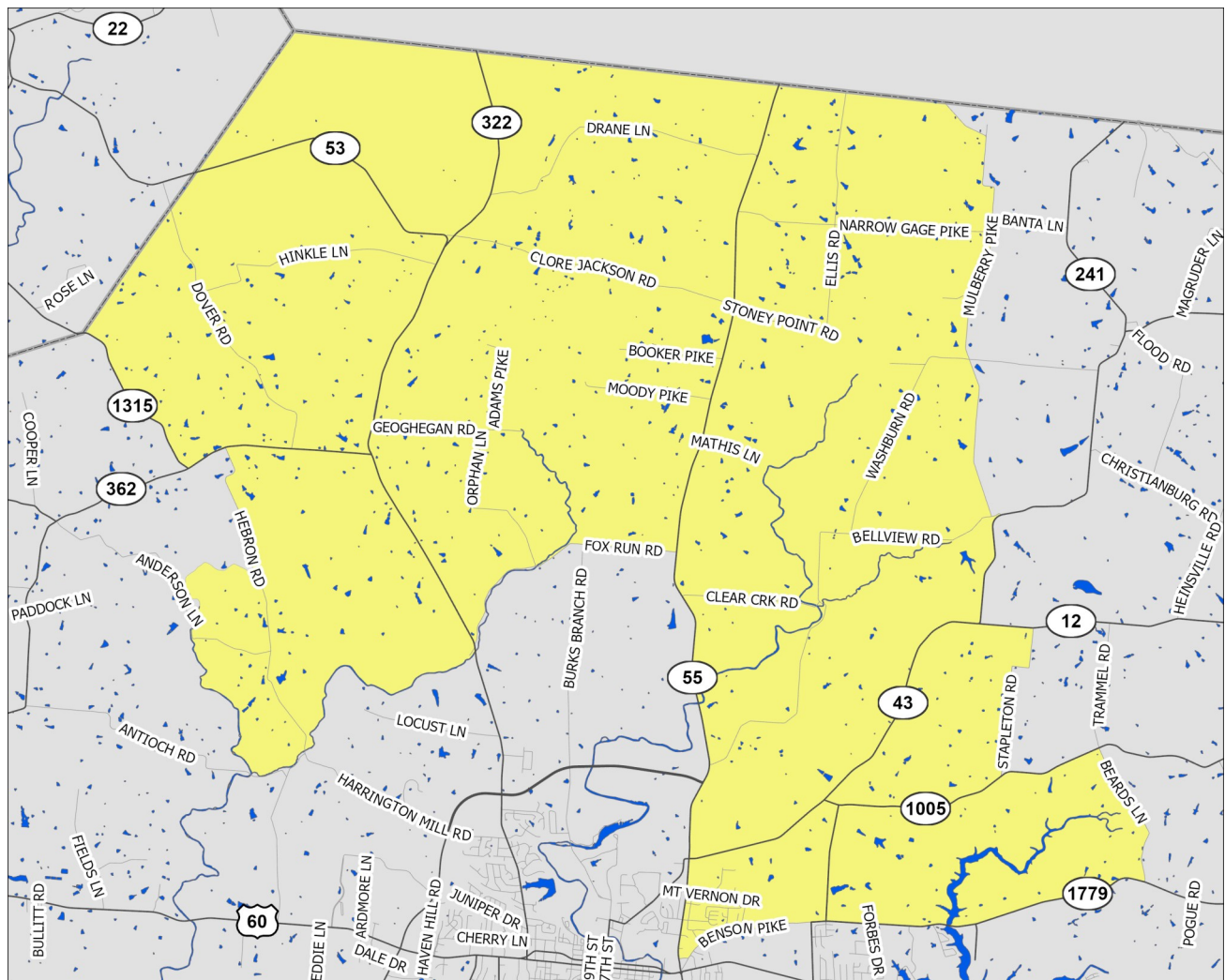
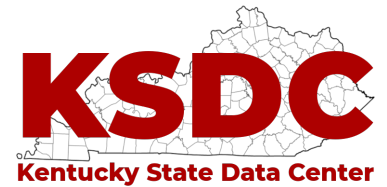


Northwest Shelby NEIGHBORHOOD PROFILE

June 2022



A Partnership Between Metro
United Way and the Kentucky
State Data Center at the
University of Louisville



Scale = 1:76,060

Census Tract: 402.01

Shelby County, Kentucky

Northwest Shelby

- Interstate Highways
- US/State Highways
- Local Streets
- Rivers-Lakes-Streams



This profile uses census tracts to approximate neighborhoods. Census tracts are statistical units used by the Census Bureau to enumerate data within small areas, and typically align well (but not perfectly) with traditional neighborhoods.

POPULATION CHARACTERISTICS

Age and Sex

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Total population	3,025	—	48,100	1,262,287
Male	1,503	50%	49%	49%
Female	1,522	50%	51%	51%

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Population under age 5	126	4%	6%	6%
Under age 3	86	3%	4%	4%
Age 3 and 4	40	1%	2%	2%
Population under age 18	632	21%	23%	22%
Age 5 to 14	426	14%	12%	13%
Age 15 to 17	80	3%	4%	4%
Population age 18 to 64	1,764	58%	61%	62%
Population age 65 and over	629	21%	16%	16%

Race, Ethnicity, and Nativity

	NS		County	MSA
	Estimate	Percent	Percent	Percent
White, non-Hispanic/Latino	2,780	92%	79%	75%
Black, non-Hispanic/Latino	80	3%	6%	15%
Asian, non-Hispanic/Latino	70	2%	1%	2%
Hispanic/Latino, of any race	57	2%	10%	5%
Multiple races, non-Hispanic/Latino	38	1%	3%	3%
Other, non-Hispanic/Latino	0	0%	1%	0%
Foreign born	89	3%	6%	6%

Veteran Status

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Civilian population 18 years and over	2,393	—	36,940	978,060
Veterans	320	13%	7%	8%

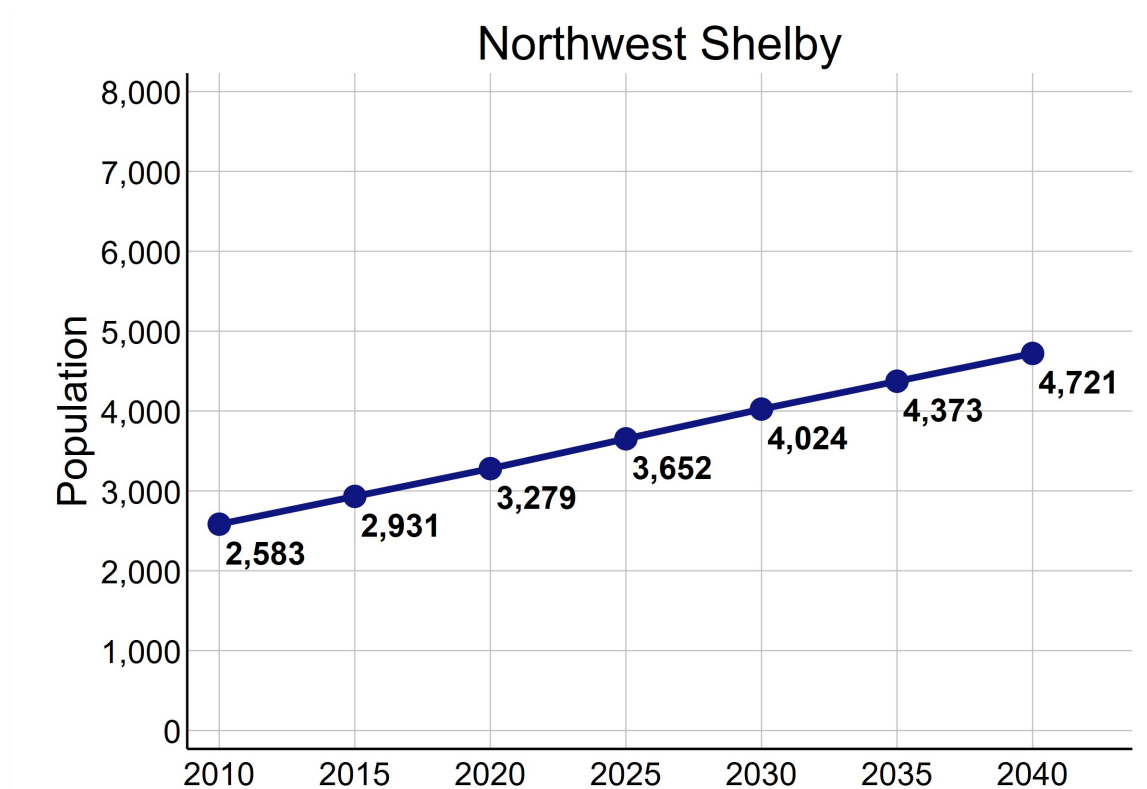
Data Source: U.S. Census Bureau, 2016-2020 American Community Survey. Note: Percentages may not sum to 100 due to rounding.
MSA=Metropolitan Statistical Area

POPULATION CHARACTERISTICS

Households and Families

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Total households	1,147	—	16,801	497,106
Married couple family households	730	64%	59%	46%
w/related children	214	19%	25%	18%
Male householder family households	0	0%	4%	5%
w/related children	0	0%	2%	3%
Female householder family households	148	13%	9%	13%
w/related children	92	8%	7%	8%
Non-family households	269	23%	27%	37%
Single person households	260	23%	22%	31%
Population in group quarters	0	0%	3%	2%

Population Projections



Data Source: U.S. Census Bureau, 2016-2020 American Community Survey. STATS Indiana, Kentucky State Data Center 2022 Population Projections. Note: Percentages may not sum to 100 due to rounding.

ECONOMIC CHARACTERISTICS

Income

	NS	County	MSA
Median household income (in 2020 dollars)	\$68,867	\$72,564	\$60,891
Median earnings for full-time male workers	\$58,273	\$53,138	\$52,300
Median earnings for full-time female workers	\$27,908	\$27,973	\$31,196
Gini coefficient	0.41	0.45	0.46

SNAP Benefits

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Households receiving SNAP Benefits	120	10%	8%	9%
Households with public assistance (PA) income	0	0%	1%	2%
Households receiving either SNAP or PA	120	10%	9%	10%

Vehicles Available

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Households with no vehicle	13	1%	3%	7%

Data Source: U.S. Census Bureau, 2016-2020 American Community Survey.

ECONOMIC CHARACTERISTICS

Poverty Status of Individuals

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Total population below federal poverty line (FPL)	435	14%	10%	12%
Population under 18 years below FPL	274	43%	13%	17%
Population under 6 years below FPL	18	8%	10%	19%
Population age 6 to 11 below FPL	110	60%	12%	18%
Population age 12 to 17 below FPL	146	63%	17%	16%
Population age 18 to 64 below FPL	123	7%	9%	11%
Population age 65 and over below FPL	38	6%	6%	8%
Total population below 150% of the FPL	598	20%	19%	20%
Population under 18 years below 150% of the FPL	335	53%	26%	29%
Population under 6 years below 150% of the FPL	70	32%	24%	32%
Population age 6 to 11 below 150% of the FPL	119	65%	27%	30%
Population age 12 to 17 below 150% of the FPL	146	63%	27%	24%
Population age 18 to 64 below 150% of the FPL	198	11%	17%	18%
Population age 65 and over below 150% of the FPL	65	10%	14%	16%
Total population below 185% of the FPL	724	24%	27%	26%
Population under 18 years below 185% of the FPL	373	59%	38%	35%
Population under 6 years below 185% of the FPL	70	32%	38%	40%
Population age 6 to 11 below 185% of the FPL	119	65%	39%	37%
Population age 12 to 17 below 185% of the FPL	184	79%	36%	30%
Population age 18 to 64 below 185% of the FPL	226	13%	25%	23%
Population age 65 and over below 185% of the FPL	125	20%	20%	22%
Total population below 200% of the FPL	724	24%	29%	28%
Population under 18 years below 200% of the FPL	373	59%	43%	38%
Population under 6 years below 200% of the FPL	70	32%	42%	42%
Population age 6 to 11 below 200% of the FPL	119	65%	50%	39%
Population age 12 to 17 below 200% of the FPL	184	79%	38%	33%
Population age 18 to 64 below 200% of the FPL	226	13%	26%	25%
Population age 65 and over below 200% of the FPL	125	20%	22%	25%

Data Source: U.S. Census Bureau, 2016-2020 American Community Survey.

ECONOMIC CHARACTERISTICS

Poverty Status

Poverty status is determined by comparing a family's income to defined income thresholds that vary by family size and composition. If a family's total income is less than the established threshold for a family of that size, then that family and every individual in it is considered in poverty. The official poverty thresholds do not vary geographically, but they are updated for inflation annually. The official poverty definition uses money income before taxes and does not include capital gains or non-cash benefits (such as public housing, Medicaid, and food stamps).

The 2022 Poverty Guidelines as established by the U.S. Department of Health and Human Services:

Number of persons in household	Poverty guideline
1	\$13,590
2	\$18,310
3	\$23,030
4	\$27,750
5	\$32,470
6	\$37,190
7	\$41,910
8	\$46,630

Poverty Status of Families

	NS	County		MSA
	Estimate	Percent	Percent	Percent
Families	878	—	12,203	314,935
Families below federal poverty line (FPL)	71	8%	6%	8%
Families below 150% of the FPL	121	14%	13%	15%
Families below 185% of the FPL	163	19%	20%	20%
Families below 200% of the FPL	163	19%	22%	22%
Families with related children	306	35%	47%	47%
Families with related children below FPL	55	6%	5%	6%

Data Source: U.S. Census Bureau, 2016-2020 American Community Survey.

ECONOMIC CHARACTERISTICS

An **unemployed** person is someone who does not have a job, but is actively looking for a job and is available for work. The unemployment rate is calculated as the number of unemployed persons in an age group divided by the sum of the number of employed and unemployed persons in that age group.

A person who is **not in the labor force** is someone who does not have a job, and is not looking for one. This includes students, retirees, those taking care of children or other family members, and others who are neither working nor seeking work. The rate of labor force participation is calculated as the number of persons not in the labor force in an age group divided by the population in that age group.

Labor Force Status

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Age 16-19—Unemployed	0	0%	15%	13%
Age 20-21—Unemployed	0	0%	7%	9%
Age 22-24—Unemployed	0	0%	8%	9%
Age 25-64—Unemployed	0	0%	3%	4%
Age 65 and over—Unemployed	0	0%	1%	3%
Total unemployed, age 16 and over	0	0%	4%	5%

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Age 16-19—Not in the labor force	35	100%	55%	53%
Age 20-21—Not in the labor force	47	64%	29%	23%
Age 22-24—Not in the labor force	0	0%	15%	17%
Age 25-64—Not in the labor force	279	17%	21%	21%
Age 65 and over—Not in the labor force	357	57%	78%	80%
Total not in the labor force, age 16 and over	718	30%	35%	35%

Data Source: U.S. Census Bureau, 2016-2020 American Community Survey.

ECONOMIC CHARACTERISTICS

Class of Worker

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Private company/organization	1,185	70%	71%	74%
Nonprofit company/organization	145	9%	5%	8%
Local government	27	2%	5%	5%
State government	32	2%	6%	4%
Federal government	54	3%	1%	2%
Self-employed or unpaid family worker	245	15%	11%	8%

Weeks and Hours Usually Worked

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Works 48-52 weeks/year, 35 or more hours/week	1,025	70%	67%	69%
Works 48-52 weeks/year, less than 35 hours/week	303	21%	10%	11%
Works 0-47 weeks/year, 35 or more hours/week	29	2%	12%	10%
Works 0-47 weeks/year, less than 35 hours/week	114	8%	11%	11%

Data Source: U.S. Census Bureau, 2016-2020 American Community Survey. Note: Percentages may not sum to 100 due to rounding.

ECONOMIC CHARACTERISTICS

Journey to Work

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Drives alone in car	1,479	93%	85%	86%
Bus	0	0%	1%	2%
Bike	0	0%	0%	0%
Walk	0	0%	1%	2%
All other modes	114	7%	12%	10%

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Commutes less than 10 minutes	123	8%	11%	10%
Commutes 10-19 minutes	473	30%	27%	30%
Commutes 20-29 minutes	229	14%	18%	28%
Commutes 30-44 minutes	508	32%	26%	23%
Commutes 45-59 minutes	191	12%	11%	6%
Commutes 60 or more minutes	69	4%	6%	4%

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Works at home	95	6%	7%	7%

Data Source: U.S. Census Bureau, 2016-2020 American Community Survey. Note: Except for "Works at Home", estimates limited to population who commute. Percentages may not sum to 100 due to rounding.

ECONOMIC CHARACTERISTICS

“Place of Work” identifies jobs located within the neighborhood and held by workers from **inside or outside** of the neighborhood. “Home Neighborhood of Worker” identifies jobs held by neighborhood residents, which may be located **inside or outside** of the neighborhood. The workplace is based on the administrative address, and may or may not be the location that a worker reports to most often.

Jobs by Place of Work (2019)

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Total full and part-time jobs	654	—	15,996	653,432
Agriculture and mining	27	4%	1%	0%
Construction	48	7%	4%	4%
Manufacturing	0	0%	24%	13%
Trade	72	11%	21%	15%
Transportation, warehousing, and utilities	69	11%	3%	9%
Finance, insurance, information, and real estate	18	3%	4%	9%
Professional services	45	7%	4%	5%
Management and administration	89	14%	6%	8%
Education	1	0%	9%	7%
Health care	61	9%	7%	13%
Entertainment, arts, and recreation	0	0%	1%	2%
Accommodations and food service	0	0%	9%	9%
Other services	46	7%	4%	3%
Public administration	178	27%	4%	3%

Jobs by Home Neighborhood of Worker (2019)

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Total full and part-time jobs	1,349	—	22,086	613,518
Agriculture and mining	13	1%	1%	0%
Construction	63	5%	4%	4%
Manufacturing	221	16%	16%	13%
Trade	245	18%	17%	15%
Transportation, warehousing, and utilities	77	6%	5%	8%
Finance, insurance, information, and real estate	110	8%	8%	8%
Professional services	48	4%	5%	5%
Management and administration	93	7%	7%	8%
Education	125	9%	8%	8%
Health care	129	10%	11%	13%
Entertainment, arts, and recreation	16	1%	1%	2%
Accommodations and food service	91	7%	9%	9%
Other services	38	3%	3%	3%
Public administration	80	6%	6%	3%

Data Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics (LODES). Note: Percentages may not sum to 100 due to rounding.

EDUCATION CHARACTERISTICS

School Enrollment

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Population age 3 and 4	40	—	1,178	31,544
Population age 3 and 4, enrolled in school	16	40%	40%	42%
Enrolled in Public school	16	40%	15%	20%
Population age 5 to 14	426	—	6,011	158,051
Population age 5 to 14, enrolled in school	380	89%	96%	96%
Enrolled in Public school	343	81%	80%	79%
Population age 15 to 17	80	—	1,948	48,770
Population age 15 to 17, enrolled in school	80	100%	97%	97%
Enrolled in Public school	80	100%	86%	79%
Population age 18 to 24	143	—	4,053	105,506
Population age 18 to 24, enrolled in school	22	15%	37%	43%

English Proficiency

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Population age 3+ speaking Spanish	36	1%	7%	4%
w/limited English proficiency	10	0%	3%	2%
Population age 3+ speaking Asian/PI language	70	2%	0%	1%
w/limited English proficiency	70	2%	0%	1%
Population age 3+ speaking Arabic	0	0%	0%	0%
w/limited English proficiency	0	0%	0%	0%
Population age 3+ speaking other language	0	0%	1%	2%
w/limited English proficiency	0	0%	1%	1%

Data Source: U.S. Census Bureau, 2016-2020 American Community Survey.

EDUCATION CHARACTERISTICS

Educational Attainment

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Population age 18 to 24	143	—	4,053	105,506
Less than 9th grade education	0	0%	0%	1%
9th thru 12th grade education	0	0%	11%	11%
High school graduate/GED	71	50%	42%	36%
Some college, no degree	72	50%	34%	36%
Associate degree	0	0%	2%	4%
Bachelor's degree	0	0%	10%	11%
Graduate or professional degree	0	0%	1%	1%

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Population age 25 and over	2,250	—	33,047	873,573
Less than 9th grade education	165	7%	5%	3%
9th thru 12th grade education	85	4%	8%	7%
High school graduate/GED	629	28%	29%	29%
Some college, no degree	669	30%	21%	22%
Associate degree	176	8%	9%	9%
Bachelor's degree	299	13%	17%	18%
Graduate or professional degree	227	10%	11%	12%

Data Source: U.S. Census Bureau, 2016-2020 American Community Survey, Note: Percentages may not sum to 100 due to rounding.

EDUCATION CHARACTERISTICS

Field of Degree of Bachelor's Degree Holders

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Total degrees	621	—	9,894	282,998
Science and engineering				
Computers, mathematics, and statistics	0	0%	3%	4%
Biological, agricultural, environmental sciences	87	14%	5%	5%
Physical and related sciences	48	8%	4%	3%
Psychology	23	4%	6%	5%
Social sciences	19	3%	4%	7%
Engineering	19	3%	7%	6%
Multidisciplinary studies	0	0%	1%	1%
Science and engineering related fields	58	9%	11%	11%
Business	159	26%	24%	21%
Education	61	10%	13%	12%
Arts, humanities, and other				
Literature and languages	0	0%	2%	4%
Liberal arts and history	65	10%	8%	6%
Visual and performing arts	1	0%	1%	4%
Communications	47	8%	5%	5%
Other	34	5%	7%	6%

Data Source: U.S. Census Bureau, 2016-2020 American Community Survey. Note: Percentages may not sum to 100 due to rounding.

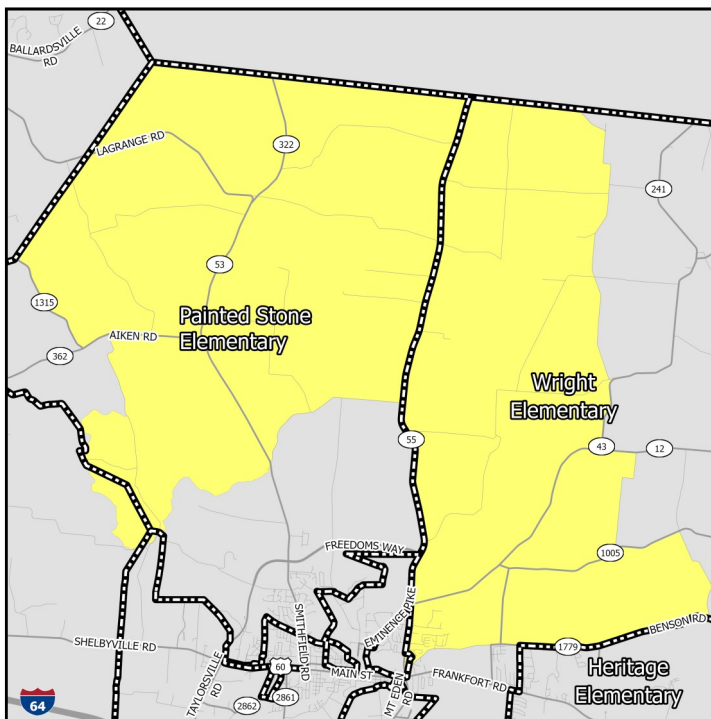
EDUCATION CHARACTERISTICS

Shelby County Public Schools

Northwest Shelby neighborhood is highlighted in yellow. Thick dashed lines represent school catchment area boundaries.

Neighborhoods in Jefferson County

Jefferson County Public Schools students are assigned to a “resides” (home) school, and for elementary students a cluster, based on their home address. Students may attend their resides school, other schools within the cluster, or apply for traditional and magnet schools within the district. There are also alternative schools serving particular segments of the population. The maps on this page

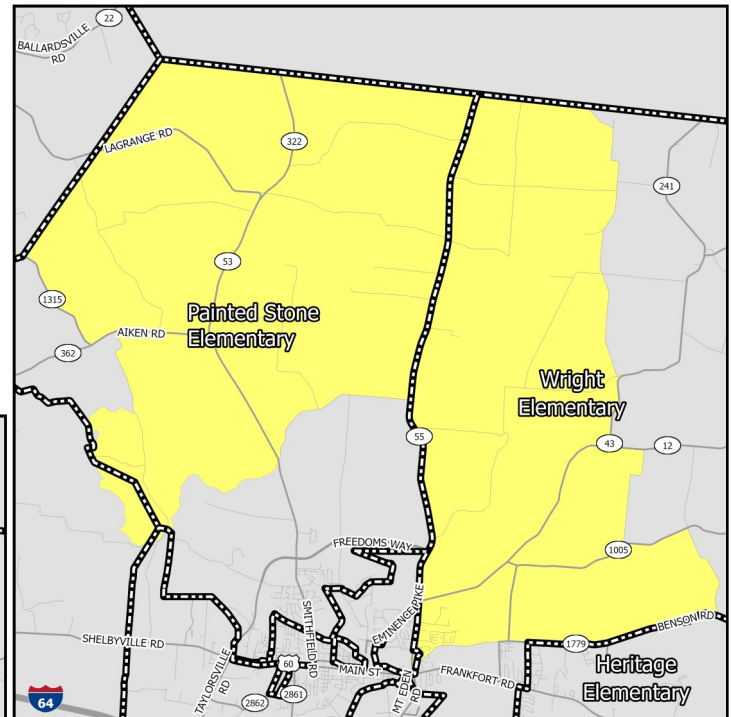


Middle Schools

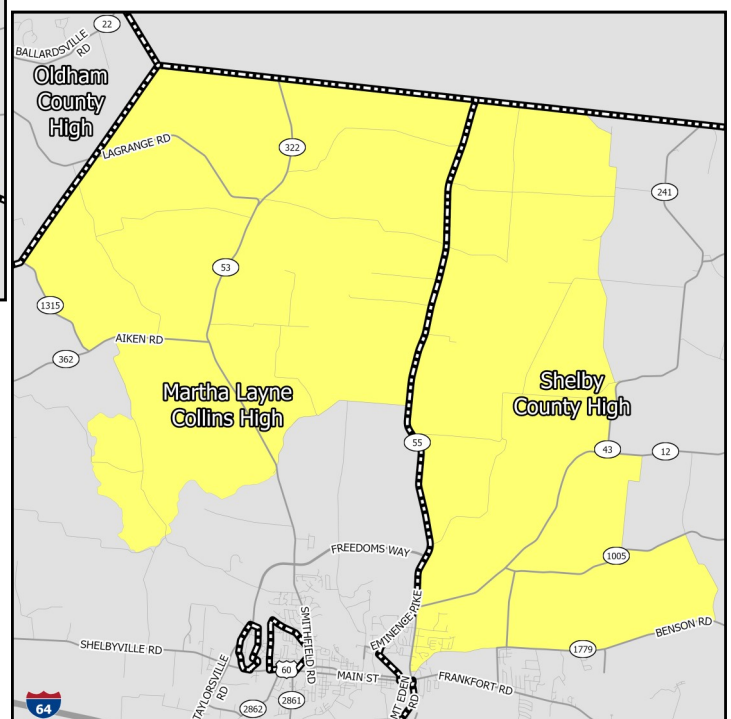
show only the “resides” schools for students within a particular neighborhood. Additional information on JCPSS student assignment – which has recently been revised – can be found on their website.

Neighborhoods in Indiana

Indiana schools have open enrollment policies that allow for intra-district and inter-district transfers. The maps on this page show only the schools assigned to a student within a particular neighborhood based on their home address. Additional information on open enrollment policies can be obtained from individual district offices.



Elementary Schools



High Schools

EDUCATION CHARACTERISTICS

Shelby County Public Schools

Schools Serving Neighborhood	Level	Cluster	Enrollment	Non-White	Free Lunch Eligible	Student/Teacher	KDE/IDOE Grade
Clear Creek	Elementary	—	474	41.1%	46.7%	13.3	3
Painted Stone	Elementary	—	499	49.3%	53.7%	13.8	2
Simpsonville	Elementary	—	479	24.4%	37.3%	15.3	3
Southside	Elementary	—	451	45.7%	62.0%	14.6	2
Wright	Elementary	—	461	34.5%	51.1%	15.1	3
Shelby County East	Middle	—	610	26.6%	50.5%	17.7	3
Shelby County West	Middle	—	676	47.8%	57.4%	15.6	2
Martha Layne Col-	High	—	1,298	37.0%	40.9%	19.1	3
Shelby County	High	—	1,025	32.1%	49.8%	18.2	2

Data Source: National Center for Education Statistics, Kentucky Department of Education (KDE), Indiana Department of Education (IDOE), Jefferson County Public Schools, 2020-2021 Academic Year. Note: KDE grade is the number of stars — out of 5 — that the Kentucky school or district received on the most recent (2018-2019) school accountability report. IDOE grade is the A-F grade that the Indiana school or district received on the most recent (2018-2019) school accountability report.

EDUCATION CHARACTERISTICS

Shelby County Public Schools

Schools Serving Neighborhood	Level	Reading Proficiency	Math Proficiency	KG Ready	Graduation Rate	College Transition
Clear Creek	Elementary	48.4%	35.6%	46.1%	—	—
Painted Stone	Elementary	44.2%	43.4%	45.6%	—	—
Simpsonville	Elementary	52.3%	56.1%	32.5%	—	—
Southside	Elementary	31.5%	19.8%	49.4%	—	—
Wright	Elementary	38.1%	34.5%	44.2%	—	—
Shelby County East	Middle	53.3%	36.6%	—	—	—
Shelby County West	Middle	53.0%	35.3%	—	—	—
Martha Layne Collins	High	42.0%	27.0%	—	92.4%	77.5%
Shelby County	High	40.5%	23.9%	—	90.3%	65.5%

Data Source: Kentucky Department of Education, Indiana Department of Education, 2018-2019 Academic Year. Note: KG=Kindergarten.

HOUSING CHARACTERISTICS

Housing Units

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Total housing units	1,205	—	18,134	547,307
Occupied housing units	1,147	95%	93%	91%
Owner occupied	937	82%	71%	67%
Renter occupied	210	18%	29%	33%
Vacant housing units	58	5%	7%	9%

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Single-family housing units	1,016	84%	83%	73%
Multi-family housing units	37	3%	14%	23%
2-4 unit structures	13	1%	7%	8%
5-9 unit structures	24	2%	3%	6%
10+ unit structures	0	0%	4%	10%
Other housing units	152	13%	3%	3%

Home Value/Rent

	NS	County	MSA
Median reported value of owner occupied housing units	\$197,200	\$202,000	\$177,400
Median gross rent of renter occupied housing units	\$844	\$833	\$882
Median contract rent of renter occupied housing units	\$615	\$642	\$719

Internet Access

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Households w/internet access of any type	1,081	94%	89%	87%
Households w/any broadband internet access	1,081	94%	88%	85%
Households w/cell phone internet access only	424	37%	15%	12%
Households w/no internet access	66	6%	11%	13%

Data Source: U.S. Census Bureau, 2016-2020 American Community Survey. Note: Percentages may not sum to 100 due to rounding. **Contract rent** is the amount indicated on the lease. **Gross rent** includes the estimated monthly cost of utilities that are paid by the tenant.

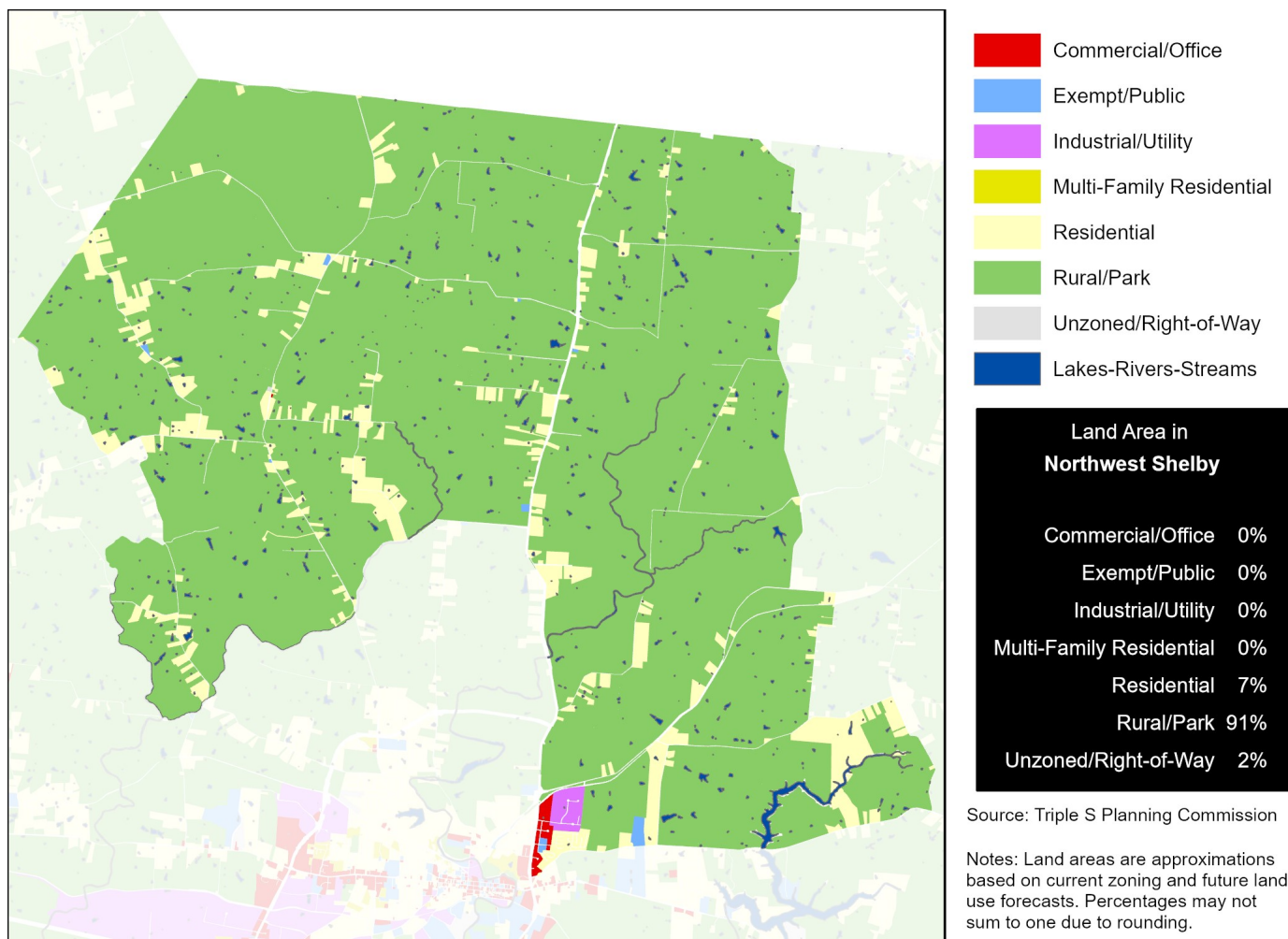
HOUSING CHARACTERISTICS

Housing Cost Burden

According to the U.S. Department of Housing and Urban Development, households that spend more than 30% of their income on housing are considered cost burdened and may have difficulty affording necessities such as food, transportation, and medical care.

	NS	County	MSA
	Estimate	Percent	Percent
Renters paying 30%+ income on housing	65	41%	38%
Owners paying 30%+ income on housing (mortgage)	56	9%	23%
Owners paying 30%+ income on housing (no mortgage)	84	29%	12%

Land Use



Data Source (Housing Cost): U.S. Census Bureau, 2016-2020 American Community Survey.

HEALTH CHARACTERISTICS

Health Insurance Coverage

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Population under 6 years without health insurance	56	26%	5%	3%
Population under 18 years without health insurance	56	9%	4%	3%
Total population without health insurance	66	2%	7%	5%

Disability Status

	NS		County	MSA
	Estimate	Percent	Percent	Percent
Population with a disability	397	13%	13%	14%

Food Access

	NS	Shelby County
Population who are low income and do not live close to a grocery store	0	388
Census tracts designated a food desert	0	0

Crime (2019)

	NS	County	MSA
Violent crimes	—	292	16,031
Violent crimes per 100,000 population	—	594	1,262
Property crimes	—	619	34,867
Property crimes per 100,000 population	—	1,259	2,744

Neighborhood crime includes only incidents reported to Louisville Metro Police Department — it does not include incidents reported to other local agencies. County and MSA crime includes incidents reported to all agencies.

Data Source: U.S. Census Bureau, 2016-2020 American Community Survey. ESRI Business Analyst. FBI, Uniform Crime Reports. Louisville Metro Police Department. Note: Population who are low income is defined as living at or below 200 percent of the federal poverty line. Within an urban area, not living close to a grocery store is defined as living further than one mile from a full service grocery store. Food deserts are defined at the census tract level, when the tract is considered low income and low access. A tract is considered low income if the tract's poverty rate is 20% or greater, or if the tract has a median family income less than or equal to 80% of the metropolitan area's median family income. A census tract is considered to have low access if a significant number (at least 500 people) and share (at least 33%) of individuals in the tract are greater than one mile from the nearest grocery store.

HEALTH CHARACTERISTICS

Fertility Measures

	NS	County	MSA
Births to mothers who smoked during pregnancy	10%	14%	10%
Births to mothers without a high school degree	13%	15%	—
Births to unmarried mothers	32%	40%	47%
Low birthweight births (<2,500 grams)	9%	9%	9%
Teen birth rate per 1,000 women age 15-19	25	21.0	22.6

Mortality Measures

	NS	County	MSA
Years of potential life lost (age 75) per 100,000	6,927	6,494	8,186

Health Behaviors

	NS	County	MSA
Population 18+ currently smokes	12%	21%	17%
Population 18+ obese	20%	37%	34%
Population 18+ binge drinking	8%	15%	16%
Population 18+ reporting 'fair' or 'poor' health	8%	15%	17%

Health Outcomes

	NS	County	MSA
Population 18+ reports having/had asthma	6%	10%	15%
Population 18+ reports having/had cancer	4%	7%	10%
Population 18+ reports having/had CHD	4%	7%	8%
Population 18+ reports having/had COPD	5%	9%	10%
Population 18+ reports having/had depression	14%	24%	23%
Population 18+ reports having/had diabetes	6%	12%	11%
Population 18+ reports having/had stroke	2%	4%	5%

Data Source: Vital Stats: Kentucky Cabinet for Health and Family Services Department of Public Health, Indiana Department of Health, 2015-2019. Health Behaviors and Health Outcomes: Centers for Disease Control, Behavioral Risk Factor Surveillance System, 2019. Note: CHD=coronary heart disease, COPD=chronic obstructive pulmonary disease.