised to consult the tables showing all the ACS estimates, where margins of error are also reported.

district had a bachelor's degree or higher education in the ACS estimates compared to 28.2 percent in the county (Figure 12 and Map 11). The Coventry branch service area, which is near the University Circle area of Cleveland, had a significantly higher percentage than other parts of the district; Noble had a significantly lower rate.

The CH-UHPL district's school age population was more likely to be enrolled in private schools than the county's school age population. Among those in K-8 grades an estimated 61.3 percent of the district's children were in public schools versus 79.2 percent countywide. The Noble (93.6%) and Coventry (79.9) branch service areas had higher estimated public school enrollment rates than the University Heights (45.4%) and Main (54.8%) library service areas (Figure 13).

A similar picture is apparent concerning high school enrollments, although estimated rates for public school enrollment are higher than K-8 rates in all but the Noble branch area (Figure 14). The cost of private school education at the high school level is the likely major cause for this pattern.

In some communities, the ability to speak English is an issue for schools and libraries, especially those with substantial Hispanic/Latino populations and recent migrants to the United States.⁹

Relatively few speak Spanish among persons age 5 and older in the district, an estimated 2.3 percent versus 3.5 percent respectively. The Noble area may have more Spanish-speaking population than other parts of the district, though the sample size is too small to be definitive (Figure 15). Estimates of the ability to speak English less than "very well" also have wide confidence intervals for the study area but may suggest that the issue is slightly more significant in the district (3.7%) than in the county as a whole (2.8%). The Main Library service area apparently has a lower percentage than either Coventry or University Heights areas (Figure 16).

Though language issues may not be a very significant issue for much of the district, poverty rates are a concern. The district had a poverty rate similar to that of the county in the 2006-2010 period – 16.4 percent. The Coventry branch service area had the highest rate – 25.7 percent (Figure 17). Noble (17.1%) had the second highest estimated poverty rate, and University Heights (12.4%) had the lowest.

Because library usage is partially affected by commuting patterns, with some commuters patronizing libraries near work, we report the percent of the district's working population who work outside their city of residence. This indicator is limited since the district includes more than one city. For example, it includes Cleveland Heights residents who work in Cleveland or Solon, but it also includes those who work in University Heights, or the portion of South Euclid that is in within the CH-UHPL district. Nevertheless, the district includes a disproportionate share of commuters to cities other than their place of residence compared to the county as a whole - 14.5 percent work in the same city where they live compared to 27.8 percent, respectively (Figure 18). Only 8.5 percent of Coventry area working residents works in Cleveland Heights (the city in which the entire service area is located). The Noble branch

⁹ Approximately 3 percent of the district's population identified Russian as their ancestry in the 2006-2010 ACS.

service area (also entirely in Cleveland Heights) also has a relatively low percent (12.3%) who work in Cleveland Heights where they live.

A description of the demographic and socioeconomic composition of the district would not be complete without also noting its racial composition. Table 4 provides the 2010 Census counts by race and Hispanic/Latino ethnicity. The African American population comprises more than 35 percent of the district’s population and the Asian population another 3.8 percent. The Hispanic/Latino population, who can be of any race according to the way in which the census is taken, was 2.6 percent of the district’s population in the 2010 Census.

Cleveland Heights and other communities represented in the district as racially integrated on a city-level basis and so too in the CH-UHPL district. However, racial segregation at the neighborhood level within the district is apparent in Map 12. Neighborhoods to the north of the Noble, Main, and University Heights libraries include clusters of census blocks with more than three-quarters African American population. The southern and eastern tiers of census blocks in the district generally have fewer than 15 percent African Americans.

Table 4: Race and Hispanic/Latino ethnicity

	Number	Percent
Population	57,954	100.0%
White	32,946	56.8%
African American	20,814	35.9%
American Indian & Alaska Native	82	0.1%
Asian	2,210	3.8%
Native Hawaiian & Other Pacific Islander	10	0.0%
Other	395	0.7%
Multiple races	1,497	2.6%
Hispanic/Latino	1,256	2.2%

Source: 2010 Census

Figure 7

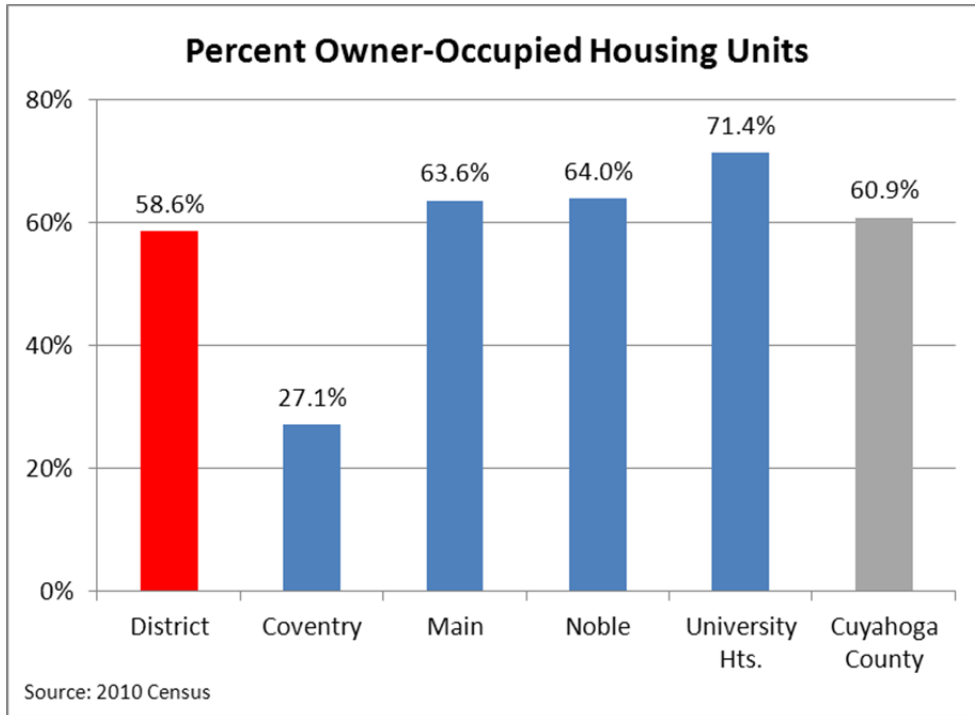


Figure 8

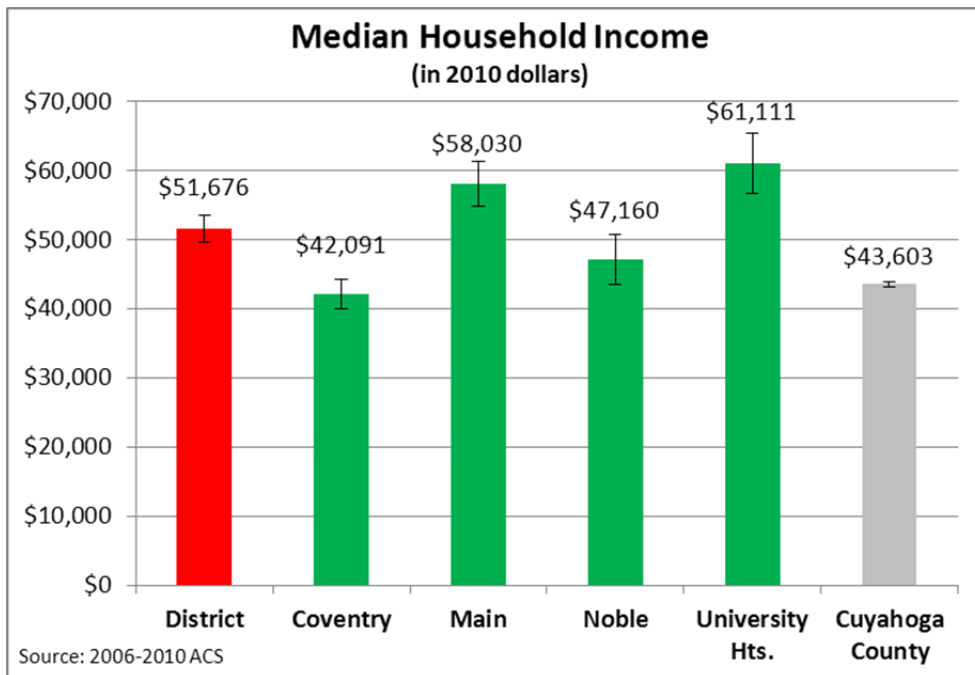


Figure 9

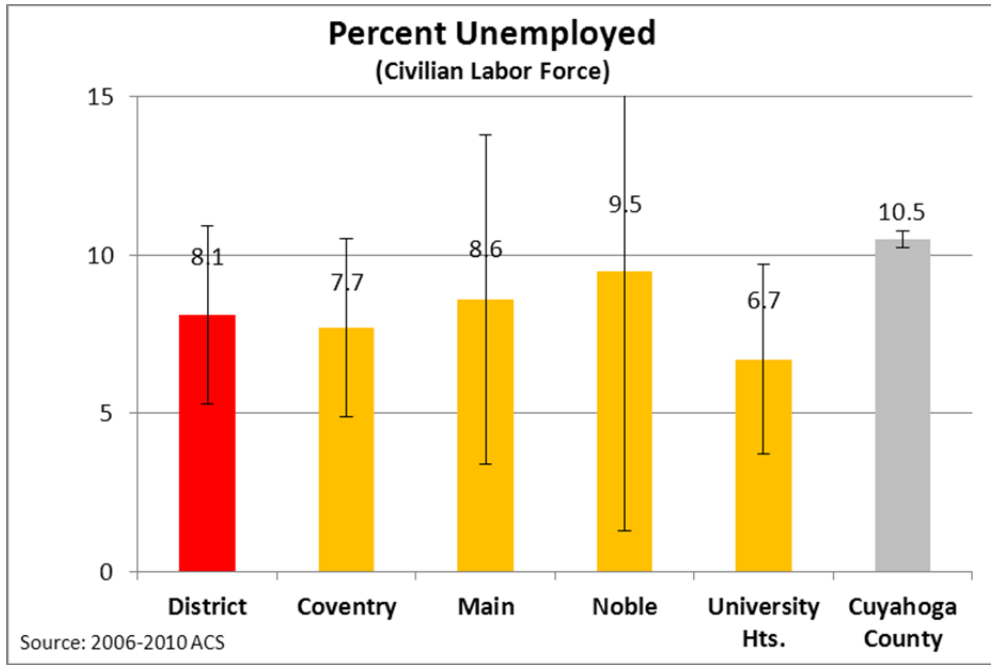


Figure 10

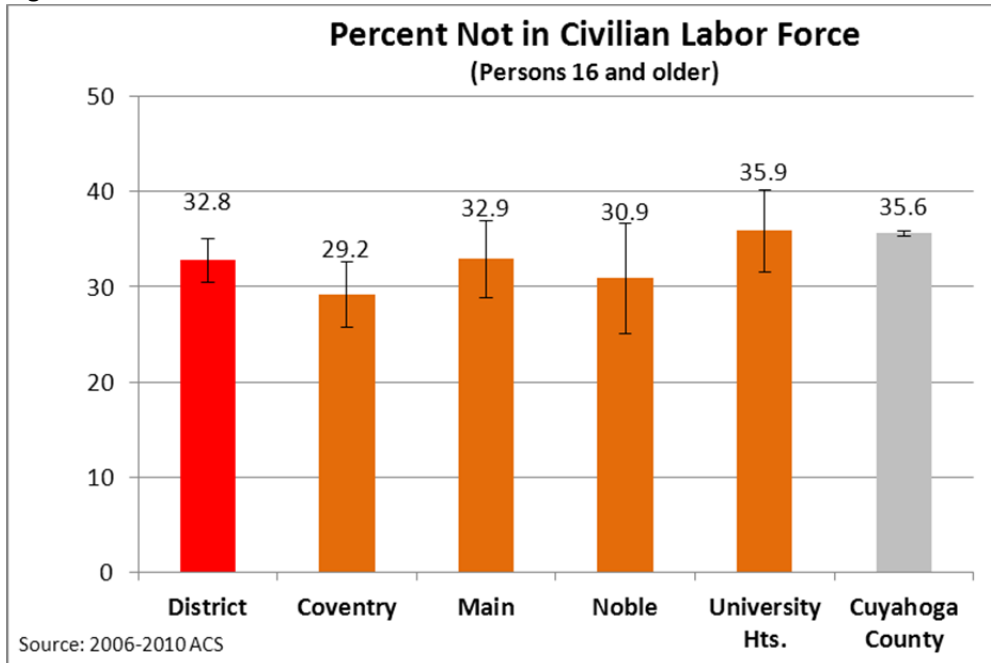


Figure 11

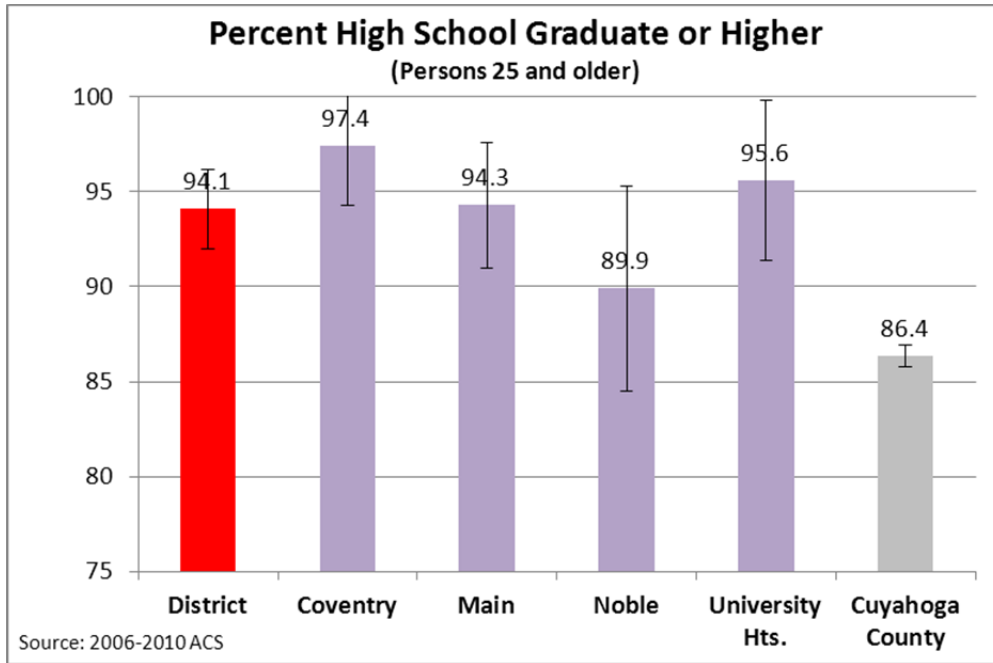


Figure 12

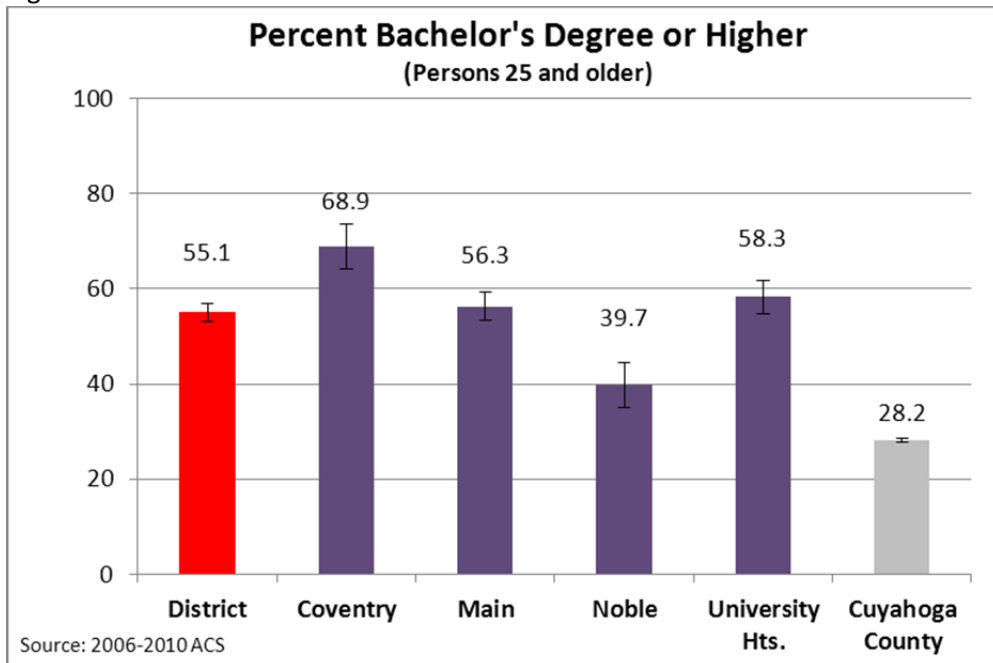


Figure 13

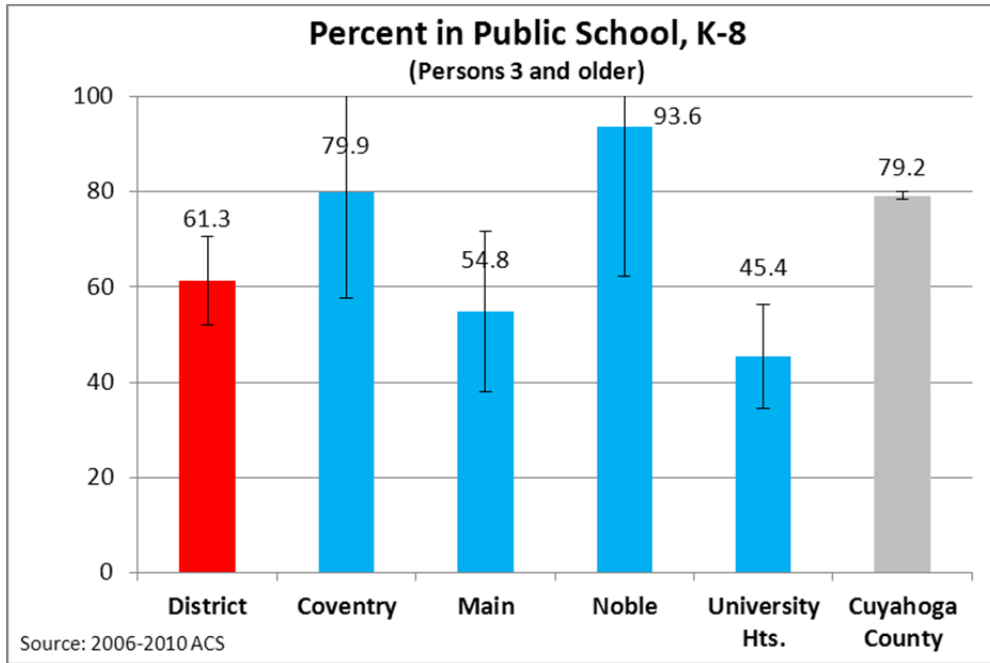


Figure 14

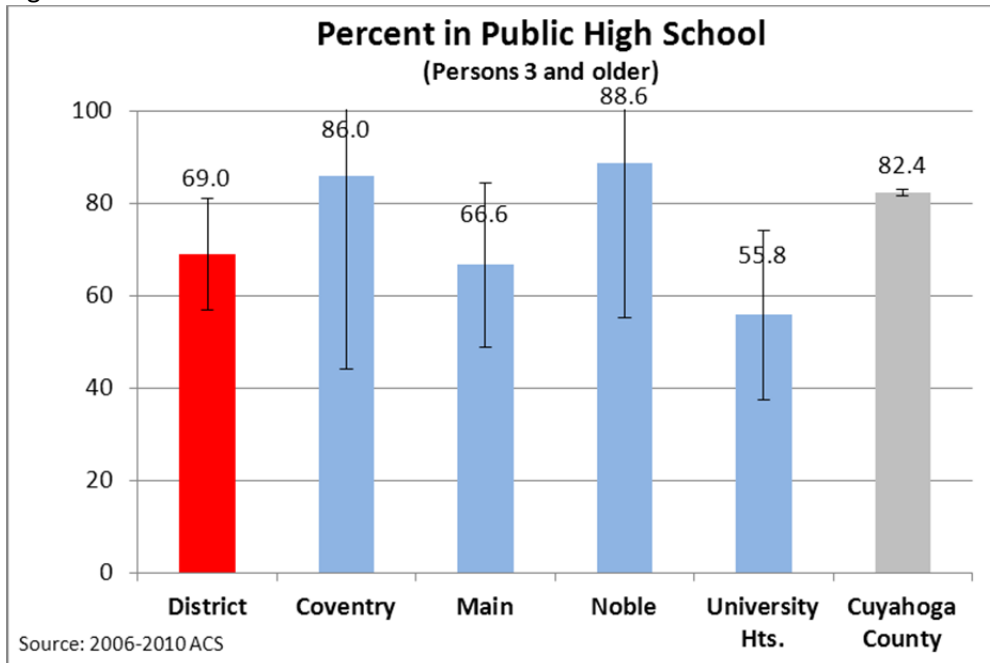


Figure 15

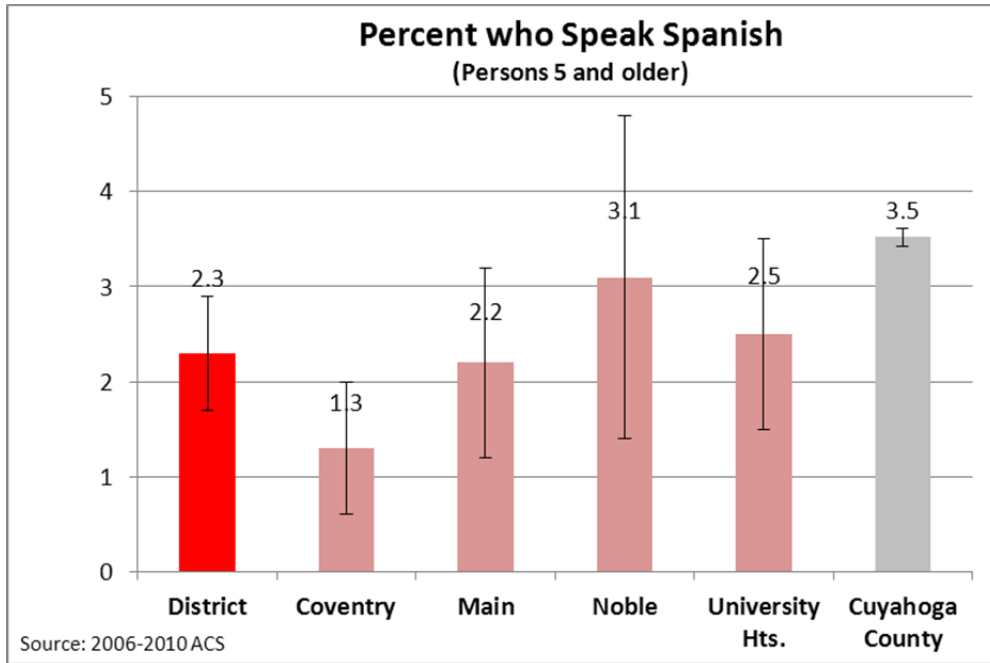


Figure 16

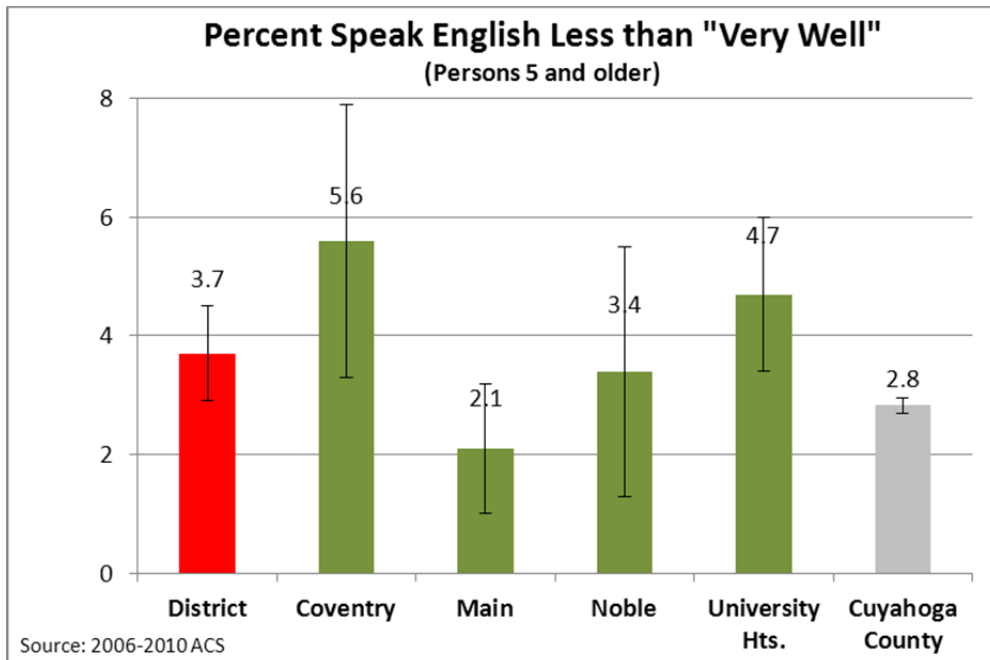


Figure 17

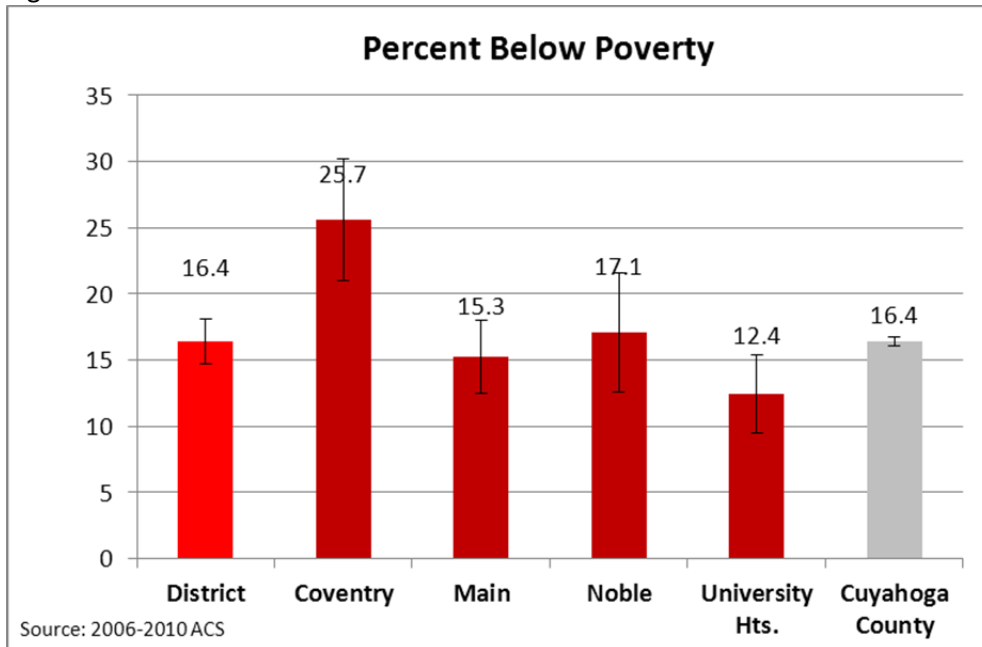
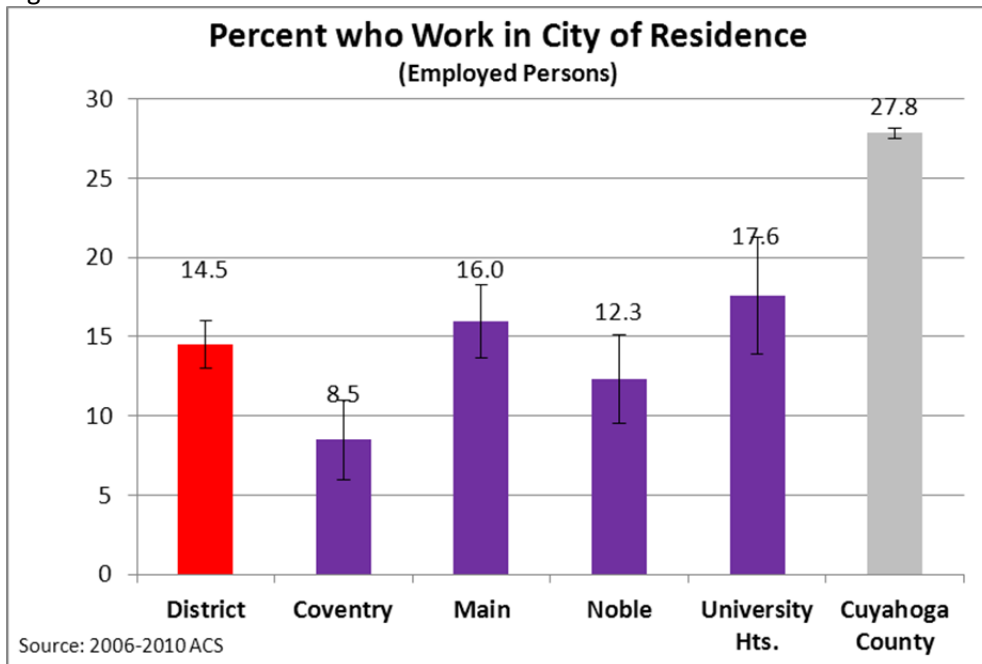


Figure 18



Analysis of Library Patrons and Borrowing

In this analysis, we examine the number of patrons in the branch and Main library service areas and the borrowing of library materials by service area at each library. This portion of the analysis uses data for 2011 and the first quarter of 2012 on in-person library borrowing and the first six months of E-media borrowing.

It should be noted, however, that the Noble library was closed for renovations from October 2010 through May 2011. This limited the data on the number of in-person borrowers and items borrowed for Noble to 10 of the 15 months of the study period. Thus these data for the Noble library are probably deflated by about a third and the reader is advised to take this into consideration in interpreting the findings. Assuming the period of closing does not substantially bias the results, one can assume that only raw counts of borrowers and materials are affected, rather than most percentages. The reader is cautioned about each instance where counts or percentages are likely significantly affected.

Patrons – In-person and Emedia Checkouts

The number of patrons who checked-out items in CH-UHPL facilities in 2011 and the first quarter of 2012 was approximately 30,115. In addition, there were 2,078 patrons who checked-out emedia (electronic material over the Internet) from January through approximately mid-June 2012, some of whom had also checked-out materials at the district's libraries.¹⁰ Overall, we estimate that there were 30,637 patrons checking-out materials from the CH-UHPL.¹¹

However, not all patrons live in the district. We were able to locate approximately 96 percent (30,256) of the addresses in both the in-person checkout and emedia databases. About 59 percent, 16,837, of geocoded in-person checkout patrons (28,754) lived in the district, while approximately 70 percent (1,464) of the geocoded emedia patrons (2,061) were in the district. Applying those percentages to the in-person checkout and emedia who were not geocoded, and counting only emedia patrons who are not in the in-library checkout database, we estimate that approximately 59 percent (17,969) of the library's combined in-library checkout and emedia patrons lived in the district and more than 40 percent live outside the district. Clearly the library's resources are used by many living outside the district boundaries.

The Main library service area, with 7,290 geocoded patrons, contains approximately 43 percent of patrons living within the district (see Figures 19 and 20). The University Heights branch service area

¹⁰ In-person checkout and emedia data come from two separate databases provided by CLEVNET (<http://www.clevnet.org/>). The 2,078 emedia patrons had codes that associate them with the CH-UHPL. Of these 1,464 were found to live in the district and 17 could not be geocoded. In-person borrowing means that items were checked out at that facility regardless of which library from they originated.

¹¹ This may be a slightly high estimate since some patrons may have received more than one user ID over the course of the study period and would be counted twice.

includes the second most patrons (4,359, 25.5% of CH-UHPL residents), followed by Noble (2,899, 16.9%), and Coventry (2,566, 15.0%).¹²

Overall during the study period, almost 30 percent of the district’s population visited and transacted at one or more of the libraries at least once (Figure 21). More than a third (35.5%) of residents in the Main library service area had transacted at either the Main library or one of the branches. The University Heights library service area population had a slightly lower library usage rate (24.9%) than the other service areas.

Figure 19

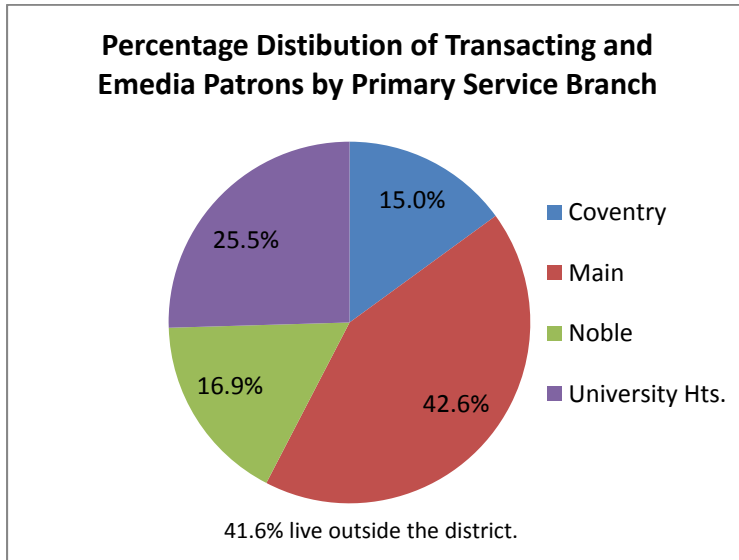
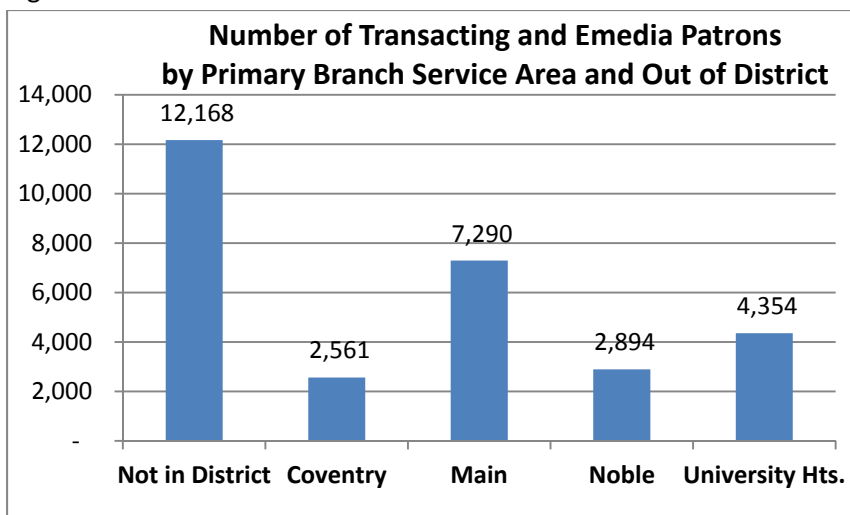
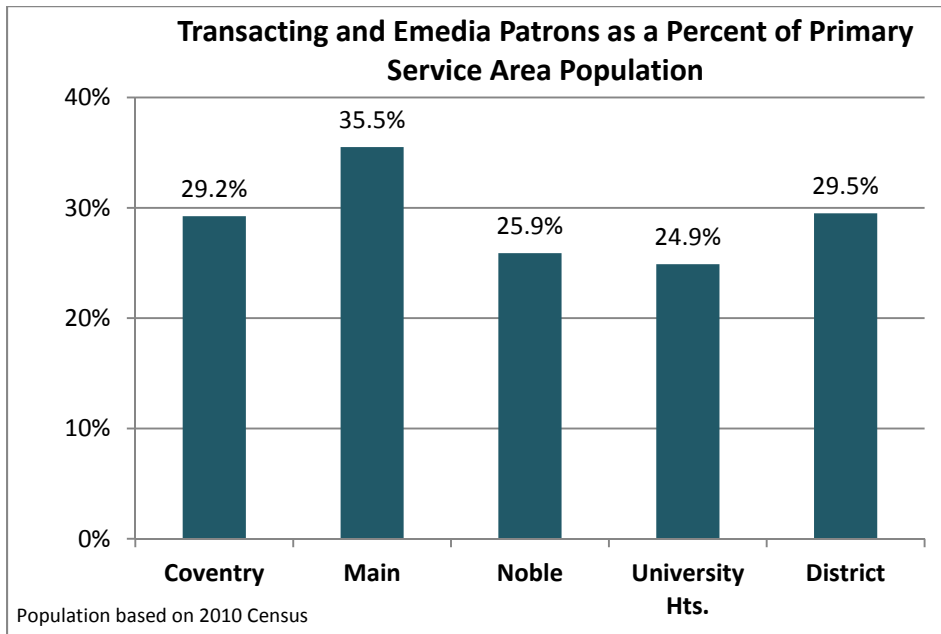


Figure 20



¹² Noble’s count and percentage are likely higher since it was closed for about a third of the study period.

Figure 21



Emedia

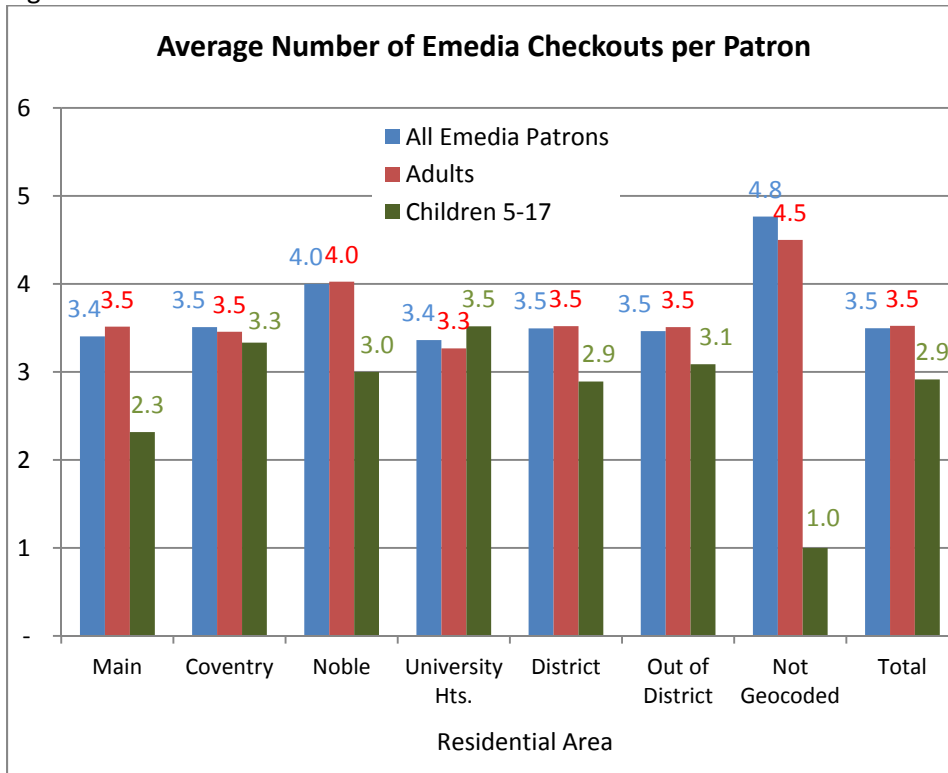
In the first almost six months of 2012, there were 2,078 emedia patrons identified as CH-UHPL account holders. Of these, 1,464 were found to live in the district (Table 5). Most emedia patrons (81.2%) were adults.

The average number of times that these patrons used emedia in this period was 3.50, indicating that over a year they would, on average, use emedia about seven times to obtain materials. Adults also use emedia more frequently than children. Figure 22 illustrates these averages for the service areas of the library system. Patrons in the Noble library service area have the greatest average frequency of emedia usage, while children patrons in the University Heights and Coventry library service areas have higher frequency of use than the other service areas.

Table 5: Emedia Patrons and Checkouts

Residential Service Area	All Emedia Patrons		Adults		Children 5-17		Average Number of Emedia			Percent that Were Adult Partons
	Emedia Patrons	Number of Emedia Check-outs	Emedia Patrons	Number of Emedia Check-outs	Emedia Patrons	Number of Emedia Check-outs	All Emedia Patrons	Adults	Children 5-17	
Main	657	2,236	496	1,743	38	88	3.40	3.51	2.32	75.5%
Coventry	303	1,063	261	902	9	30	3.51	3.46	3.33	86.1%
Noble	191	764	159	640	8	24	4.00	4.03	3.00	83.2%
University Hts.	313	1,052	244	797	27	95	3.36	3.27	3.52	78.0%
District	1,464	5,115	1,160	4,082	82	237	3.49	3.52	2.89	79.2%
Other Ohio County	11	43	8	38	0	0	3.91	4.75	none	72.7%
Cuyahoga County	506	1,698	435	1,469	22	70	3.36	3.38	3.18	86.0%
Geauga County	7	50	6	46	0	0	7.14	7.67	none	85.7%
Lake County	21	84	21	84	0	0	4.00	4.00	none	100.0%
Lorain County	8	25	8	25	0	0	3.13	3.13	none	100.0%
Medina County	6	33	4	31	1	1	5.50	7.75	1.00	66.7%
Portage County	8	41	8	41	0	0	5.13	5.13	none	100.0%
Summit County	30	94	26	77	0	0	3.13	2.96	none	86.7%
Out of District	597	2,068	516	1,811	23	71	3.46	3.51	3.09	86.4%
Not Geocoded	17	81	12	54	1	1	4.76	4.50	1.00	70.6%
Total	2,078	7,264	1,688	5,947	106	309	3.50	3.52	2.92	81.2%

Figure 22



In-Library Borrowing by Library Service Areas

CH-UHPL district residents made 215,501 transacting visits to CH-UH libraries in 2011 and the first quarter of 2012.¹³ Of these 158 were to the JCU and TSD facilities borrowing 244 items (hard bound books, audiovisual, DVD videos, and other materials).¹⁴ In addition to the 215,501 visits to the Main and three branch libraries in the district by residents of the district, there were another 88,972 transacting visits by persons living outside the district, and another 10,634 by persons for whom residential location is unknown.¹⁵

The total number of checked-out items in all transacting visits was with 1,345,680 (70.4%) being taken out by (known) residents of the district. Clearly, with so many people from outside the district borrowing 29.6 percent of the total borrowing from the four libraries, the library serves a large population well beyond the district's legal boundary. Map 2 illustrates the distribution of these patrons. In addition, the average transaction was for 5.65 materials, while the ratio of items per visit for district residents was 4.66, but 7.94 for those living beyond the district's boundary.

For patrons living in the district, the Main library patrons had the most visits to a CH-UH library (99,990). University Heights branch service area residents had a little more than half that number (50,648), and Noble and Coventry branch library service areas had roughly a third as many transacting patron visits as the Main library area - 33,672 and 31,191, respectively (Figure 23). The average number of transacting visits per patron was also higher for Main library area residents – 13.9 (Figure 24). Noble¹⁶ and University Heights library service areas had the lowest average number of visits (11.8) in the study period.

Similar comparisons of these neighborhoods are seen in the number of items borrowed in those visits (Figure 25). Main library area patrons borrowed the most materials (406,754 items), followed by University Heights (234,695), Noble (144,254), and Coventry (128,487) service areas. Figure 26 shows the percentage distributions of these numbers.

However, while the Main library dominates in sheer numbers of both visits and items borrowed, in terms of items per visit, University Heights service area residents borrowed the most – 4.6 per visit

¹³ Borrowing transactions measure the number of times patrons borrowed materials from a library. Counts are based on daily borrowing events by patrons, so that, for example, if a patron borrowed materials in two separate visits in a day, only one transaction is counted for that patron at that library.

¹⁴ Based on an extraction of library lending data for other library systems, CH-UHPL district residents also made at least 20,009 transacting visits to other CLEVNET libraries in the 14 ZIP code areas around the CH-UHPL district.

¹⁵ Addressees for 1,361 patrons could not be geocoded and associated with a service area.

¹⁶ Noble's transaction, visits, and number of material borrowed would be higher if it had been open the full study period.

(Figure 27). University Heights library area patrons also nearly match Main library area patrons in the number of items taken out per patron, 54.7 versus 56.6 respectively (Figure 28).

Figure 23

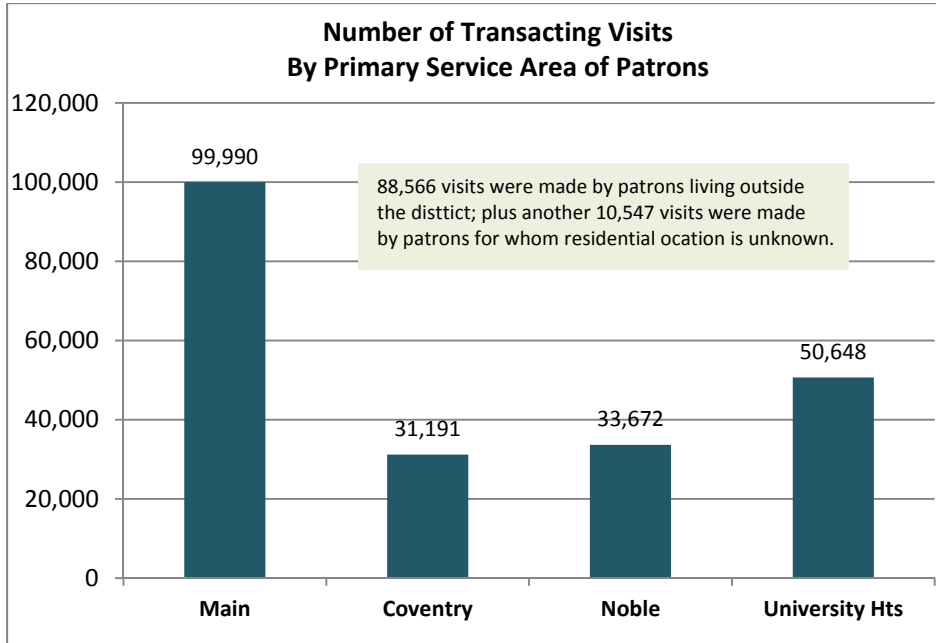


Figure 24

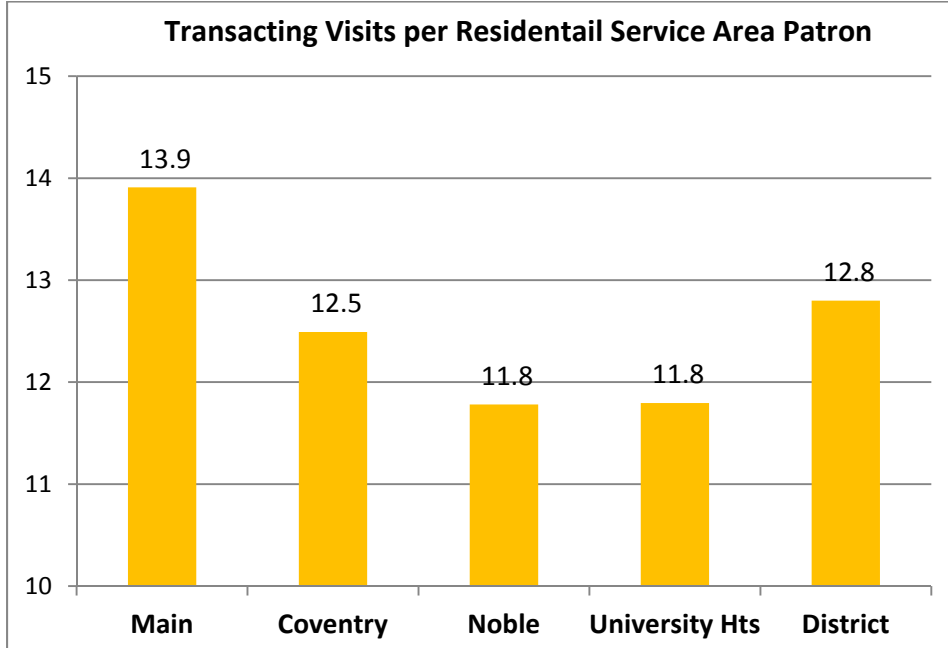


Figure 25

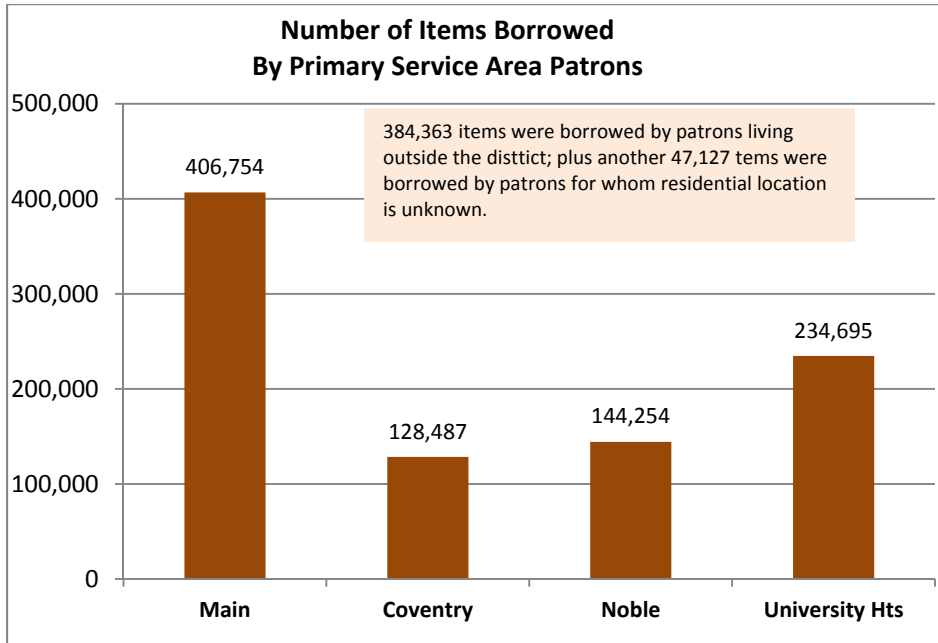


Figure 26

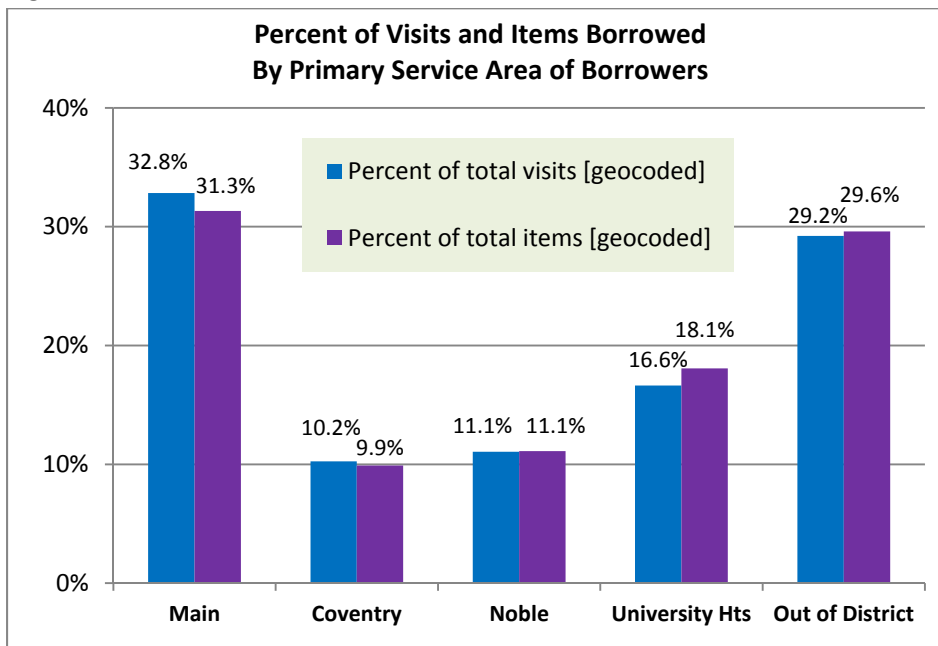


Figure 27

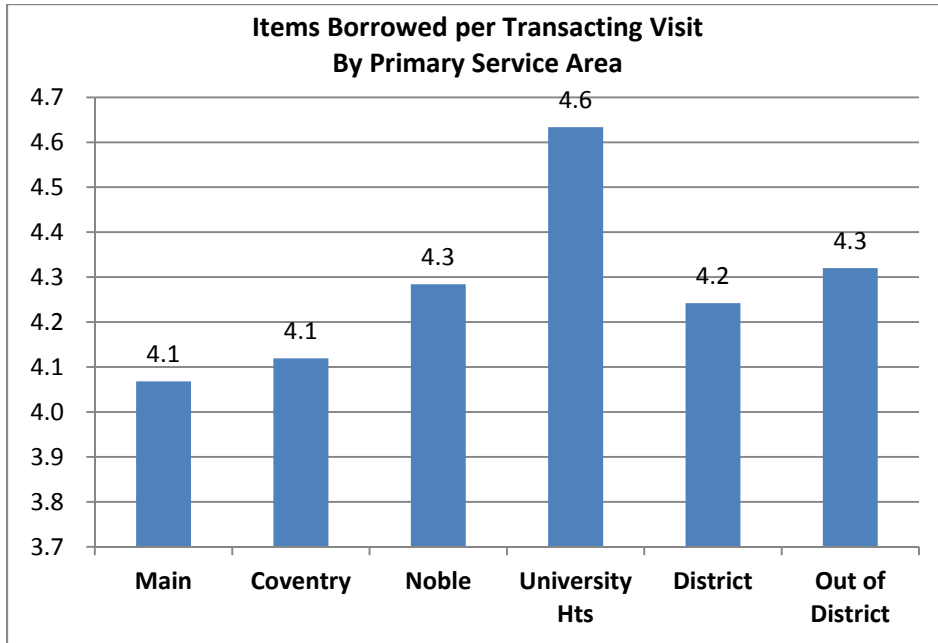
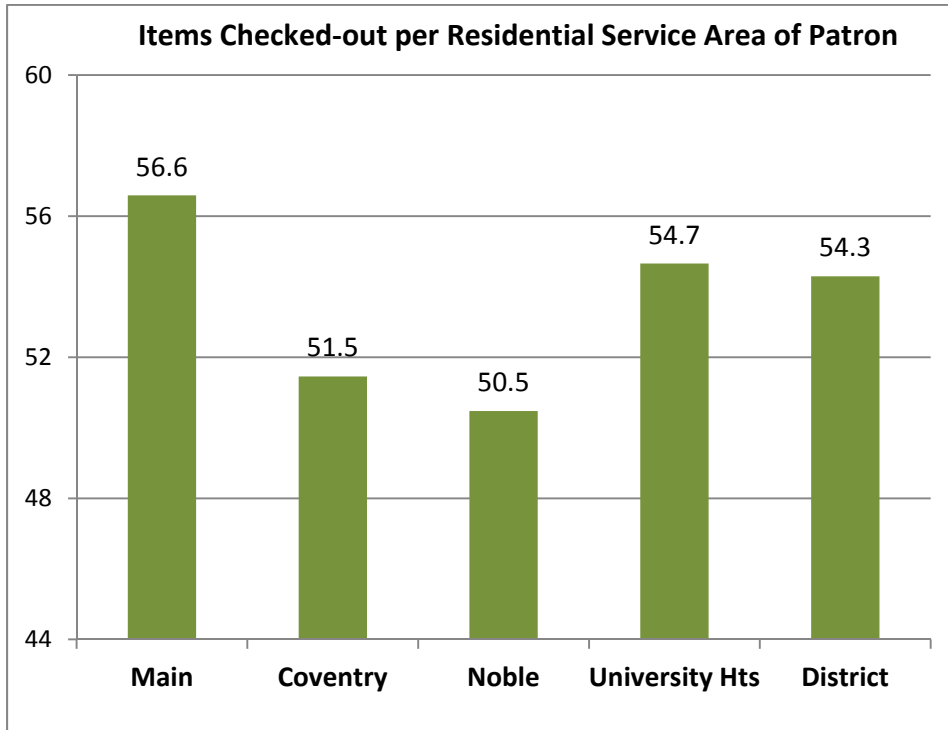


Figure 28



Patron Transactional Visits to Libraries

Table 6 provides a matrix of transacting visits to each CH-UH library from each library service area. It also shows the number of visits to the libraries from patrons outside the district (excluding those patron addresses that could not be geocoded).

Figure 29 shows the number of transactions by CH-UH district residents to other CLEVNET libraries in the area. Transacting visits by the district's residents to other libraries in the area, totaling 20,209, were mostly to the Shaker Heights Public Library's Bertram Woods library (6,306) and Main library (4,237). The Main, downtown library of the Cleveland Public Library (CPL) system (3,725) also drew a large number of the district's residents.

More than nine of 10 visits by CH-UHPL district residents were to CH-UHPL locations. The University Heights branch service area had the highest percentage of its resident borrowers (12.0%) utilizing non-CH-UH libraries (Figure 30), mostly the Bertram Woods library in Shaker Heights (Figure 31). Coventry area patrons, the closest CH-UHPL branch service area to downtown Cleveland, had the largest proportion of its residents using the CPL Main library (2.7%).

Transactional visits within the CH-UHPL district demonstrate that though patrons from across the district use the Main library for most of their library needs (74.0% of visits), the neighborhood branches are also important resources (Table 7). As seen in the highlighted diagonal of Table 8, more than a third of visits by patrons in each of the three branch service areas were to their neighborhood facility. For each of the three branches, only small percentages of visits occurred at either of the other two branches. Only the Noble library area patrons exceeded 5 percent (5.6%) of their visits to one of the other branches - the University Heights library. Obviously, the closing of the Noble library for 5 of the 15 months in the study period likely accounts for a significant number of visits to other libraries.

The Main library draws 58.6 percent of its users from its own service area, but 41.4 come from the branch CH-UHPL service areas (Table 8 and Figure 32). The most (18.7%) come from the University Heights area. But that relationship is also somewhat reciprocal since 10.9 percent of patrons in the Main library area patronize the University Heights library.

Figure 29

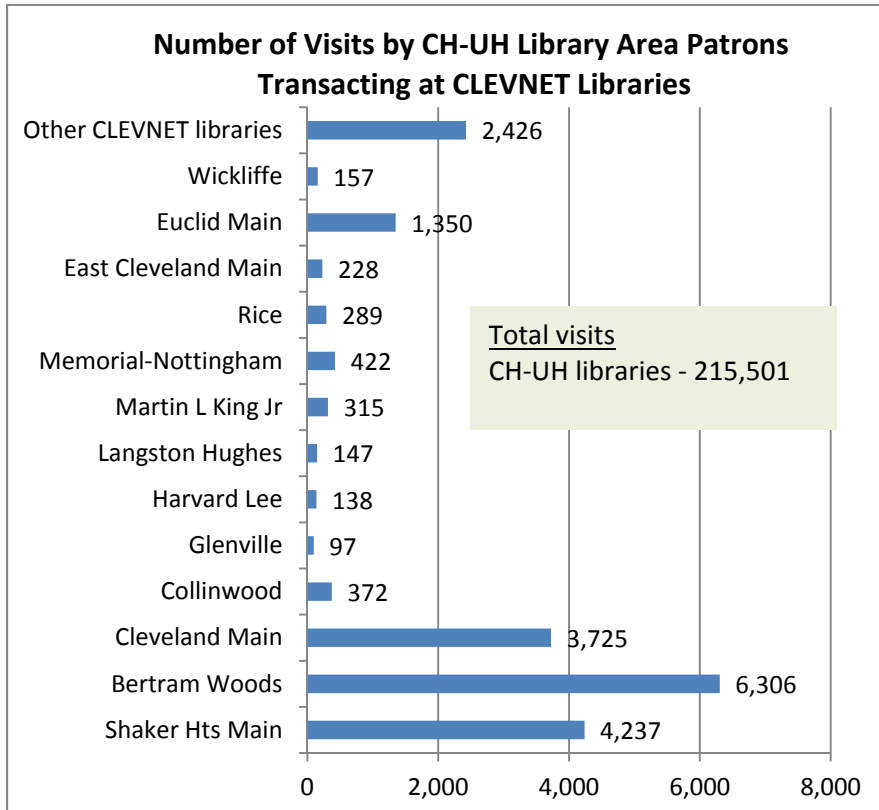


Figure 30

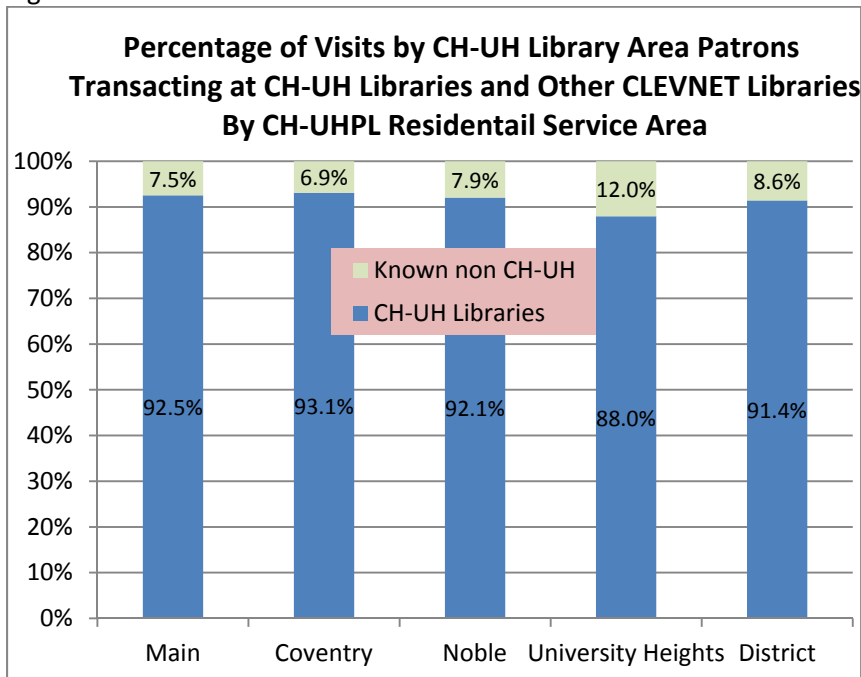


Figure 31

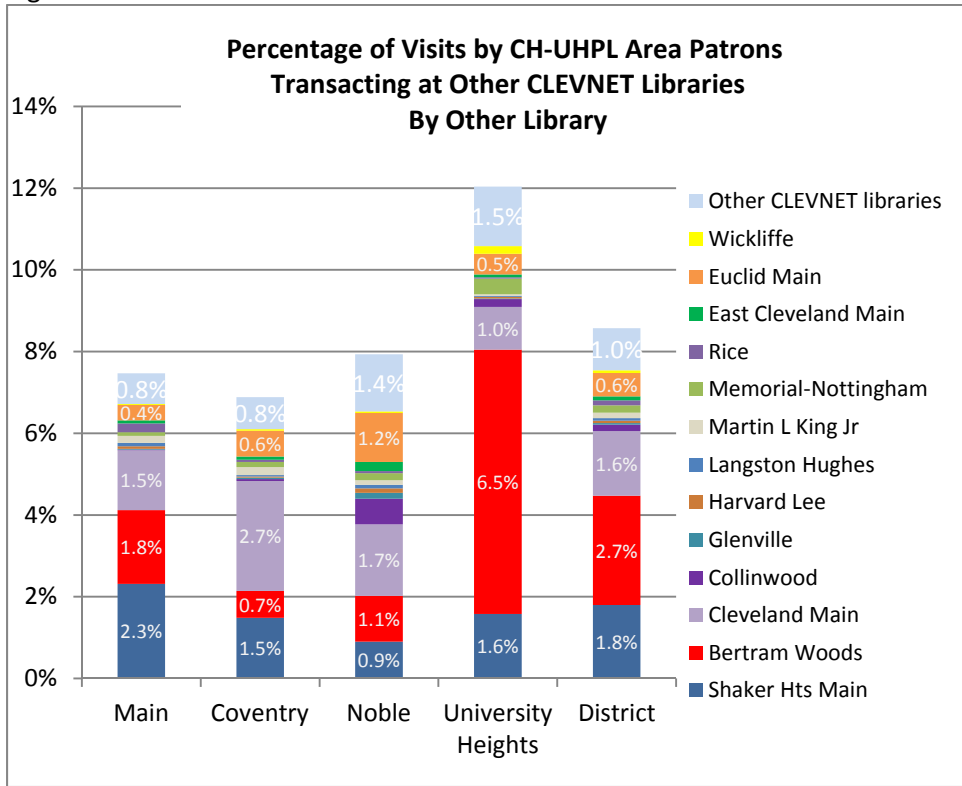


Figure 32

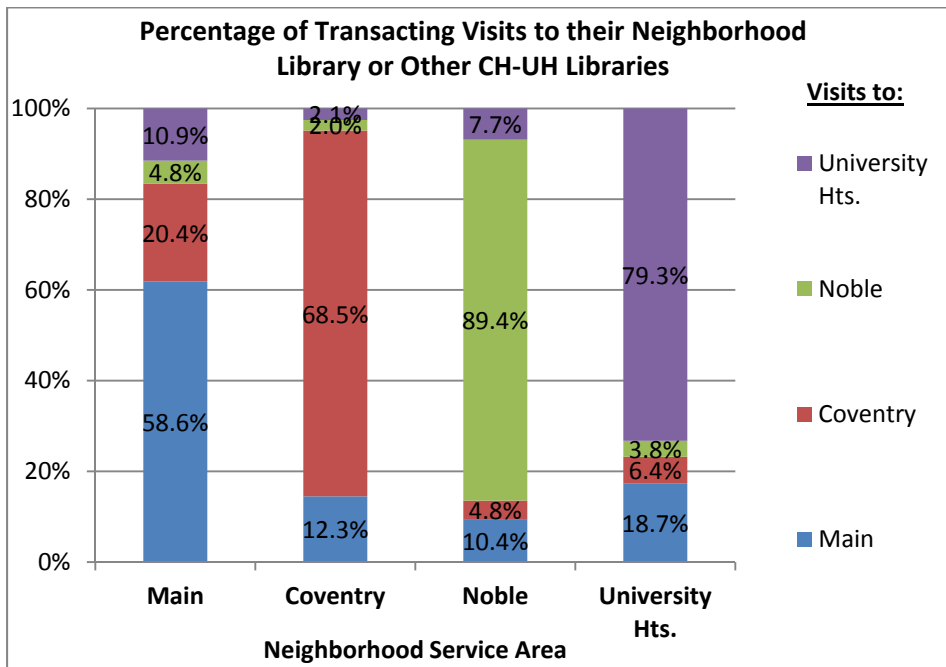


Table 6: Transactions of Borrowing Visits among Libraries

Residential Service Area	Transacting Library ----->								Known non CH-UH
	Main	Coventry	Noble	University Hts	Total among CH-UH Libraries	CH-JCU	CH-TSD	All CH-UH	
Main	93,341	3,187	780	2,640	99,948	15	27	99,990	8,070
Coventry	19,590	10,717	322	518	31,147	44	0	31,191	2,306
Noble	16,627	745	14,429	1,871	33,672	0	0	33,672	2,902
University Hts	29,745	1,007	615	19,209	50,576	72	0	50,648	6,931
District	159,303	15,656	16,146	24,238	215,343	131	27	215,501	20,209
Outside the District	60,189	6,992	8,755	12,630	88,566	280	126	88,972	

Cuyahoga County	56,808	6,645	8,479	11,967	83,899	195	99	84,193
Geauga County	492	37	32	97	658	31	0	689
Lake County	1,030	112	76	310	1,528	9	0	1,537
Lorain County	370	15	3	20	408	1	0	409
Medina County	84	53	4	4	145	1	0	146
Portage County	172	2	6	48	228	9	0	237
Summit County	950	64	143	138	1,295	12	27	1,334
Other Ohio County	283	64	12	46	405	22	0	427
Not Geocoded/Outside Ohio	7,139	993	1,056	1,359	10,547	87	0	10,634
Total	226,631	23,641	25,957	38,227	314,456	498	153	315,107

Table 7: Percentage of Neighborhood Service Area Patrons Visiting their Neighborhood Library or Other CH-UH Libraries

**Percentage of Neighborhood Service Area Patrons Visiting
their Neighborhood Library or Other CH-UH Libraries**

Residential Service Area	Borrowers (Visits)				Total among CH-UH Libraries
	Main	Coventry	Noble	University Hts	
Main	93.4%	3.2%	0.8%	2.6%	100.0%
Coventry	62.9%	34.4%	1.0%	1.7%	100.0%
Noble	49.4%	2.2%	42.9%	5.6%	100.0%
University Hts.	58.8%	2.0%	1.2%	38.0%	100.0%
Total	74.0%	7.3%	7.5%	11.3%	100.0%

Table 8: Percentage of Transacting Visits to their Neighborhood Library or Other CH-UH Libraries

Residential Service Area	Borrowers (Visits)				Total among CH-UH Libraries
	Main	Coventry	Noble	University Hts	
Main	58.6%	20.4%	4.8%	10.9%	46.4%
Coventry	12.3%	68.5%	2.0%	2.1%	14.5%
Noble	10.4%	4.8%	89.4%	7.7%	15.6%
University Hts.	18.7%	6.4%	3.8%	79.3%	23.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Types of Items Borrowed from Each Library and by Library Service Area

More than one and a third million items were checked out by district patrons at CH-UH libraries in the year and a quarter included in this study (Table 9). As seen in Figures 33, Books (593,325) and DVD Videos (562,835) were by far the most borrowed items, followed by CDs (107,502), Book on Media (41,275), and Periodicals/Magazines (26,630).

Not surprisingly, the Main library loaned far more items, and more of each type of item, than the branch libraries (Figures 34 and 35 respectively). Table A6 (in Appendix A) provides the number of items checked out at each library and from each library service area. Checkouts from the libraries indicate that University Heights library patrons check out books (49.7% of all items) over other materials (Figure 36). The Coventry branch library had the highest percentage taking out DVDs/Videos (49.7%), while the Main library had the highest percentage borrowing computer equipment (8.7%).

Consistent with the number of items taken from the libraries, we find that more than half (52.2%) of the items checked out by patrons living in the University Heights library service area were books (Table 10 and Figure 37), exceeding the overall percentage (44.1) in that category among all borrowers from the district's libraries. Borrowers from outside the district favored DVD/Videos (45.4%) and CDs (8.7%) more than the district's resident patrons (39.8% and 7.7%, respectively). In addition, patrons whose addresses could not be geocoded also disproportionately checked out DVDs/Videos (51.9%).

Table 9: Types of Items Checked-out at CH-UHPL

Residential Service Area	Books	DVDs / Videos	CDs	Books on Media	Periodical/ Magazines	Large Print Book	Computer/ Equipment	Other	Total
Main	186,135	161,475	33,426	14,939	6,547	1,659	103	2,701	406,985
Coventry	53,343	54,636	13,201	4,138	2,189	389	25	670	128,591
Noble	63,266	60,840	11,594	4,726	2,694	448	29	1,063	144,660
University Hts	122,658	87,428	12,327	5,443	4,864	723	50	1,629	235,122
District	425,402	364,379	70,548	29,246	16,294	3,219	207	6,063	915,358
Other Ohio County	688	549	92	138	41	2	0	3	1,513
Cuyahoga County	143,655	168,747	31,758	10,036	8,990	1,466	103	2,445	367,200
Geauga County	1,155	696	523	115	69	3	0	49	2,610
Lake County	3,099	1,977	359	356	97	10	0	120	6,018
Lorain County	465	691	150	48	30	0	1	8	1,393
Medina County	200	169	21	14	5	4	0	25	438
Portage County	305	200	51	58	22	1	0	2	639
Summit County	2,106	1,573	445	294	100	4	1	29	4,552
Out of District	151,673	174,602	33,399	11,059	9,354	1,490	105	2,681	384,363
Not Geocoded	16,250	23,854	3,555	970	982	92	1	255	45,959
Total	593,325	562,835	107,502	41,275	26,630	4,801	313	8,999	1,345,680

Table 10: Percentage Distribution of Types of Items Checked-out at CH-UHPL

Residential Service Area	Books	DVDs / Videos	CDs	Books on Media	Periodical/ Magazines	Large Print Book	Computer/ Equipment	Other	Total
Main	45.7%	39.7%	8.2%	3.7%	1.6%	0.4%	0.0%	0.7%	100.0%
Coventry	41.5%	42.5%	10.3%	3.2%	1.7%	0.3%	0.0%	0.5%	100.0%
Noble	43.7%	42.1%	8.0%	3.3%	1.9%	0.3%	0.0%	0.7%	100.0%
University Hts	52.2%	37.2%	5.2%	2.3%	2.1%	0.3%	0.0%	0.7%	100.0%
District	46.5%	39.8%	7.7%	3.2%	1.8%	0.4%	0.0%	0.7%	100.0%
Other Ohio County	45.5%	36.3%	6.1%	9.1%	2.7%	0.1%	0.0%	0.2%	100.0%
Cuyahoga County	39.1%	46.0%	8.6%	2.7%	2.4%	0.4%	0.0%	0.7%	100.0%
Geauga County	44.3%	26.7%	20.0%	4.4%	2.6%	0.1%	0.0%	1.9%	100.0%
Lake County	51.5%	32.9%	6.0%	5.9%	1.6%	0.2%	0.0%	2.0%	100.0%
Lorain County	33.4%	49.6%	10.8%	3.4%	2.2%	0.0%	0.1%	0.6%	100.0%
Medina County	45.7%	38.6%	4.8%	3.2%	1.1%	0.9%	0.0%	5.7%	100.0%
Portage County	47.7%	31.3%	8.0%	9.1%	3.4%	0.2%	0.0%	0.3%	100.0%
Summit County	46.3%	34.6%	9.8%	6.5%	2.2%	0.1%	0.0%	0.6%	100.0%
Out of District	39.5%	45.4%	8.7%	2.9%	2.4%	0.4%	0.0%	0.7%	100.0%
Not Geocoded	35.4%	51.9%	7.7%	2.1%	2.1%	0.2%	0.0%	0.6%	100.0%
Total	44.1%	41.8%	8.0%	3.1%	2.0%	0.4%	0.0%	0.7%	100.0%

Figure 33

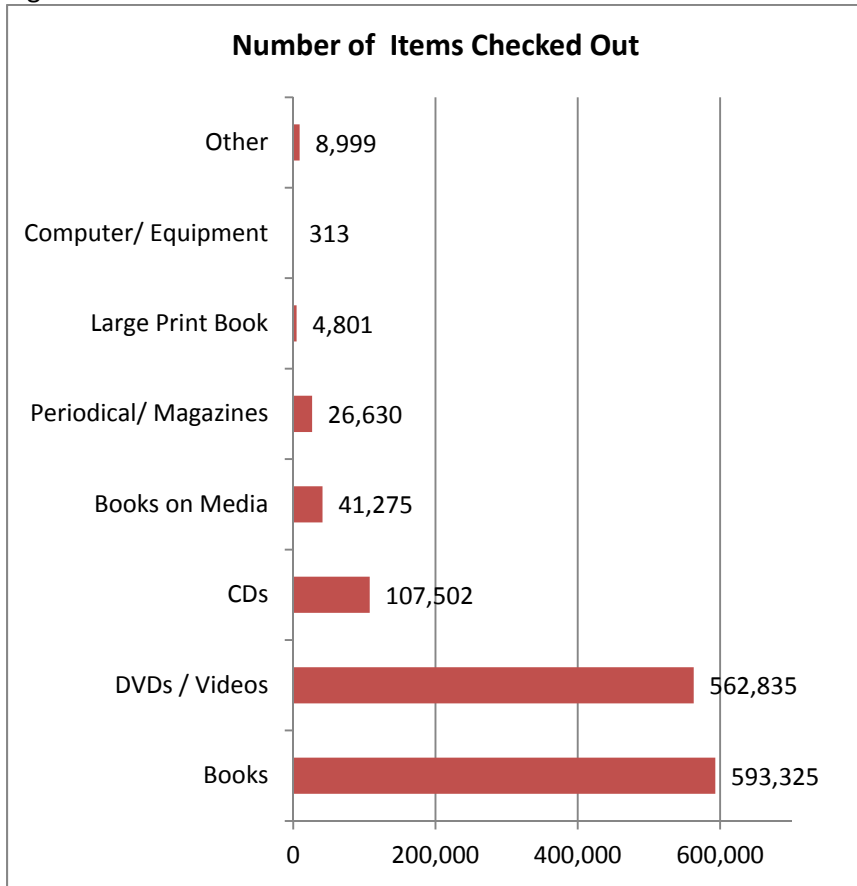


Figure 34

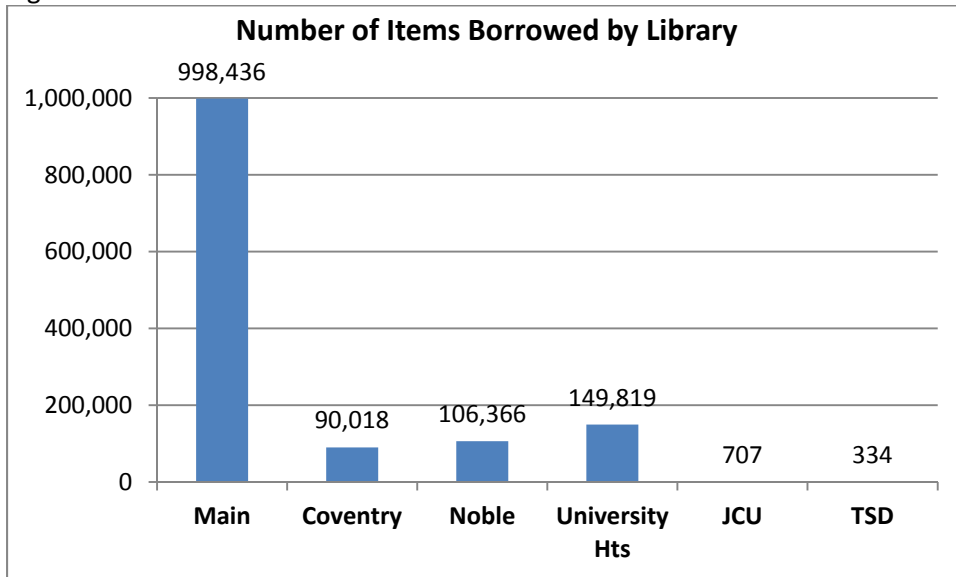


Figure 35

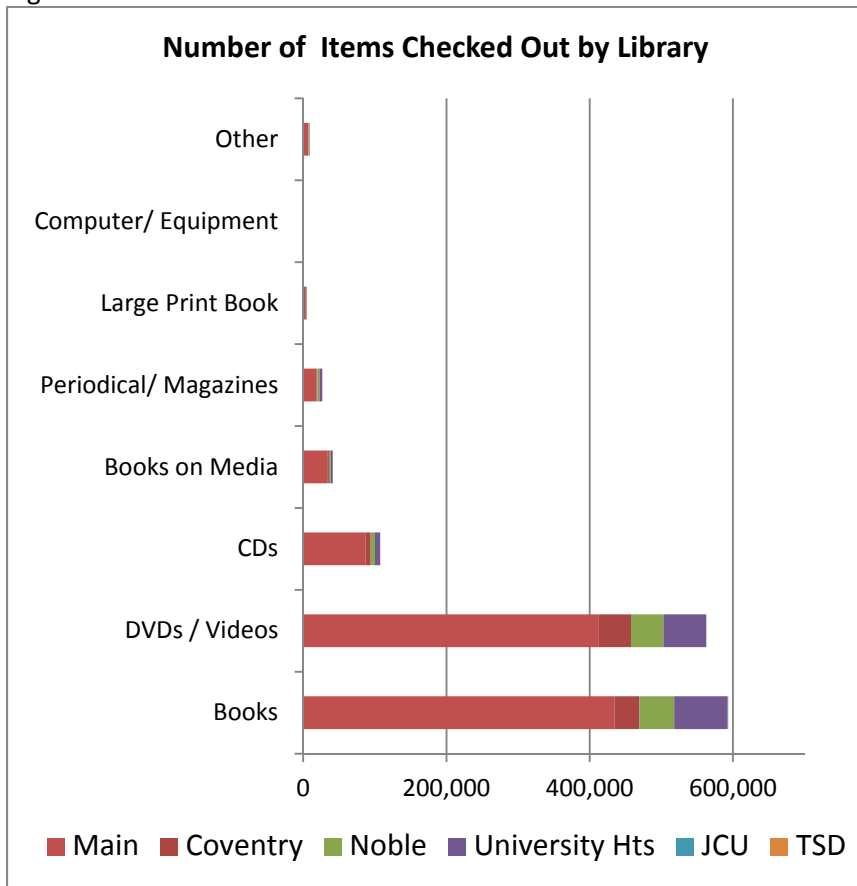


Figure 36

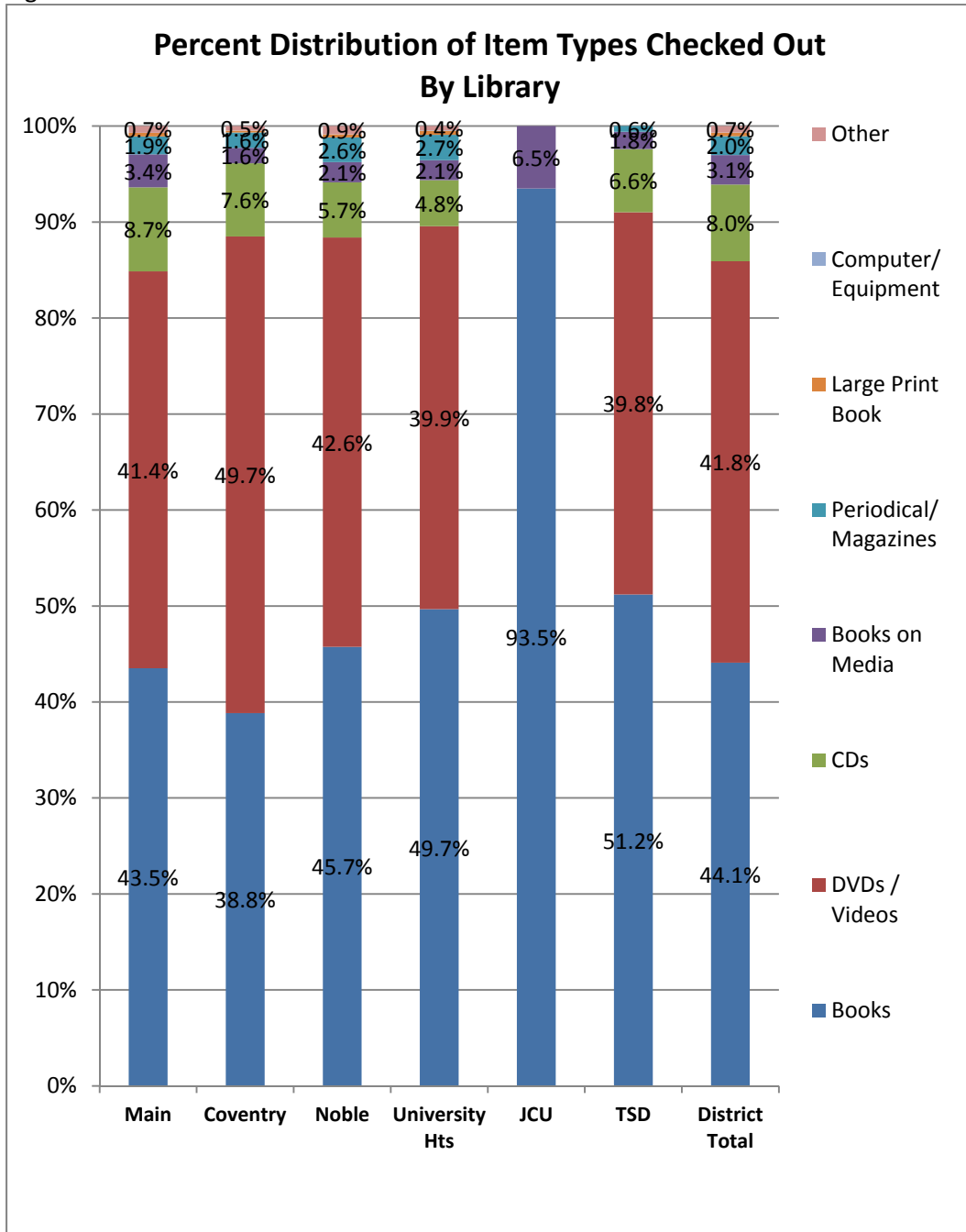
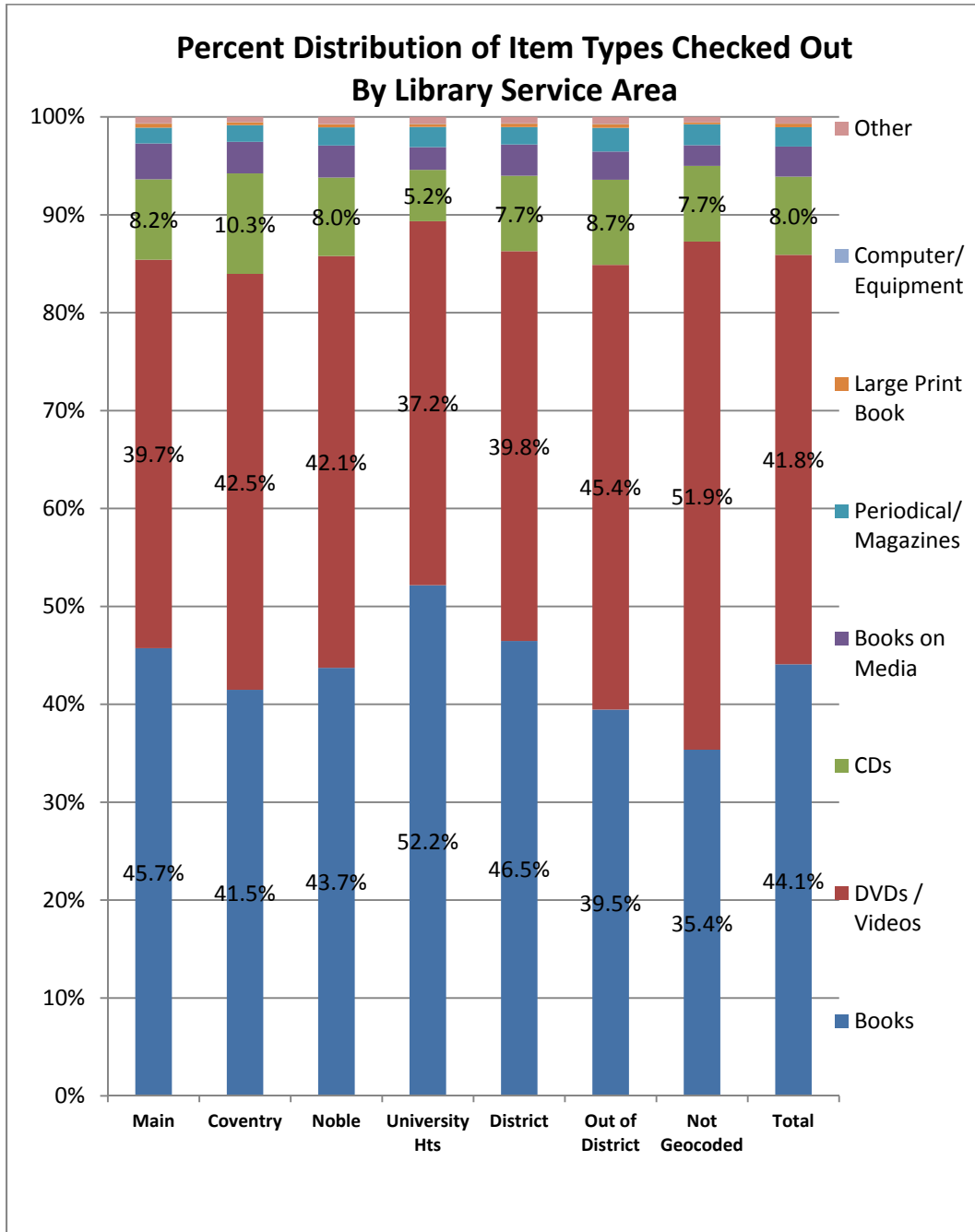


Figure 37



Conclusions

The population of the CH-UHPL district is above the county average in educational attainment and other socioeconomic measures that generally are associated with strong support for education and library services.

However, the district is also situated within older, inner-ring cities in which population loss and socioeconomic decline have been underway for decades (since the 1960s). Poverty and increasing poverty are more concentrated in some neighborhoods of the district than others. While these communities are making strong efforts to maintain and revitalize their housing and economic tax bases, the processes of population loss and economic decline are persistent, even beyond the currently slow recovery from the most recent recession. The district must plan accordingly.

Providing effective library services is an important, some would say critical, public policy, probably most especially in these times. In addition, decisions about efficiency in service delivery must be augmented with considerations of efficacy for those in most need of those services.

Ultimately the district must decide where and how library services should be allocated. The data presented in this report are intended to help in answering such questions as: Which library materials should be most concentrated in the Main Library and which should be more equally distributed to the neighborhood branches? What outreach strategies might be more effective in some neighborhoods? What is the responsibility of the district toward those patrons who live outside the district's boundaries, and what role should they play in making operational and policy decisions within the district?

Some observations can be noted here. Clearly, the overall dominance of the Main Library is apparent in most of the statistics reported in this study, yet the neighborhood libraries have significant numbers of patron visits and items borrowed and thus differ to some degree in how they are used.

For example, the Coventry libraries serve populations with some different patterns of usage than those in other parts of the district. They visit less often, check out fewer items per visit, and are more likely to borrow DVDs/Videos and CDs. Coventry and Noble libraries serve areas that are smaller in population than the Main and University Heights library service areas. The Noble Library service area has lower education levels and more unemployment. The Coventry area is home of more commuters to places outside the district who, as a result, may use libraries near where they work more often than others.

The data tell us that patrons in the University Heights library significantly utilized library services at nearby libraries in Shaker Heights, especially the Bertram Woods library. Perhaps as a result, in comparison to the district as a whole, the University Heights library service area has a lower percentage of its population that is CH-UHPL patrons.

It is hoped that these and other observations from the data will assist in planning for the CH-UHPL district's continued service to the community.

Appendix A: Tables

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Table A1: Selected Socioeconomic and Housing Estimates Based on the 2006-2010 American Community Survey

Service Area	Total Population		Median household income in 2010 dollars		High school graduate or higher				Bachelor degree or higher				In Public School K-8				In Public High School				Poverty rate	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Percent	Percent Margin of Error	Estimate	Margin of Error	Percent	Percent Margin of Error	Estimate	Margin of Error	Percent of all K-8	Percent Margin of Error of all K-8	Estimate	Margin of Error	Percent of all High School	Percent Margin of Error of all High School	Estimate	Margin of Error
District	58,690	1,889	\$51,676	1,935	35,219	1,321	94.1	2.1	20,607	957	55.1	1.9	3,725	584	61.3	9.4	2,317	409	69.0	12.1	16.4	1.7
Coventry	8,454	674	\$42,091	2,132	5,546	512	97.4	3.1	3,923	433	68.9	4.7	574	163	79.9	22.2	175	85	86.0	41.9	25.7	4.6
Main	20,482	1,076	\$58,030	3,259	12,570	759	94.3	3.3	7,504	545	56.3	3	1,112	347	54.8	16.8	900	243	66.6	17.7	15.3	2.7
Noble	11,737	805	\$47,160	3,656	7,412	658	89.9	5.4	3,269	443	39.7	4.7	1,021	362	93.6	31.3	640	247	88.6	33.5	17.1	4.5
University Hts.	18,018	1,144	\$61,111	4,351	9,692	689	95.6	4.2	5,911	485	58.3	3.5	1,017	252	45.4	11	602	200	55.8	18.4	12.4	3.0
Cuyahoga County	1,293,825	0	\$43,603	382	761,039	5,063	86.4	0.6	248,508	2,885	28.2	0.3	118,328	2,055	79.2	0.8	65,028	1,106	82.4	0.7	16.4	0.3

Service Area	Unemployed in Civilian Labor Force				Not in Labor Force				Speak English less than "very well"				Speak Spanish				Worked in place of residence				Median Gross Rent	
	Estimate	Margin of Error	Percent	Percent Margin of Error	Estimate	Margin of Error	Percent	Percent Margin of Error	Estimate	Margin of Error	Percent	Percent Margin of Error	Estimate	Margin of Error	Percent	Percent Margin of Error	Estimate	Margin of Error	Percent	Percent Margin of Error	Estimate	Margin of Error
District	2,535	888	8.1	2.8	15,344	1,191	32.8	2.3	2,000	435	3.7	0.8	1,273	321	2.3	0.6	4,044	446	14.5	1.5	\$804	10
Coventry	392	146	7.7	2.8	2,102	296	29.2	3.4	449	191	5.6	2.3	104	55	1.3	0.7	390	122	8.5	2.5	\$782	10
Main	951	574	8.6	5.2	5,416	740	32.9	4.1	404	220	2.1	1.1	422	195	2.2	1	1,560	240	16	2.3	\$821	32
Noble	592	517	9.5	8.2	2,799	560	30.9	5.8	368	231	3.4	2.1	337	184	3.1	1.7	691	168	12.3	2.8	\$725	21
University Hts.	600	269	6.7	3	5,027	685	35.9	4.3	779	225	4.7	1.3	410	166	2.5	1	1,403	313	17.6	3.7	\$946	24
Cuyahoga County	69,826	1,753	10.5	0.3	367,337	2,847	35.6	0.2	34,400	1,609	2.8	0.1	42,846	1,077	3.5	0.1	159,522	2,150	27.8	0.4	\$698	5

Note: Totals may not add due to rounding.

Table A2: Selected Demographic Data Estimated from 2010 Census

Service Area	Population	Persons 18 years and over	Persons 0 to 17 years	Persons 5 to 17 years	Owner-occupied Housing Units	Renter-occupied Housing Units	Occupied Units	Percent Children (under 18)	Percent School Age (5-17)	Percent Owner-occupied Housing Units	Average HH Size
District	57,954	45,036	12,918	9,158	14,173	10,006	24,179	22.3%	15.8%	58.6%	2.40
Coventry	8,759	7,497	1,262	857	1,269	3,410	4,679	14.4%	9.8%	27.1%	1.87
Main	20,530	15,822	4,708	3,417	5,267	3,019	8,286	22.9%	16.6%	63.6%	2.48
Noble	11,176	8,514	2,662	1,948	3,164	1,783	4,947	23.8%	17.4%	64.0%	2.26
University Hts.	17,489	13,203	4,286	2,936	4,473	1,794	6,267	24.5%	16.8%	71.4%	2.79
Cuyahoga County	1,280,122	989,860	290,262	215,469	331,876	213,180	545,056	22.7%	16.8%	60.9%	2.35
Rest of County	1,222,168	944,824	277,344	206,311	317,703	203,174	520,877	22.7%	16.9%	61.0%	2.35
Branch Average	14,489	11,259	3,230	2,290	3,543	2,502	6,045	22.3%	15.8%	58.6%	2.40
Percent of District											
Service Area	Population	Persons 18 years and over	Persons 0 to 17 years	Persons 5 to 17 years	Owner-occupied Housing Units	Renter-occupied Housing Units	Occupied Units				
District											
Coventry	15.1%	16.6%	9.8%	9.4%	9.0%	34.1%	19.4%				
Main	35.4%	35.1%	36.4%	37.3%	37.2%	30.2%	34.3%				
Noble	19.3%	18.9%	20.6%	21.3%	22.3%	17.8%	20.5%				
University Hts.	30.2%	29.3%	33.2%	32.1%	31.6%	17.9%	25.9%				
Cuyahoga County											
Rest of County											
Branch Average	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%				

Table A3: Population Change

Service Area	2000 population	change 200 to 2010	Percent Change
District	62,521	-4,567	-7.3%
Coventry	9,626	-867	-9.0%
Main	21,969	-1,439	-6.6%
Noble	12,407	-1,231	-9.9%
University Hts.	18,519	-1,030	-5.6%
Cuyahoga County	1,393,978	-113,856	-8.2%
Rest of County	1,331,457	-109,289	-8.2%
Branch Average	15,630	-1,142	-7.3%

Table A4: Population Projections

	Projected		Change from 2010		Percent Change from 2010	
	2015	2020	2015	2020	2015	2020
CH-UHPL	56,634	55,353	-1,320	-2,601	-2.3%	-4.5%
Cuyahoga County	1,232,029	1,193,068	-48,093	-87,054	-3.8%	-6.8%

Table A5: CH-UH School District Enrollments

Year	Count	Annual Percent Change in Count	Rolling Average
2006/2007	6,166	-	-
2007/2008	6,123	-0.7%	6,145
2008/2009	5,970	-2.5%	6,086
2009/2010	5,845	-2.1%	6,026
2010/2011	5,936	1.6%	6,008
2011/2012	5,831	-1.8%	5,979

Change 2006/2007 to 2011/2012 (335) -5.4%

Table A6: Number of Items Checked Out at each Library by each Library Service Area Patrons

		Transacting Library							
		Main Library							
Residential Service Area	Books	DVDs / Videos	CDs	Books	Periodical/	Large	Computer/	Other	Total
				on Media	Magazines	Print Book	Equipment		
Main	173,141	153,304	32,179	14,365	6,019	1,574	100	2,585	383,267
Coventry	36,577	34,722	9,757	3,223	1,535	300	21	501	86,636
Noble	31,602	30,221	7,495	3,124	1,297	182	20	563	74,504
University Hts	82,193	52,930	9,079	3,943	3,083	351	25	1,166	152,770
District	323,513	271,177	58,510	24,655	11,934	2,407	166	4,815	697,177
Other Ohio County	486	407	76	118	39	2	0	1	1,129
Cuyahoga County	94,929	120,077	24,686	8,138	5,631	1,149	47	1,807	256,464
Geauga County	797	518	385	99	51	3	0	49	1,902
Lake County	2,169	1,524	224	206	73	10	0	111	4,317
Lorain County	395	652	145	35	28	0	1	7	1,263
Medina County	124	131	11	12	5	4	0	25	312
Portage County	212	141	48	56	22	1	0	2	482
Summit County	1,427	1,250	314	220	83	4	1	19	3,318
Out of District	100,539	124,700	25,889	8,884	5,932	1,173	49	2,021	269,187
Not Geocoded	10,413	16,989	2,911	899	614	82	1	163	32,072
Total	434,465	412,866	87,310	34,438	18,480	3,662	216	6,999	998,436

		Coventry Branch							
Residential Service Area	Books	DVDs / Videos	CDs	Books on	Periodical/	Large	Computer/	Other	Total
				Media	Magazines	Print Book	Equipment		
Main	6,552	4,305	560	157	234	12	3	70	11,893
Coventry	15,554	18,251	3,332	845	619	82	4	152	38,839
Noble	1,188	1,101	168	51	72	31	1	26	2,638
University Hts	1,012	2,200	108	63	124	9	0	28	3,544
District	24,306	25,857	4,168	1,116	1,049	134	8	276	56,914
Other Ohio County	98	94	8	2	2	0	0	0	204
Cuyahoga County	8,921	16,431	2,288	280	329	32	10	108	28,399
Geauga County	35	78	16	8	0	0	0	0	137
Lake County	184	41	82	4	20	0	0	3	334
Lorain County	25	14	0	6	2	0	0	1	48
Medina County	63	34	8	2	0	0	0	0	107
Portage County	1	0	3	0	0	0	0	0	4
Summit County	175	45	18	3	7	0	0	2	250
Out of District	9,502	16,737	2,423	305	360	32	10	114	29,483
Not Geocoded	1,149	2,111	274	18	34	5	0	30	3,621
Total	34,957	44,705	6,865	1,439	1,443	171	18	420	90,018

Residential Service Area	Noble Branch								
	Books					Large			
	Books	DVDs / Videos	CDs	on Media	Periodical/ Magazines	Print Book	Computer/ Equipment	Other	Total
Main	1,712	714	128	89	69	24	0	20	2,756
Coventry	453	829	59	17	1	1	0	12	1,372
Noble	26,677	26,853	3,611	1,427	1,063	221	8	451	60,311
University Hts	1,570	822	94	43	123	2	0	25	2,679
District	30,412	29,218	3,892	1,576	1,256	248	8	508	67,118
Other Ohio County	18	10	6	0	0	0	0	0	34
Cuyahoga County	16,030	13,700	2,023	610	1,323	85	3	347	34,121
Geauga County	95	0	7	1	15	0	0	0	118
Lake County	207	80	12	7	0	0	0	5	311
Lorain County	13	2	0	2	0	0	0	0	17
Medina County	7	3	1	0	0	0	0	0	11
Portage County	0	9	0	2	0	0	0	0	11
Summit County	194	72	25	27	2	0	0	8	328
Out of District	16,564	13,876	2,074	649	1,340	85	3	360	34,951
Not Geocoded	1,677	2,271	144	22	136	1	0	46	4,297
Total	48,653	45,365	6,110	2,247	2,732	334	11	914	106,366

Residential Service Area	University Heights Branch								
	Books					Large			
	Books	DVDs / Videos	CDs	on Media	Periodical/ Magazines	Print Book	Computer/ Equipment	Other	Total
Main	4,664	3,147	551	321	225	49	0	26	8,983
Coventry	702	834	53	53	34	6	0	5	1,687
Noble	3,799	2,665	320	124	262	14	0	23	7,207
University Hts	37,798	31,476	3,046	1,378	1,534	361	25	410	76,028
District	46,963	38,122	3,970	1,876	2,055	430	25	464	93,905
Other Ohio County	58	38	2	16	0	0	0	2	116
Cuyahoga County	23,404	18,449	2,749	987	1,705	200	43	183	47,720
Geauga County	167	100	115	7	3	0	0	0	392
Lake County	526	332	41	137	4	0	0	1	1,041
Lorain County	30	23	5	5	0	0	0	0	63
Medina County	4	1	1	0	0	0	0	0	6
Portage County	80	50	0	0	0	0	0	0	130
Summit County	288	168	86	44	8	0	0	0	594
Out of District	24,557	19,161	2,999	1,196	1,720	200	43	186	50,062
Not Geocoded	2,898	2,483	226	27	198	4	0	16	5,852
Total	74,418	59,766	7,195	3,099	3,973	634	68	666	149,819

Residential Service Area	JCU			TSD					
	Books on			Books					
	Books	Media	Total	Books	CDs	DVDs / Videos	on Media	Periodical/ Magazines	Total
Main	16	2	18	50	8	5	5	0	68
Coventry	57	0	57	0	0	0	0	0	0
Noble	0	0	0	0	0	0	0	0	0
University Hts	85	16	101	0	0	0	0	0	0
District	158	18	176	50	8	5	5	0	68
Other Ohio County	28	2	30	0	0	0	0	0	0
Cuyahoga County	260	20	280	111	12	90	1	2	216
Geauga County	61	0	61	0	0	0	0	0	0
Lake County	13	2	15	0	0	0	0	0	0
Lorain County	2	0	2	0	0	0	0	0	0
Medina County	2	0	2	0	0	0	0	0	0
Portage County	12	0	12	0	0	0	0	0	0
Summit County	12	0	12	10	2	38	0	0	50
Out of District	390	24	414	121	14	128	1	2	266
Not Geocoded	113	4	117	0	0	0	0	0	0
Total	661	46	707	171	22	133	6	2	334

Residential Service Area	District								
	Books	DVDs / Videos	CDs	Books on Media	Periodical/ Magazines	Large Print Book	Computer/ Equipment	Other	Total
	Main	186,135	161,475	33,426	14,939	6,547	1,659	103	2,701
Coventry	53,343	54,636	13,201	4,138	2,189	389	25	670	128,591
Noble	63,266	60,840	11,594	4,726	2,694	448	29	1,063	144,660
University Hts	122,658	87,428	12,327	5,443	4,864	723	50	1,629	235,122
District	425,402	364,379	70,548	29,246	16,294	3,219	207	6,063	915,358
Other Ohio County	688	549	92	138	41	2	0	3	1,513
Cuyahoga County	143,655	168,747	31,758	10,036	8,990	1,466	103	2,445	367,200
Geauga County	1,155	696	523	115	69	3	0	49	2,610
Lake County	3,099	1,977	359	356	97	10	0	120	6,018
Lorain County	465	691	150	48	30	0	1	8	1,393
Medina County	200	169	21	14	5	4	0	25	438
Portage County	305	200	51	58	22	1	0	2	639
Summit County	2,106	1,573	445	294	100	4	1	29	4,552
Out of District	151,673	174,602	33,399	11,059	9,354	1,490	105	2,681	384,363
Not Geocoded	16,250	23,854	3,555	970	982	92	1	255	45,959
Total	593,325	562,835	107,502	41,275	26,630	4,801	313	8,999	1,345,680

Table A7: Percentage Distribution of Items Checked Out at each Library by each Library Service Area Patrons

Transacting Library ----->									
Residential Service Area	Main Library								Total
	Books	DVDs / Videos	CDs	Books on Media	Periodical/ Magazines	Large Print Book	Computer/ Equipment	Other	
Main	45.2%	40.0%	8.4%	3.7%	1.6%	0.4%	0.0%	0.7%	100.0%
Coventry	42.2%	40.1%	11.3%	3.7%	1.8%	0.3%	0.0%	0.6%	100.0%
Noble	42.4%	40.6%	10.1%	4.2%	1.7%	0.2%	0.0%	0.8%	100.0%
University Hts	53.8%	34.6%	5.9%	2.6%	2.0%	0.2%	0.0%	0.8%	100.0%
District	46.4%	38.9%	8.4%	3.5%	1.7%	0.3%	0.0%	0.7%	100.0%
Other Ohio County	43.0%	36.0%	6.7%	10.5%	3.5%	0.2%	0.0%	0.1%	100.0%
Cuyahoga County	37.0%	46.8%	9.6%	3.2%	2.2%	0.4%	0.0%	0.7%	100.0%
Geauga County	41.9%	27.2%	20.2%	5.2%	2.7%	0.2%	0.0%	2.6%	100.0%
Lake County	50.2%	35.3%	5.2%	4.8%	1.7%	0.2%	0.0%	2.6%	100.0%
Lorain County	31.3%	51.6%	11.5%	2.8%	2.2%	0.0%	0.1%	0.6%	100.0%
Medina County	39.7%	42.0%	3.5%	3.8%	1.6%	1.3%	0.0%	8.0%	100.0%
Portage County	44.0%	29.3%	10.0%	11.6%	4.6%	0.2%	0.0%	0.4%	100.0%
Summit County	43.0%	37.7%	9.5%	6.6%	2.5%	0.1%	0.0%	0.6%	100.0%
Out of District	37.3%	46.3%	9.6%	3.3%	2.2%	0.4%	0.0%	0.8%	100.0%
Not Geocoded	32.5%	53.0%	9.1%	2.8%	1.9%	0.3%	0.0%	0.5%	100.0%
Total	43.5%	41.4%	8.7%	3.4%	1.9%	0.4%	0.0%	0.7%	100.0%
Residential Service Area	Coventry Branch								Total
	Books	DVDs / Videos	CDs	Books on Media	Periodical/ Magazines	Large Print Book	Computer/ Equipment	Other	
Main	55.1%	36.2%	4.7%	1.3%	2.0%	0.1%	0.0%	0.6%	100.0%
Coventry	40.0%	47.0%	8.6%	2.2%	1.6%	0.2%	0.0%	0.4%	100.0%
Noble	45.0%	41.7%	6.4%	1.9%	2.7%	1.2%	0.0%	1.0%	100.0%
University Hts	28.6%	62.1%	3.0%	1.8%	3.5%	0.3%	0.0%	0.8%	100.0%
District	42.7%	45.4%	7.3%	2.0%	1.8%	0.2%	0.0%	0.5%	100.0%
Other Ohio County	48.0%	46.1%	3.9%	1.0%	1.0%	0.0%	0.0%	0.0%	100.0%
Cuyahoga County	31.4%	57.9%	8.1%	1.0%	1.2%	0.1%	0.0%	0.4%	100.0%
Geauga County	25.5%	56.9%	11.7%	5.8%	0.0%	0.0%	0.0%	0.0%	100.0%
Lake County	55.1%	12.3%	24.6%	1.2%	6.0%	0.0%	0.0%	0.9%	100.0%
Lorain County	52.1%	29.2%	0.0%	12.5%	4.2%	0.0%	0.0%	2.1%	100.0%
Medina County	58.9%	31.8%	7.5%	1.9%	0.0%	0.0%	0.0%	0.0%	100.0%
Portage County	25.0%	0.0%	75.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Summit County	70.0%	18.0%	7.2%	1.2%	2.8%	0.0%	0.0%	0.8%	100.0%
Out of District	32.2%	56.8%	8.2%	1.0%	1.2%	0.1%	0.0%	0.4%	100.0%
Not Geocoded	31.7%	58.3%	7.6%	0.5%	0.9%	0.1%	0.0%	0.8%	100.0%
Total	38.8%	49.7%	7.6%	1.6%	1.6%	0.2%	0.0%	0.5%	100.0%

Residential Service Area	Noble Branch								Total
	Books	DVDs / Videos	CDs	Books on Media	Periodical/Magazines	Large Print Book	Computer/Equipment	Other	
Main	62.1%	25.9%	4.6%	3.2%	2.5%	0.9%	0.0%	0.7%	100.0%
Coventry	33.0%	60.4%	4.3%	1.2%	0.1%	0.1%	0.0%	0.9%	100.0%
Noble	44.2%	44.5%	6.0%	2.4%	1.8%	0.4%	0.0%	0.7%	100.0%
University Hts	58.6%	30.7%	3.5%	1.6%	4.6%	0.1%	0.0%	0.9%	100.0%
District	45.3%	43.5%	5.8%	2.3%	1.9%	0.4%	0.0%	0.8%	100.0%
Other Ohio County	52.9%	29.4%	17.6%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Cuyahoga County	47.0%	40.2%	5.9%	1.8%	3.9%	0.2%	0.0%	1.0%	100.0%
Geauga County	80.5%	0.0%	5.9%	0.8%	12.7%	0.0%	0.0%	0.0%	100.0%
Lake County	66.6%	25.7%	3.9%	2.3%	0.0%	0.0%	0.0%	1.6%	100.0%
Lorain County	76.5%	11.8%	0.0%	11.8%	0.0%	0.0%	0.0%	0.0%	100.0%
Medina County	63.6%	27.3%	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Portage County	0.0%	81.8%	0.0%	18.2%	0.0%	0.0%	0.0%	0.0%	100.0%
Summit County	59.1%	22.0%	7.6%	8.2%	0.6%	0.0%	0.0%	2.4%	100.0%
Out of District	47.4%	39.7%	5.9%	1.9%	3.8%	0.2%	0.0%	1.0%	100.0%
Not Geocoded	39.0%	52.9%	3.4%	0.5%	3.2%	0.0%	0.0%	1.1%	100.0%
Total	45.7%	42.6%	5.7%	2.1%	2.6%	0.3%	0.0%	0.9%	100.0%

Residential Service Area	University Heights Branch								Total
	Books	DVDs / Videos	CDs	Books on Media	Periodical/Magazines	Large Print Book	Computer/Equipment	Other	
Main	51.9%	35.0%	6.1%	3.6%	2.5%	0.5%	0.0%	0.3%	100.0%
Coventry	41.6%	49.4%	3.1%	3.1%	2.0%	0.4%	0.0%	0.3%	100.0%
Noble	52.7%	37.0%	4.4%	1.7%	3.6%	0.2%	0.0%	0.3%	100.0%
University Hts	49.7%	41.4%	4.0%	1.8%	2.0%	0.5%	0.0%	0.5%	100.0%
District	50.0%	40.6%	4.2%	2.0%	2.2%	0.5%	0.0%	0.5%	100.0%
Other Ohio County	50.0%	32.8%	1.7%	13.8%	0.0%	0.0%	0.0%	1.7%	100.0%
Cuyahoga County	49.0%	38.7%	5.8%	2.1%	3.6%	0.4%	0.1%	0.4%	100.0%
Geauga County	42.6%	25.5%	29.3%	1.8%	0.8%	0.0%	0.0%	0.0%	100.0%
Lake County	50.5%	31.9%	3.9%	13.2%	0.4%	0.0%	0.0%	0.1%	100.0%
Lorain County	47.6%	36.5%	7.9%	7.9%	0.0%	0.0%	0.0%	0.0%	100.0%
Medina County	66.7%	16.7%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Portage County	61.5%	38.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Summit County	48.5%	28.3%	14.5%	7.4%	1.3%	0.0%	0.0%	0.0%	100.0%
Out of District	49.1%	38.3%	6.0%	2.4%	3.4%	0.4%	0.1%	0.4%	100.0%
Not Geocoded	49.5%	42.4%	3.9%	0.5%	3.4%	0.1%	0.0%	0.3%	100.0%
Total	49.7%	39.9%	4.8%	2.1%	2.7%	0.4%	0.0%	0.4%	100.0%

Residential Service Area	JCU			TSD					
	Books	Books on Media	Total	Books	CDs	DVDs / Videos	Books on Media	Periodical/ Magazines	Total
Main	88.9%	11.1%	100.0%	73.5%	11.8%	7.4%	7.4%	0.0%	100.0%
Coventry	100.0%	0.0%	100.0%	NA	NA	NA	NA	NA	NA
Noble	NA	NA	NA	NA	NA	NA	NA	NA	NA
University Hts	84.2%	15.8%	100.0%	NA	NA	NA	NA	NA	NA
District	89.8%	10.2%	100.0%	73.5%	11.8%	7.4%	7.4%	0.0%	100.0%
Other Ohio County	93.3%	6.7%	100.0%	NA	NA	NA	NA	NA	NA
Cuyahoga County	92.9%	7.1%	100.0%	51.4%	5.6%	41.7%	0.5%	0.9%	100.0%
Geauga County	100.0%	0.0%	100.0%	NA	NA	NA	NA	NA	NA
Lake County	86.7%	13.3%	100.0%	NA	NA	NA	NA	NA	NA
Lorain County	100.0%	0.0%	100.0%	NA	NA	NA	NA	NA	NA
Medina County	100.0%	0.0%	100.0%	NA	NA	NA	NA	NA	NA
Portage County	100.0%	0.0%	100.0%	NA	NA	NA	NA	NA	NA
Summit County	100.0%	0.0%	100.0%	20.0%	4.0%	76.0%	0.0%	0.0%	100.0%
Out of District	94.2%	5.8%	100.0%	45.5%	5.3%	48.1%	0.4%	0.8%	100.0%
Not Geocoded	96.6%	3.4%	100.0%	NA	NA	NA	NA	NA	NA
Total	93.5%	6.5%	100.0%	51.2%	6.6%	39.8%	1.8%	0.6%	100.0%

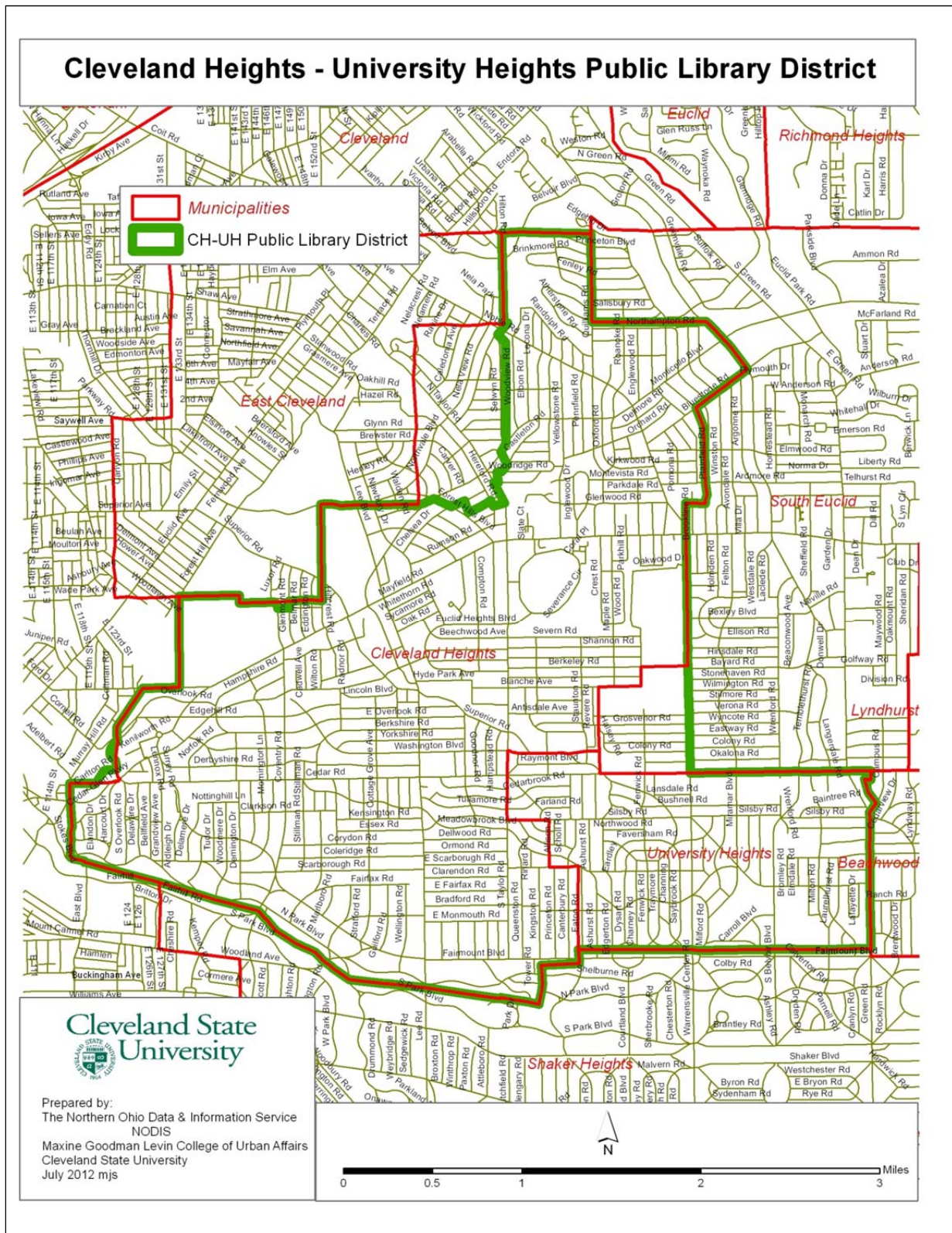
Residential Service Area	District								
	Books	DVDs / Videos	CDs	Books on Media	Periodical/ Magazines	Large Print Book	Computer/ Equipment	Other	Total
Main	45.7%	39.7%	8.2%	3.7%	1.6%	0.4%	0.0%	0.7%	100.0%
Coventry	41.5%	42.5%	10.3%	3.2%	1.7%	0.3%	0.0%	0.5%	100.0%
Noble	43.7%	42.1%	8.0%	3.3%	1.9%	0.3%	0.0%	0.7%	100.0%
University Hts	52.2%	37.2%	5.2%	2.3%	2.1%	0.3%	0.0%	0.7%	100.0%
District	46.5%	39.8%	7.7%	3.2%	1.8%	0.4%	0.0%	0.7%	100.0%
Other Ohio County	45.5%	36.3%	6.1%	9.1%	2.7%	0.1%	0.0%	0.2%	100.0%
Cuyahoga County	39.1%	46.0%	8.6%	2.7%	2.4%	0.4%	0.0%	0.7%	100.0%
Geauga County	44.3%	26.7%	20.0%	4.4%	2.6%	0.1%	0.0%	1.9%	100.0%
Lake County	51.5%	32.9%	6.0%	5.9%	1.6%	0.2%	0.0%	2.0%	100.0%
Lorain County	33.4%	49.6%	10.8%	3.4%	2.2%	0.0%	0.1%	0.6%	100.0%
Medina County	45.7%	38.6%	4.8%	3.2%	1.1%	0.9%	0.0%	5.7%	100.0%
Portage County	47.7%	31.3%	8.0%	9.1%	3.4%	0.2%	0.0%	0.3%	100.0%
Summit County	46.3%	34.6%	9.8%	6.5%	2.2%	0.1%	0.0%	0.6%	100.0%
Out of District	39.5%	45.4%	8.7%	2.9%	2.4%	0.4%	0.0%	0.7%	100.0%
Not Geocoded	35.4%	51.9%	7.7%	2.1%	2.1%	0.2%	0.0%	0.6%	100.0%
Total	44.1%	41.8%	8.0%	3.1%	2.0%	0.4%	0.0%	0.7%	100.0%

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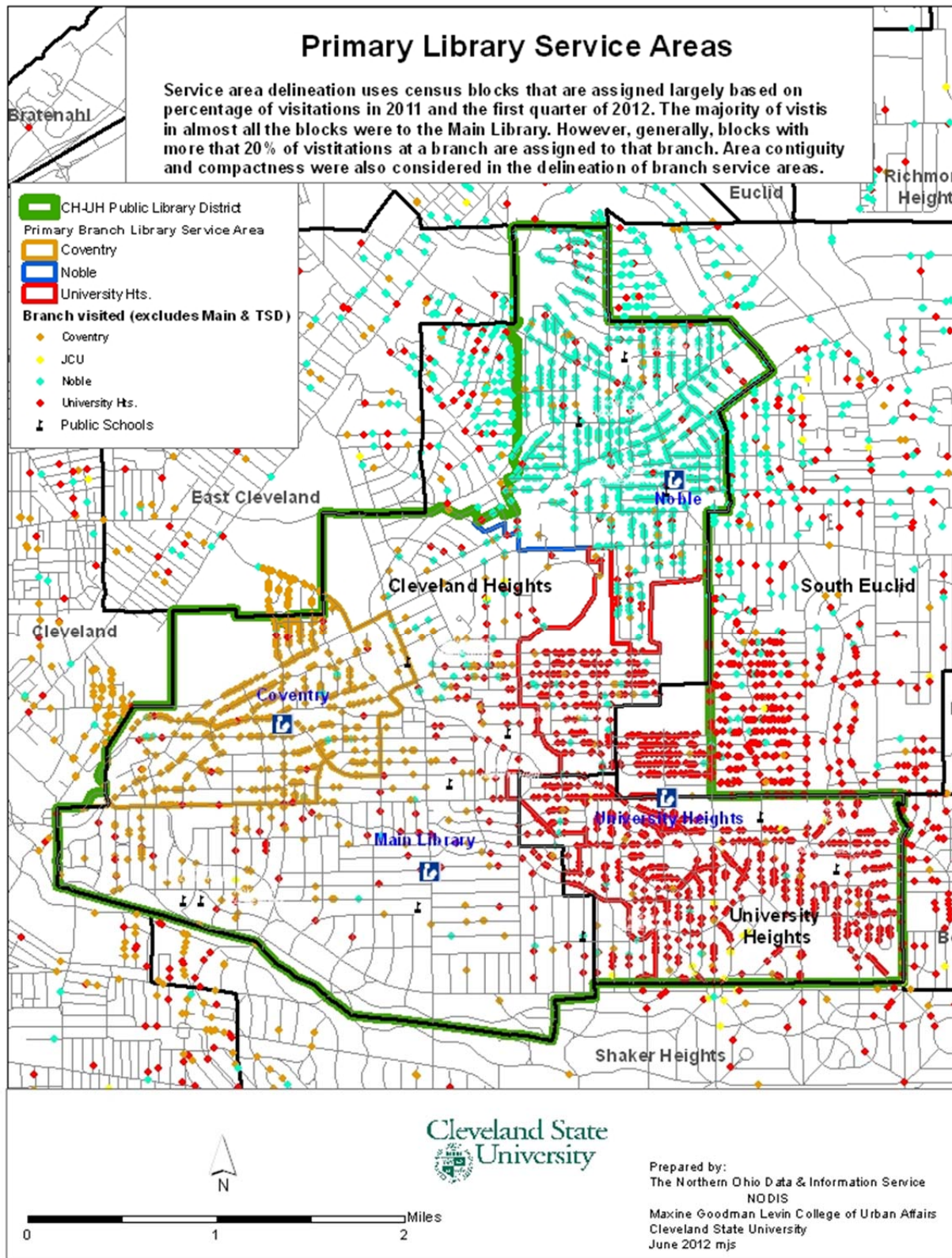
Appendix B: Maps

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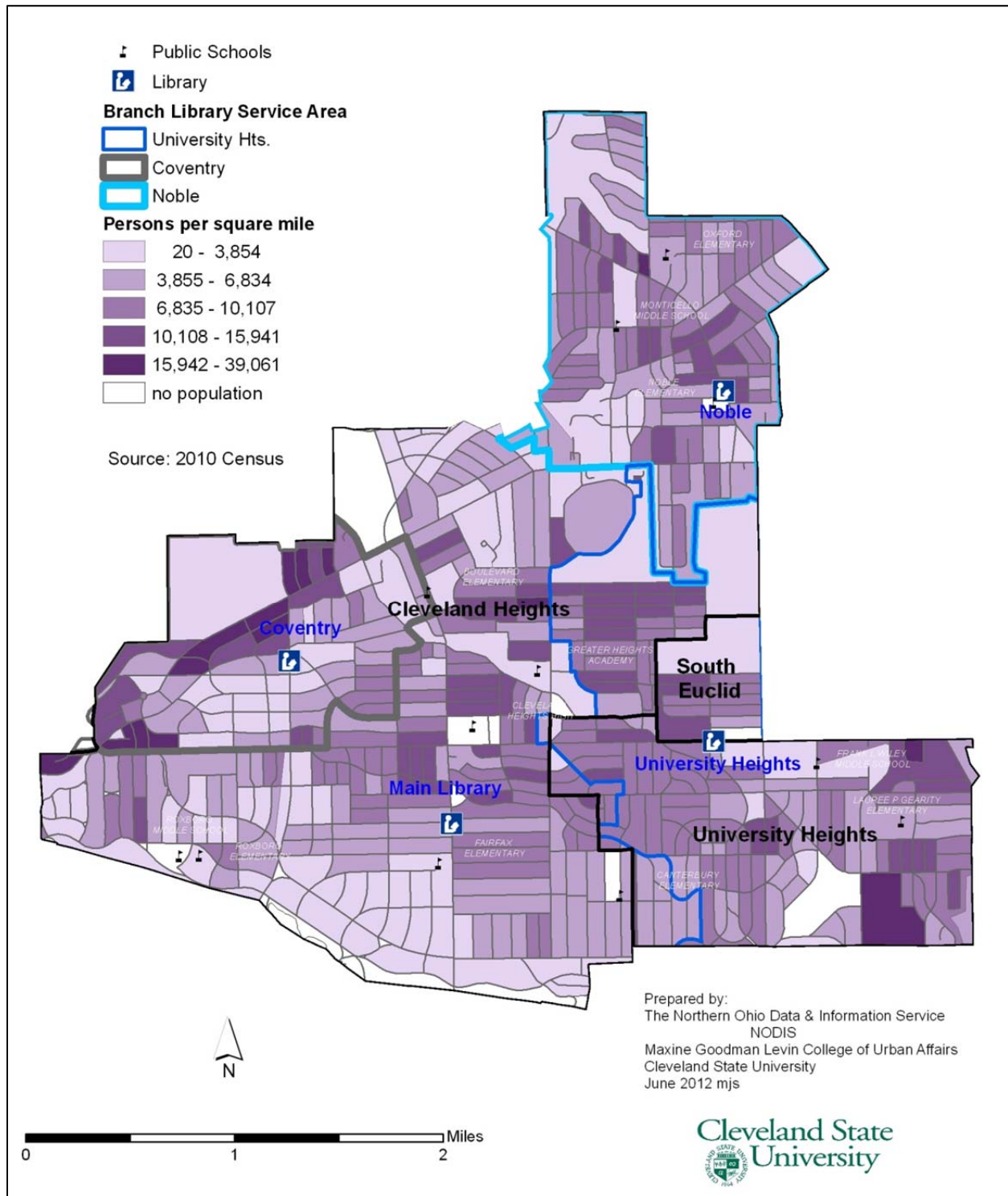
Map 1: Cleveland Heights – University Heights Public Library District



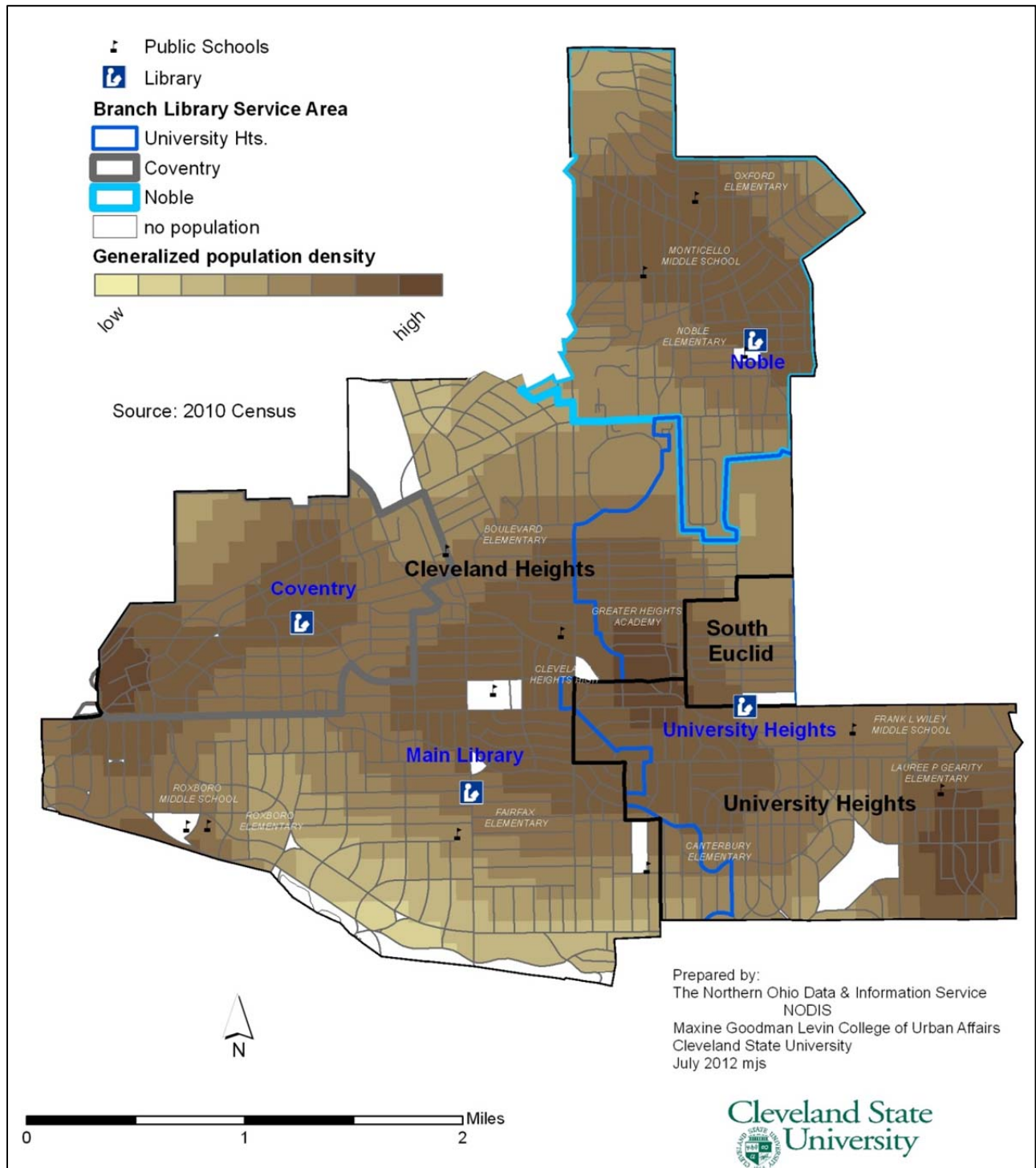
Map 2: Patrons of the CH-UHPL and Branch Service Areas



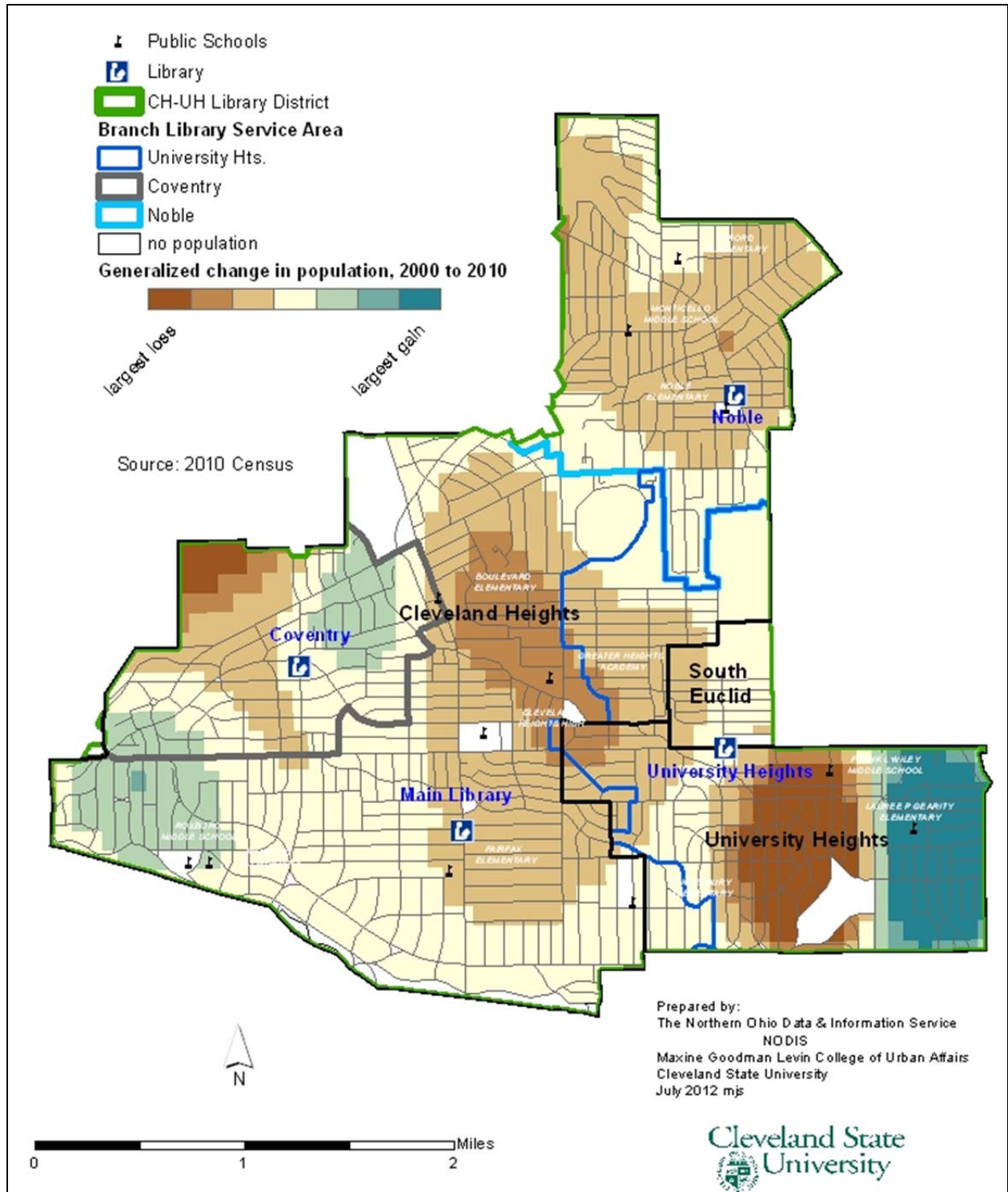
Map 3: Persons per Square Mile



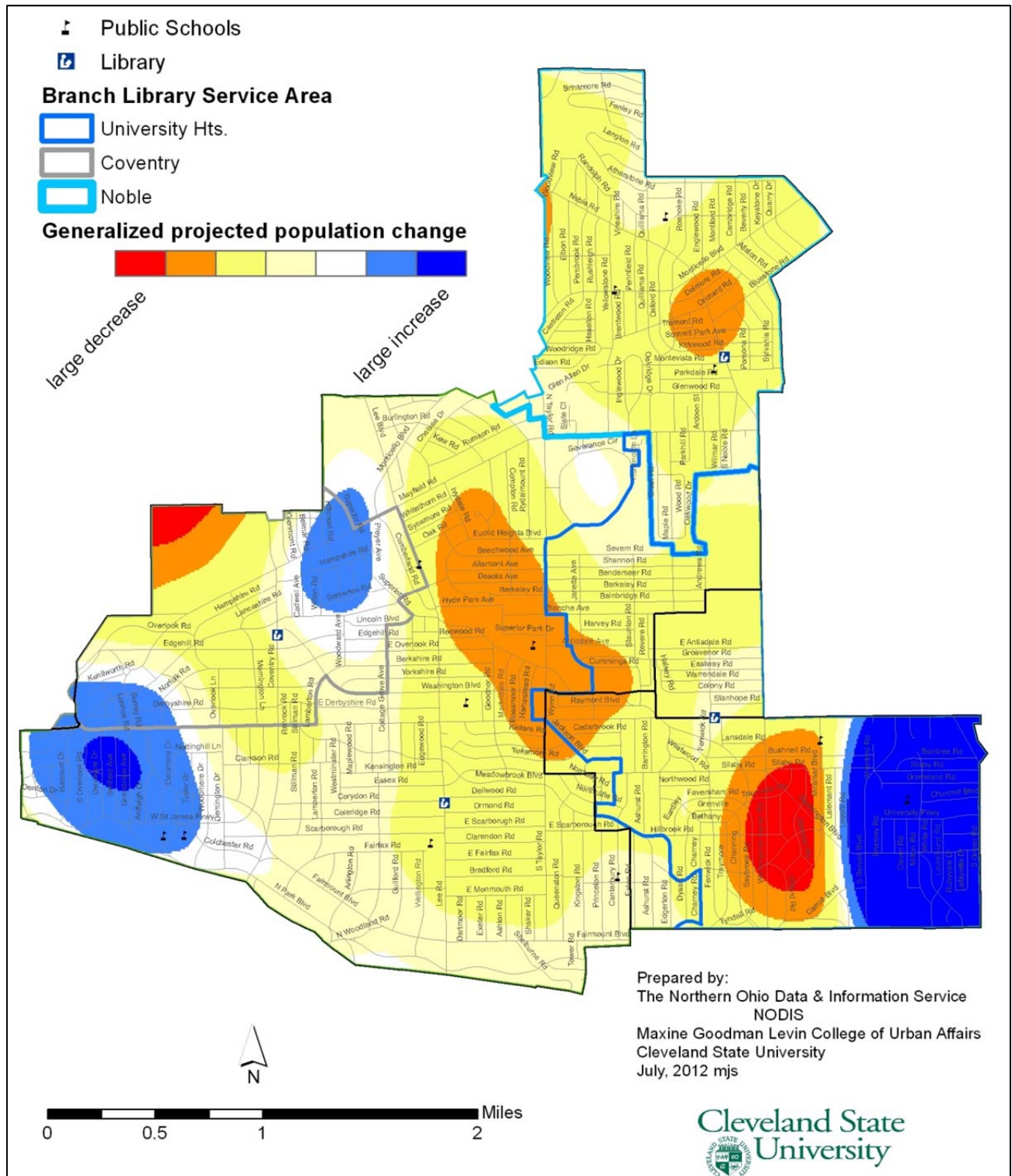
Map 4: Generalized Population Density, 2010



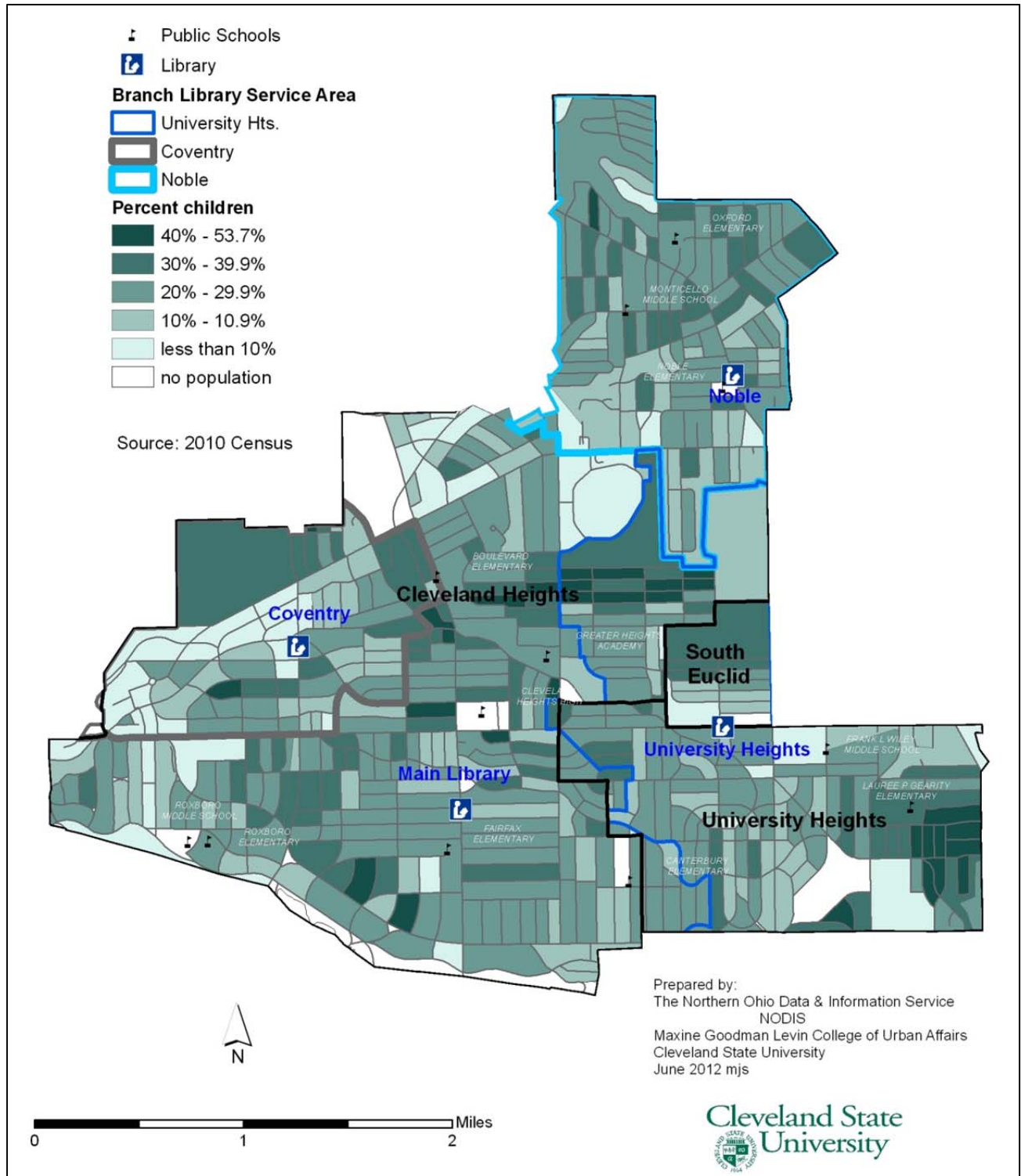
Map 5: Generalized Population Change, 2000 to 2010



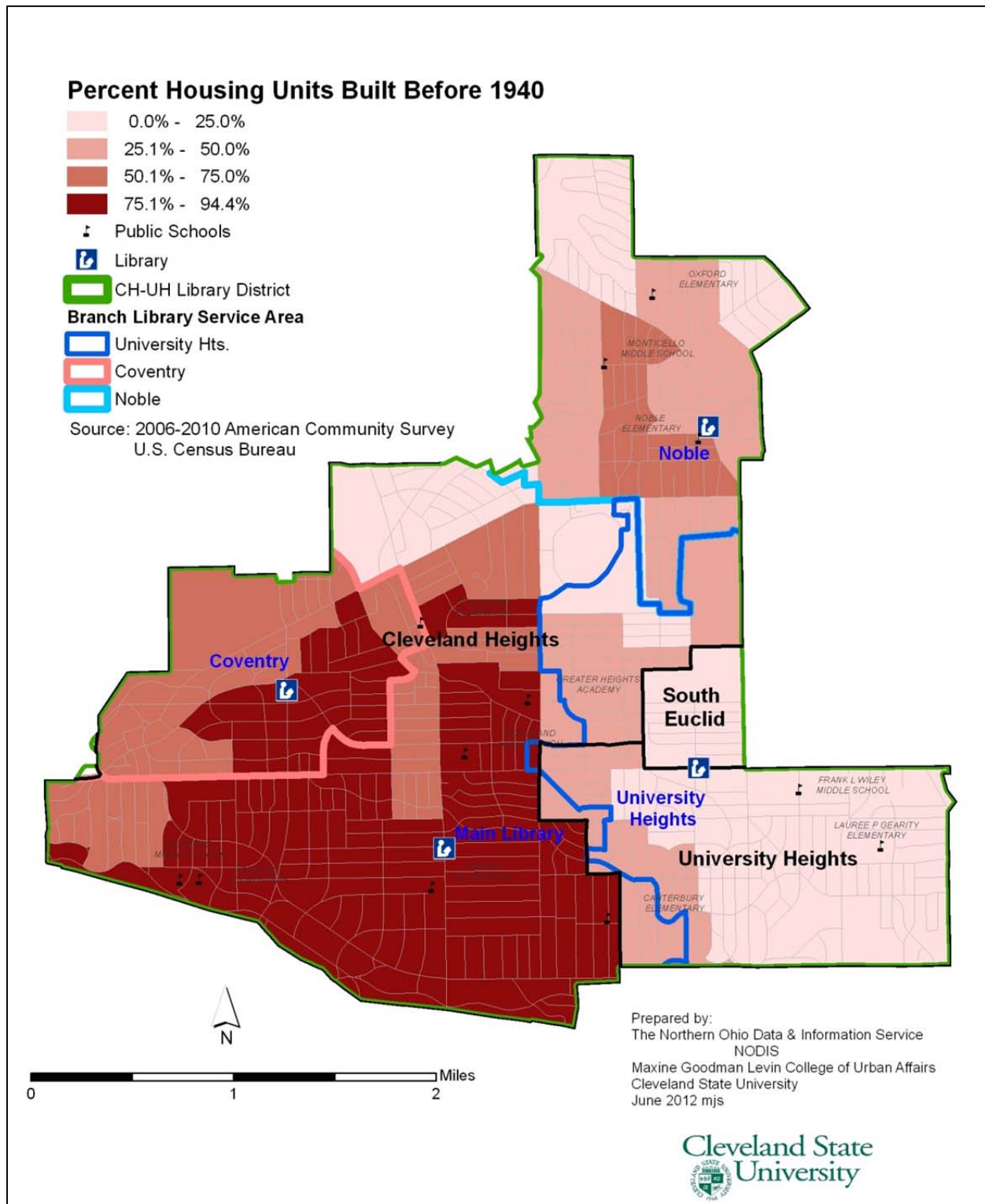
Map 6: Generalized Projected Population Change, 2010 to 2020



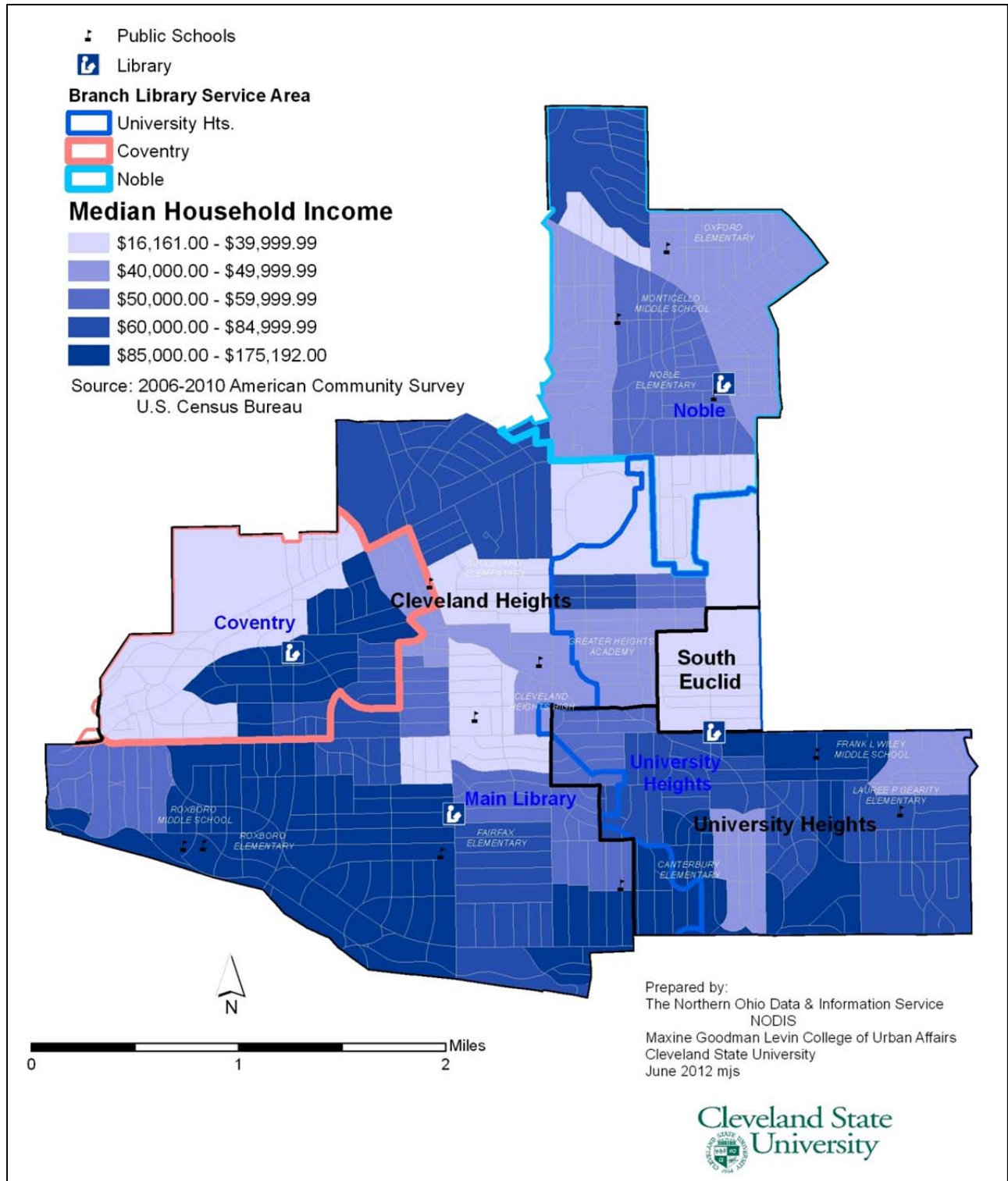
Map 7: Percent of Population that Are Children



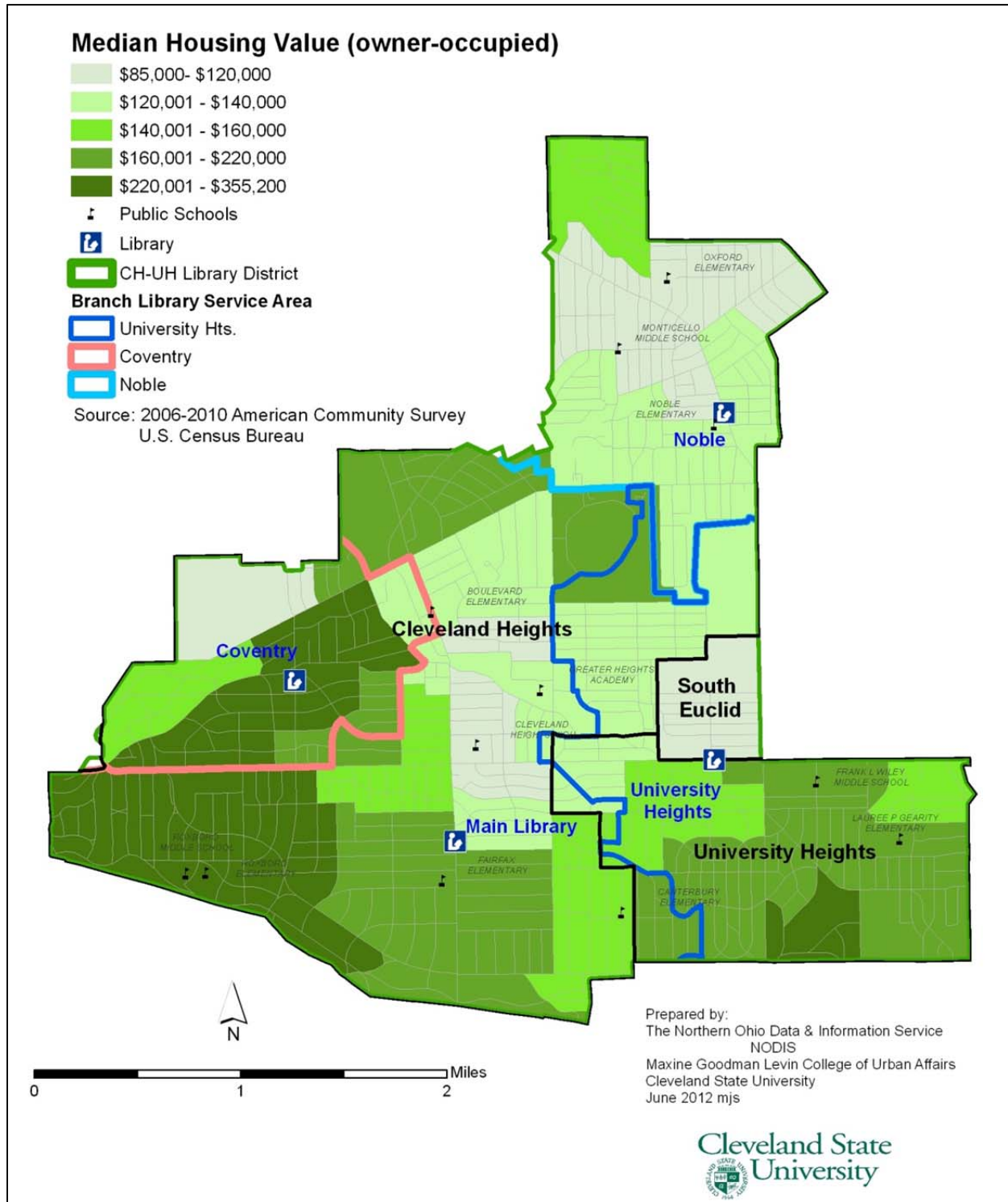
Map 8: Percent Housing Units Built Before 1940



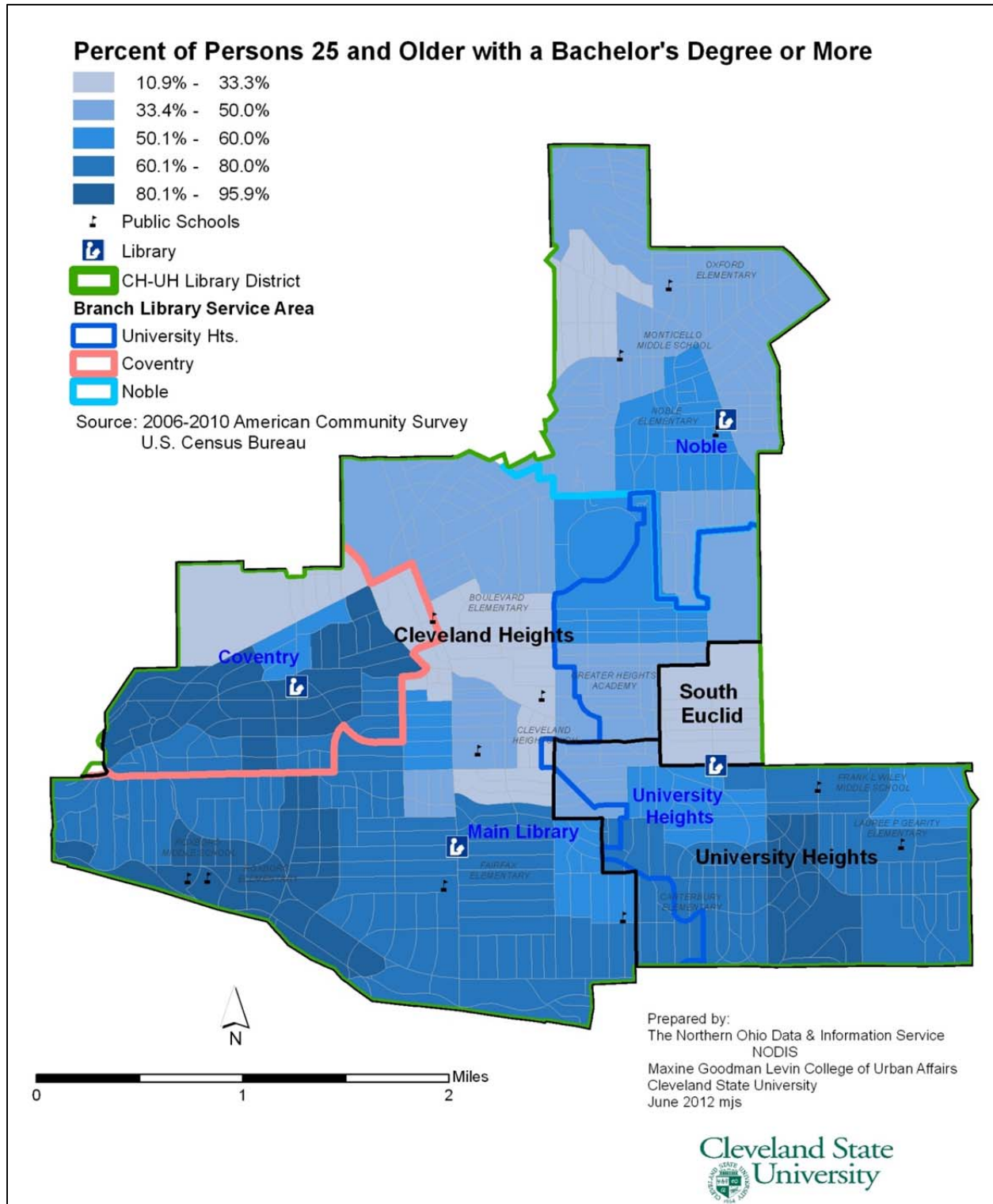
Map 9: Median Household Income



Map 10: Median Housing Value, Owner-Occupied Housing



Map 11: Percent of Persons 25 and Older with a Bachelor's Degree or More



Map 12: Percent African American (one-race only)

