

Delaware County

Comprehensive Land Use Background Information



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Background information in this Comprehensive Plan was compiled between May 2021 and February 2022.

Data was current as of the date it was noted.

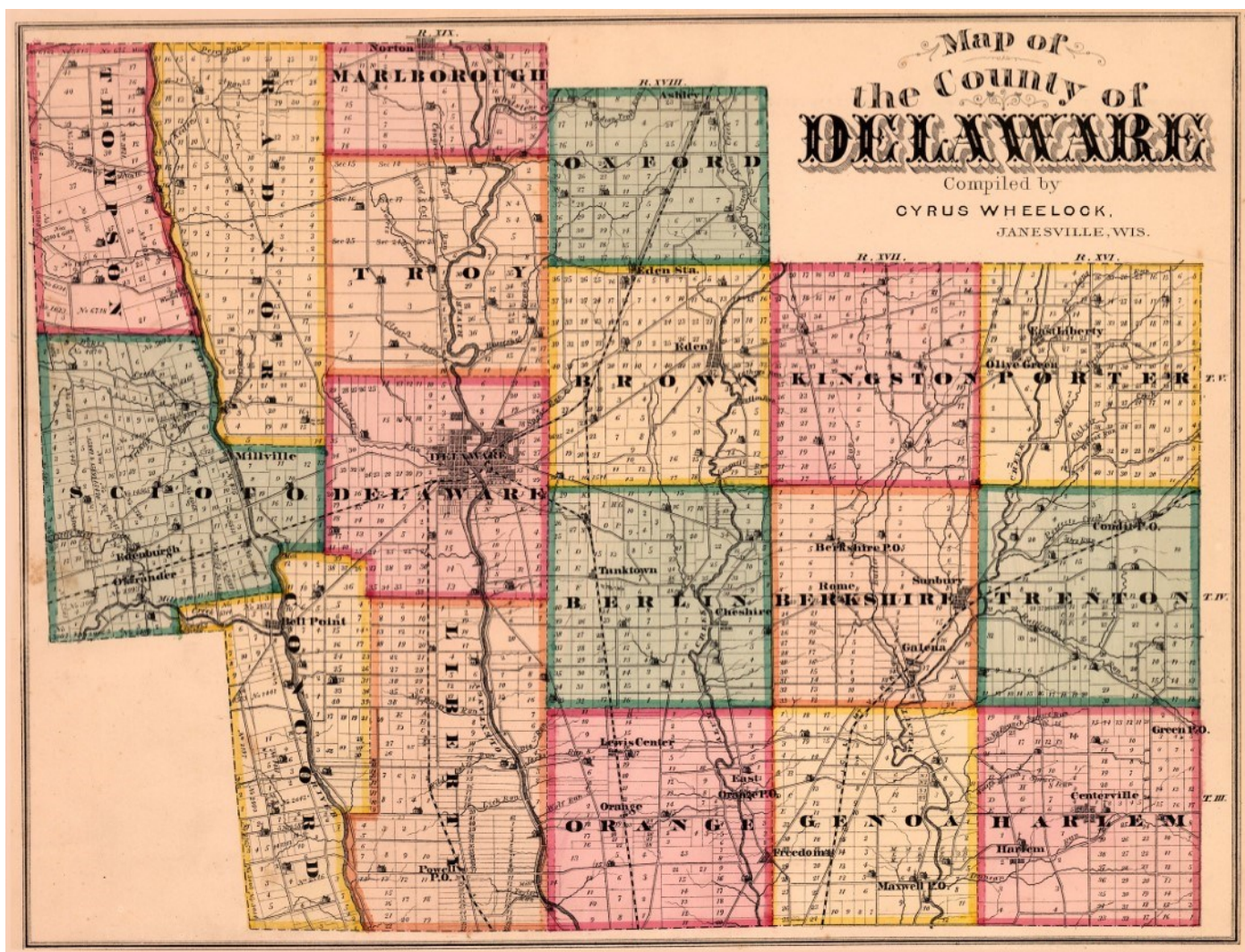
Chapter 1A

Introduction

County Information—What is this document?

This plan is a general description of background data for Delaware County. The information is to be used as a resource for individual township and municipal long-range planning documents within the county. By collecting and presenting the information in a separate document, the Delaware County Regional Planning Commission can update it when new data becomes available. This reduces the size of individual community plans and enables staff to keep information updated regularly.

Chapters are arranged in a way that generally corresponds with individual community comprehensive plans.



Map of Delaware County, 1875

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Chapter 2A

Population & Demographics

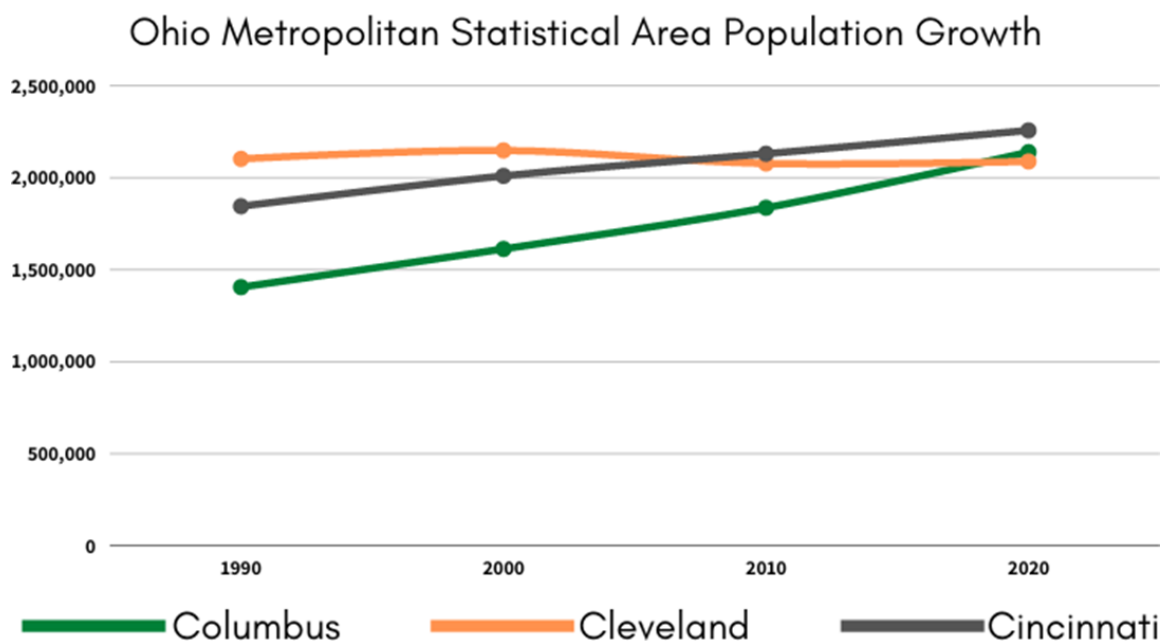
Delaware County

Regional Population

The Columbus Metropolitan Statistical Area (MSA) is the fastest growing MSA in the state of Ohio. Over the last 30 years, the Columbus MSA has added over 733,000 people; a 50% increase in population since 1990. Comparatively, Cleveland has lost about half a percent, while Cincinnati has gained just over 22%. This difference is most notable when looking at the population changes between the 2010 and 2020 decennial census, where Columbus gained 16.4% of its population (302,390 people) compared to Cleveland's 0.5% growth (11,011 people) and Cincinnati's 5.9% growth (126,733 people).

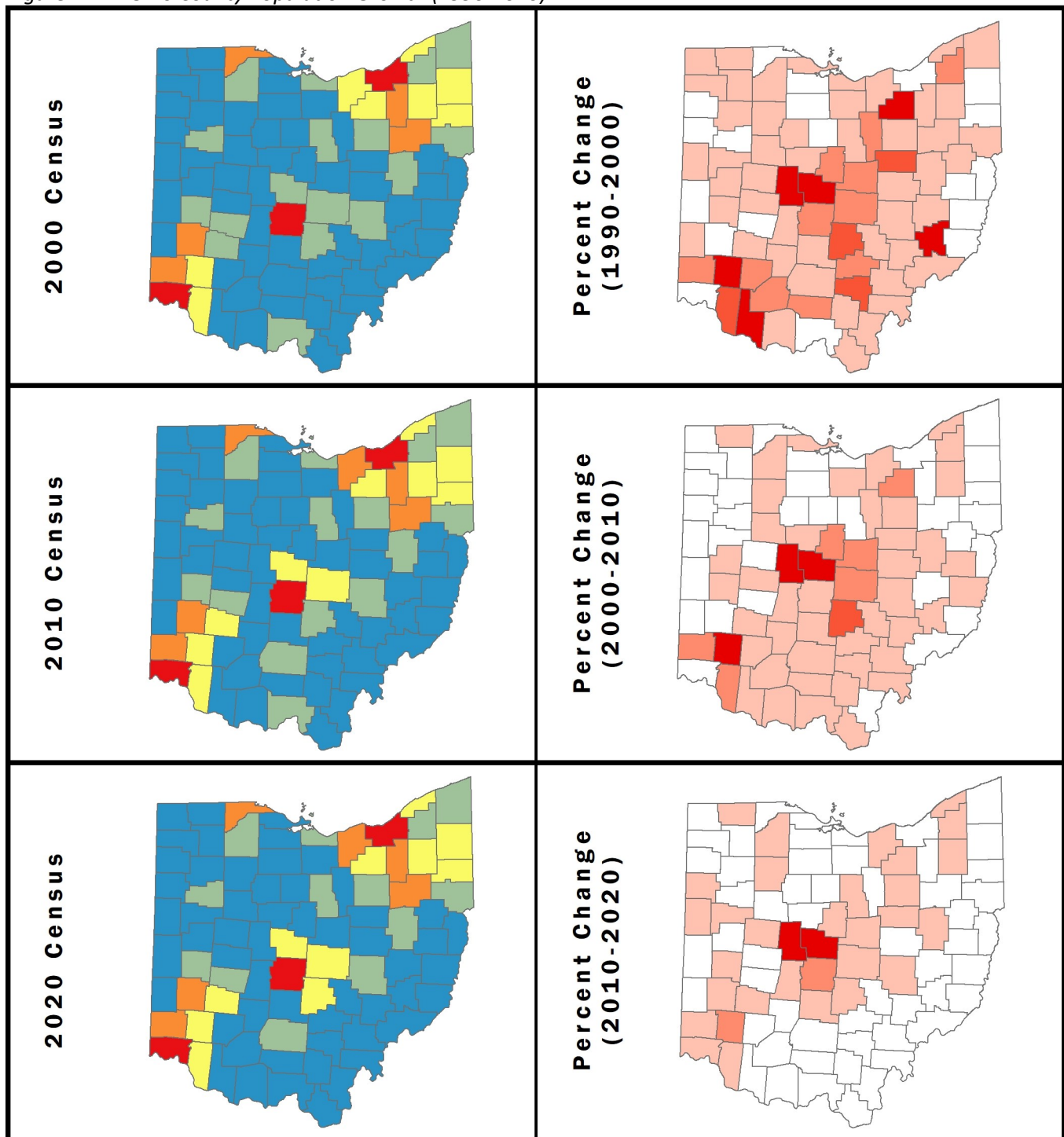
During those three periods of change (1990 to 2000, 2000 to 2010, and 2010 to 2020), Delaware County was the fastest growing, by percentage of population, in the State of Ohio. In 1990, Delaware County had a population of 66,929, and has increased to 214,124 people in 2020; an increase of 219%.

Figure 2A.1 Central Ohio Growth Rates (2010-2018)



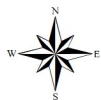
*ACS 5-Year Estimates: Total Population, Age & Sex

Figure 2A.2 Ohio County Population Growth (1990-2020)



Population Growth (1990-2020)

Delaware County



0 35 70 140 Miles

Population

- Under 75,000
- 75,001 to 150,000
- 150,001 to 300,000
- 300,001 to 750,000
- 750,001 - 1,393,978

Percent Growth

- Lost Population
- Less than 10% Growth
- 10% to 15% Growth
- 15% to 20% Growth
- Over 20% Growth

Prepared by: Delaware County Regional Planning Commission (740-833-2260)
www.dcrpc.org (3/5/2021)

Figure 2A.3 Population Growth in Central Ohio Relative to Fastest Growing Ohio Counties (2000-2018)

County	2010 Population	2020 Population	Difference/ Percent Change	Rank
By Volume				
Franklin County	1,163,414	1,323,807	160,393	1
Delaware County	174,214	214,124	39,910	2
Warren County	212,693	242,337	29,644	3
Hamilton County	802,374	830,639	28,265	4
Butler County	368,130	390,357	22,227	5
By Percent Change				
Delaware County	174,214	214,124	22.9%	1
Union County	52,300	62,784	20.0%	2
Warren County	212,693	242,337	13.9%	3
Franklin County	1,163,414	1,323,807	13.8%	4
Fairfield County	146,156	158,921	8.7%	5

**Source: 2010 and 2020 Decennial Census*

Figure 2A.4 Central Ohio Intra-Migration (2015-2019)

Central Ohio Migration Patterns		Destination								
		Delaware County	Fairfield County	Franklin County	Licking County	Madison County	Pickaway County	Union County	Gross Out Migration	Net Out Migration
Origin	Delaware County	-	310	4,662	278	48	16	480	5,794	-
	Fairfield County	281	-	2,488	1,140	0	150	13	4,072	-
	Franklin County	6,478	4,110	-	4,133	1,175	1,723	1,688	19,307	4,671
	Licking County	271	362	3,080	-	120	57	41	3,931	-
	Madison County	4	90	477	0	-	222	153	946	-
	Pickaway County	13	570	1,333	13	371	-	16	2,316	132
	Union County	315	0	1,102	0	111	16	-	1,544	-
	Gross In Migration	7,362	5,442	13,142	5,564	1,825	2,184	2,391	37,910	-
	Net In Migration	1,568	1,370	-	1,633	879	-	847	-	-

Similarly, in the last ten years, Delaware County and Franklin County were the only two counties to be in the top 5 Ohio counties for growth in both volume and percentage of population in 2010, while both Union County and Fairfield County—other Central Ohio counties—were also in the top 5 Ohio counties in growth by percent change. These factors all indicate that Central Ohio is continuing to grow and add population, and should continue to do so in the future.

Migration Patterns & Demographics

Migration patterns between 2015 and 2019 show that Delaware County is the primary destination for residents moving out of Franklin County with about 34% of people moving out of Columbus—but staying in Central Ohio – choosing Delaware County as their new home. In fact, of all Central Ohioans choosing to relocate to Delaware County, 88% (6,478 people) are relocating from Franklin County.

In 2000, the three most common age groups were 35 to 39 years, 40 to 44 years, and 45 to 49 years; constituting a combined 27.4% of Delaware County’s population. By 2010, the primary demographic changed slightly. The 35 to 39 years and 40 to 44 years age ranges remained two of the three most common, however, the 5 to 9 year age range increased to 9% of the population, becoming the third most prevalent. These age ranges all remained relatively constant, with the 40 to 44 years age cohort shifting to 45 to 49 years.

The fluctuation in age ranges could be related to the intra-migration patterns seen in Table 2A.3. Residents of Central Ohio with children are relocating to Delaware County schools.

Figure 2A.5 Central Ohio Inter-migration (2015-2019)

Area A	Area B	Migration from B to A	Migration from A to B	Net Migration Between A & B	Gross Migration Between A & B
State of Ohio	All Other States + PR	201,348	206,132	-4,784	407,480
	Foreign	41,985	n/a	n/a	n/a
	Totals	243,333	206,132	-4,784	407,480
Central Ohio	Ohio	77,606	71,210	6,396	148,816
	All Other States + PR	37,506	38,254	-748	75,760
	Foreign	11,433	n/a	n/a	n/a
	Totals	126,545	109,464	5,648	224,576
Delaware County	Ohio	9,971	8,968	1,003	18,939
	All Other States + PR	3,740	3,254	486	6,994
	Foreign	1089	n/a	n/a	n/a
	Totals	14,800	12,222	1,489	25,933
<p><i>**n/a" represent estimates that are not available because data is not collected from other countries</i> <i>**Central Ohio consists of Delaware, Fairfield, Franklin, Licking, Madison, Pickaway, and Union Counties</i> <i>Source: U.S. Census Bureau, 2015-2019 American Community Survey</i></p>					

Though younger adults in early professional careers are most likely living in more urban areas until they're either ready to start a family, or their children become school-aged.

This rationale is supported when looking at the migration patterns of both Delaware and Franklin Counties. Franklin County has seen a net migration outward of 4,671 people, while Delaware County has seen an net migration inward of 1,568 people.

Figure 2A.6 Age and Sex of Delaware County Residents (2000-2018)

	2000*			2010*			2019**			Difference (2000-2019)		
	Total	M	F	Total	M	F	Total	M	F	Total	M	F
Under 5 years	7.9%	8.2%	7.5%	7.5%	7.7%	7.2%	5.8%	5.9%	5.6%	-2.1%	-2.3%	-1.9%
5 to 9 years	8.3%	8.6%	7.9%	9.0%	9.3%	8.7%	8.7%	8.4%	7.2%	-0.5%	-0.2%	-0.7%
10 to 14 years	7.6%	7.9%	7.3%	8.1%	8.4%	7.8%	7.7%	7.6%	7.8%	0.1%	-0.3%	0.5%
15 to 19 years	7.1%	7.4%	6.7%	6.7%	7.0%	6.3%	7.6%	8.1%	7.1%	0.5%	0.7%	0.4%
20 to 24 years	5.0%	5.0%	5.1%	4.1%	4.1%	4.1%	4.9%	5.2%	4.7%	-0.1%	0.2%	-0.4%
25 to 29 years	5.9%	5.7%	6.1%	4.5%	4.4%	4.7%	4.1%	3.6%	4.5%	-1.8%	-2.1%	-1.6%
30 to 34 years	7.7%	7.5%	8.0%	6.4%	6.1%	6.7%	5.5%	5.2%	5.8%	-2.2%	-2.3%	-2.2%
35 to 39 years	9.7%	9.5%	9.9%	8.5%	8.4%	8.6%	7.8%	7.4%	8.3%	-1.9%	-2.1%	-1.6%
40 to 44 years	9.3%	9.3%	9.3%	8.7%	8.7%	8.7%	7.6%	8.2%	7.0%	-1.7%	-1.1%	-2.3%
45 to 49 years	8.4%	8.6%	8.2%	8.4%	8.5%	8.3%	8.0%	8.5%	7.6%	-0.4%	-0.1%	-0.6%
50 to 54 years	6.9%	7.0%	6.7%	7.3%	7.3%	7.4%	6.9%	7.1%	6.8%	0.0%	0.1%	0.1%
55 to 59 years	4.7%	4.7%	4.7%	6.3%	6.3%	6.2%	6.5%	6.9%	6.1%	1.8%	2.2%	1.4%
60 to 64 years	3.4%	3.4%	3.3%	5.1%	5.1%	5.1%	5.7%	5.2%	6.2%	2.3%	1.8%	2.9%
65 to 69 years	2.6%	2.5%	2.6%	3.4%	3.2%	3.5%	5.0%	4.5%	5.4%	2.4%	2.0%	2.8%
70 to 74 years	2.2%	2.0%	2.4%	2.3%	2.2%	2.4%	3.8%	3.6%	4.0%	1.6%	1.6%	1.6%
75 to 79 years	1.6%	1.3%	1.9%	1.6%	1.5%	1.8%	2.8%	2.9%	2.7%	1.2%	1.6%	0.8%
80 to 84 years	1.0%	0.7%	1.2%	1.2%	1.0%	1.4%	1.0%	0.9%	1.0%	0.0%	0.2%	-0.2%
85+ years	0.8%	0.4%	1.1%	1.0%	0.6%	1.2%	1.5%	0.8%	2.2%	0.7%	0.4%	1.1%
Pop. (#)	109,989	54,435	55,554	174,214	85,925	88,289	209,177	104,139	105,038	87,019	43,069	43,950
Pop. (%)	-	49.5%	50.5%	-	49.3%	50.7%	-	49.8%	50.2%	-	0.0%	0.0%
Median Age	35.3	34.8	35.7	37.4	36.9	37.9	39.1	39	39.2	3.8	4.2	3.5

*Age Groups and Sex: 2000 & 2010 Census Summary File 1

**Age by Sex: 2019 American Community Survey 5-year Estimate (2020 Census Data not yet released for this data)

From a diversity standpoint, Delaware County is becoming a more diverse county. In 2000 Delaware County was 94.2% White, which dropped to 89.7% in 2010. According to the 2020 Decennial Census, Delaware County is now 66.81% white, with the largest increases occurring in Black, Asian, and Multi-Racial populations. From an ethnicity perspective, Hispanic or Latino populations increased 432% in 2020 from 2000; from 1,109 people to 5,903.

Population Projections

The Ohio Department of Development (ODOD) also publishes population projections for the counties in Ohio. Map 2A.2 demonstrates the data that the ODOD published and illustrates the consistent large increases in population that Delaware County is forecasted to see in to 2040. Delaware County has the highest percent increase in population when compared to 2020 with a 31.8% increase in population projected. Of the 11 counties that are projected to see increases above 7.5%, 7 counties (the entire Central Ohio region) are among them; including the top 4.

The Delaware County Regional Planning Commission conducts population projections for the individual townships and municipalities that makeup the County. See Chapter 2B for more information.

Population Growth Summary

Delaware County is repeatedly the fastest growing county in Ohio, and that growth is projected to continue. Simultaneously, the County is becoming more diverse, increasing the varied needs by the County's population. Future development pressures will largely be dependent on the availability of water and sewer service and/or whether annexations consume land to achieve the desired land uses if the Townships can not accommodate. Subsequently, if utilities are not available, developers may seek annexation in order to obtain the infrastructure needed for their development.

Figure 2A.7 Delaware County Demographic Diversity (2000-2020)

	2000*		2010*		2020**		2000-2020	
	Total	Percent	Total	Percent	Total	Percent	Difference	Percent
Total Population	109,989	-	174,214	-	214,124	-	104,135	-
White	103,663	94.20%	156,328	89.70%	173,231	80.90%	69,568	66.81%
Black or African American	2,774	2.50%	5,837	3.40%	7,840	3.66%	5,066	4.86%
American Indian and Alaska Native	157	0.10%	252	0.10%	324	0.15%	167	0.16%
Asian	1,690	1.50%	7,436	4.30%	18,216	8.51%	16,526	15.87%
Native Hawaiian and Other Pacific Islander	38	0.00%	51	0.00%	75	0.04%	37	0.04%
Other	416	0.40%	1,097	0.60%	2,460	1.15%	2,044	1.96%
Two or More	1,251	1.10%	3,213	1.80%	11,978	5.59%	10,727	10.30%
Hispanic or Latino	1,109	1.00%	3,669	2.10%	7,012	3.27%	5,903	5.67%

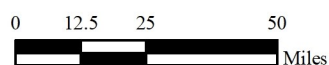
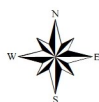
*Race and Hispanic or Latino: 2000 and 2010 Census Summary File 1

**Race: 2020 Decennial Census

The map displays the percentage change in the population aged 18 and over for each state in the United States. The data is as follows:

State	Percentage Change
Alaska	-2%
Alabama	-13.4%
Arizona	-7.3%
Arkansas	-11.4%
California	2.8%
Colorado	3.3%
Connecticut	4.3%
Delaware	-0.5%
Florida	-0.5%
Georgia	-2%
Hawaii	-10.1%
Idaho	0.1%
Illinois	3.8%
Indiana	0.6%
Iowa	-9%
Kansas	-2%
Kentucky	-9.1%
Louisiana	10.6%
Maine	-6.2%
Maryland	-4.4%
Massachusetts	-12%
Michigan	-17.6%
Minnesota	-5.2%
Mississippi	-10.6%
Missouri	-6.4%
Montana	-8.6%
Nebraska	-15.5%
Nevada	4.9%
New Hampshire	-11.9%
New Jersey	-3.2%
New Mexico	9.5%
New York	-5.2%
North Carolina	-12.5%
North Dakota	-5.3%
Ohio	-8.8%
Oklahoma	12%
Oregon	-8.9%
Pennsylvania	-10.8%
Rhode Island	-5.5%
South Carolina	-7.3%
South Dakota	-5.3%
Tennessee	11.1%
Texas	-16.7%
Utah	10.2%
Vermont	-5.4%
Virginia	-3.9%
Washington	-10.3%
West Virginia	-10.5%
Wisconsin	-8.3%
Wyoming	2%

Delaware County



Delaware County

2020 to 2040 Population Growth

- Less than -5% Growth
- 5% to 0% Growth
- 0% to 7.5% Growth
- 7.5% to 15% Growth
- Over 15% Growth

The next table shows the population projections calculated by the DCRPC for all communities in Delaware County. The projections may change drastically based upon major developments. The maximum build-out population is a

Table 2A.9. Township Population Projections (by DCRPC Housing Unit Method)

	2000 US CENSUS	2010 US CENSUS	2015	2018	2020*	2025*	2030*	Maximum Build-out**
Berkshire	1,946	2,428	2,923	3,490	3,770	4,654	5,479	20,936
Berlin	3,315	6,496	7,140	7,627	7,795	8,547	9,249	23,537
Brown	1,290	1,416	1,471	1,508	1,528	1,595	1,657	17,645
Concord	4,088	9,294	10,547	10,902	11,267	12,144	12,963	40,049
Delaware	1,559	1,964	2,061	2,093	2,123	2,194	2,259	15,014
Genoa	11,293	23,090	25,195	25,979	26,496	28,027	28,454	28,454
Harlem	3,762	3,953	4,134	4,345	4,428	4,749	5,050	29,069
Kingston	1,603	2,156	2,256	2,309	2,339	2,431	2,516	26,994
Liberty	9,182	14,581	16,246	17,319	17,890	19,763	21,511	29,900
Marlboro	227	281	290	293	295	302	308	5,499
Orange	12,464	23,762	27,084	29,369	30,507	34,374	37,038	37,038
Oxford	854	987	1,008	1,016	1,023	1,040	1,057	14,291
Porter	1,696	1,923	2,052	2,146	2,200	2,361	2,512	25,000
Radnor	1,335	1,540	1,598	1,643	1,665	1,746	1,821	20,404
Scioto	2,122	2,350	2,459	2,582	2,628	2,820	2,999	25,588
Thompson	558	684	712	725	733	756	778	13,771
Trenton	2,137	2,190	2,241	2,286	2,309	2,384	2,454	11,684
Troy	2,021	2,115	2,157	2,198	2,225	2,297	2,365	13,737
Total Twps	61,450	101,210	111,572	117,830	121,221	132,184	140,470	

Table 2A.10. Municipal Population Projections

	2000 US CENSUS	2010 US CENSUS	2016	2017	2020*	2025*	2030*	Maximum Build-out**
Delaware	25,243	34,753	38,495	39,842	40,990	43,478	45,459	106,061
Galena	305	653	781	825	868	953	1,021	1,500
Sunbury	2,630	4,389	5,093	5,421	5,663	6,202	6,632	11,638
Shawnee Hills	419	681	779	813	847	918	974	1,290
Powell	6,247	11,500	13,411	14,420	14,983	15,605	15,605	15,605
Ashley	1,216	1,330	1,344	1,349	1,353	1,360	1,367	4,705
Ostrander	405	643	862	970	1,055	1,087	1,087	1,087
Dublin	4,283	4,018	4,031	4,115	4,195	4,354	4,407	4,407
Westerville	5,900	7,792	9,076	9,651	10,152	10,650	10,650	10,650
Columbus	1,891	7,245	12,244	12,963	13,380	14,191	14,191	14,191
Total Municipalities	48,539	73,004	86,116	90,369	93,486	98,798	101,393	

*Based on historical trends, estimates are subject to localized increases/decreases and do not include the potential for annexations and resulting changes in density.

**Source: DCRPC Demographic Web Page, 8/2017

Chapter 3A

Development and Change

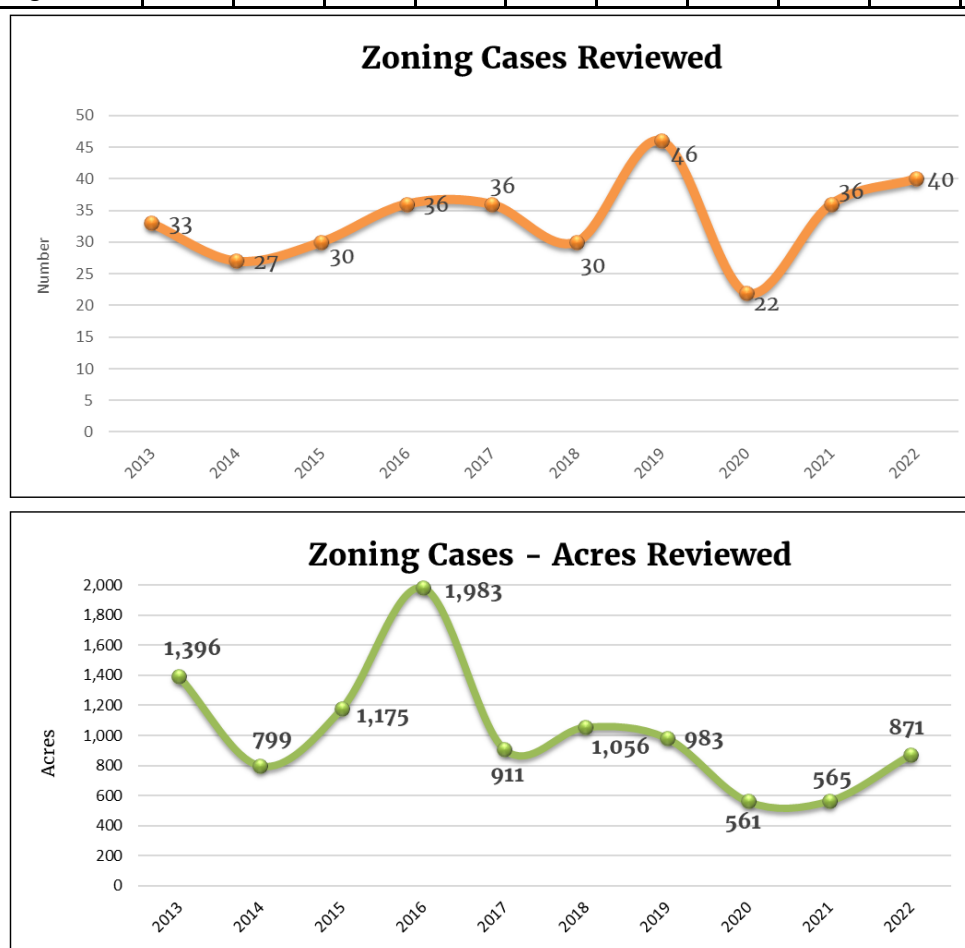
Delaware County

Much has been said about the growth rate of Delaware County over the last three decades. The County grew by 64.3% from 1990-2000, ranking it as the 15th fastest-growing county in the country by percentage of growth. For the period of 2000-2010, the growth was 58.4%, as the County was the 22nd fastest-growing by the same measure.

Development typically starts with the rezoning process, unless a proposed development intends to use existing zoning. Rezoning activity throughout the townships in Delaware County has been strong in the last three decades. Within the last 10 years, zoning acres reviewed peaked at just under 2,000 acres in 2016, then reducing to a range of 550-1000 acres per year since.

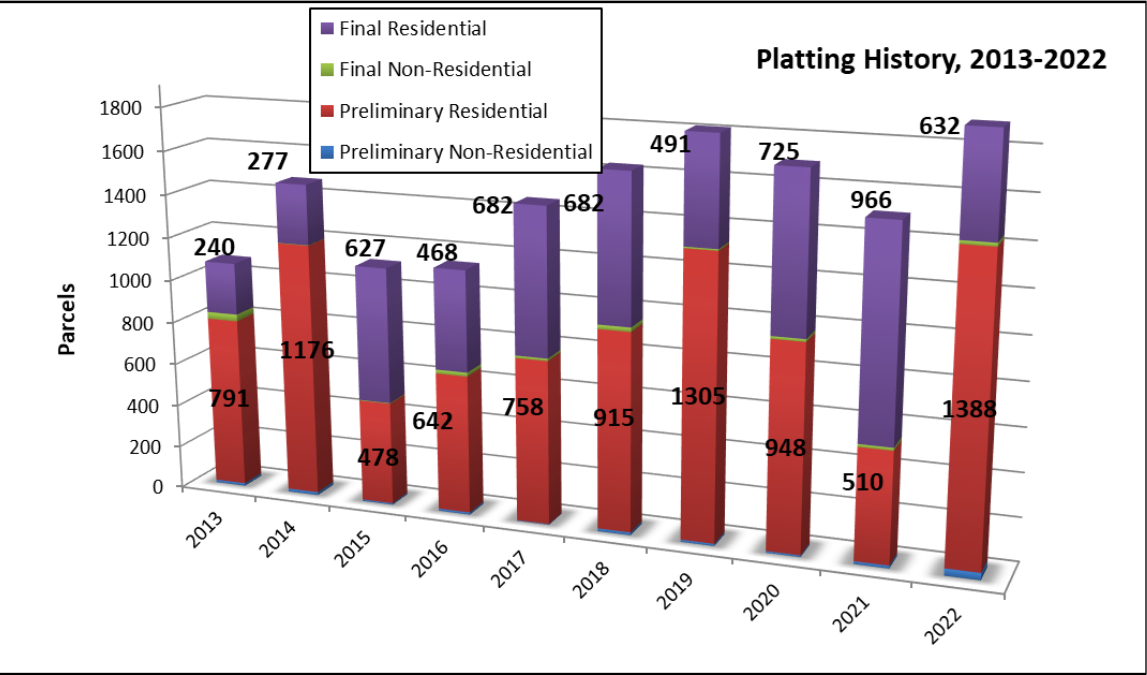
Figure 3A.1. Zoning Cases Reviewed

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
# of individual cases	33	27	30	36	36	30	46	22	36	40
Total acreage	1,396	799	1,175	1,983	911	1,056	983	561	565	871



This zoning activity eventually leads to the subdivision platting process. Each year, lots make their way through the subdivision process. First, lots receive a Preliminary approval before work can be started. Eventually, the platting process creates the individual parcels and open space. The following graphic indicates the number of lots reviewed by RPC throughout each year.

Figure 3A.2. Platting History 2013-2022



The following table represents the number of lots in the various stages of the development process at the end of each year. The key is to notice that the overall number of lots in the pipeline had been decreasing until 2015, when several new subdivision started through the process. The DCRPC estimates that there is still a 14-year supply of lots in the development process.

Figure 3A.3 Development Pipeline

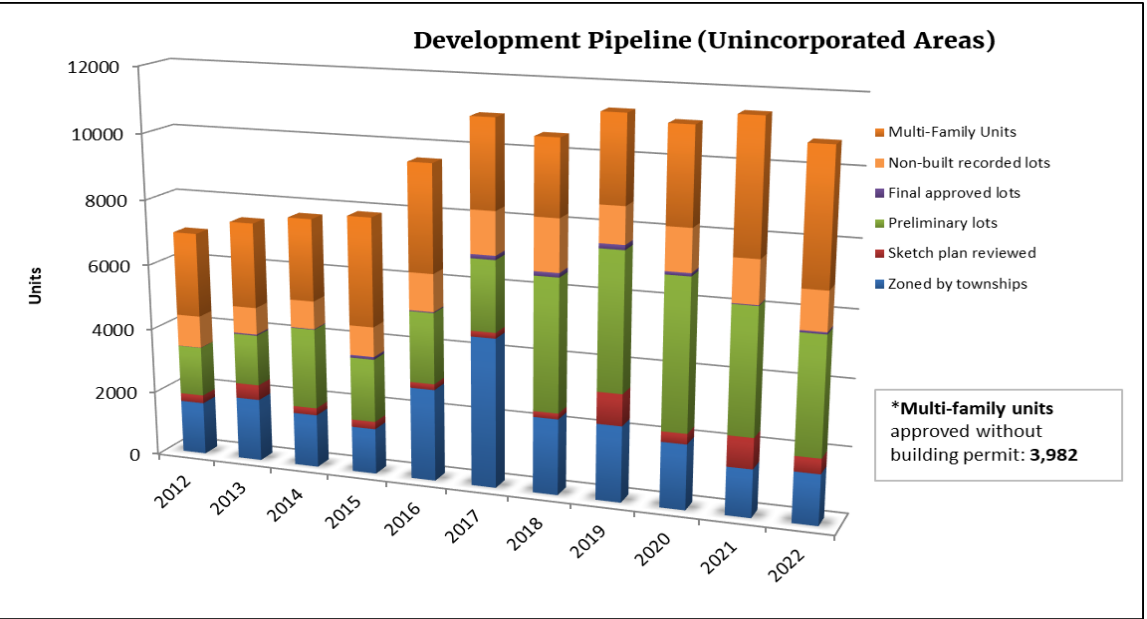
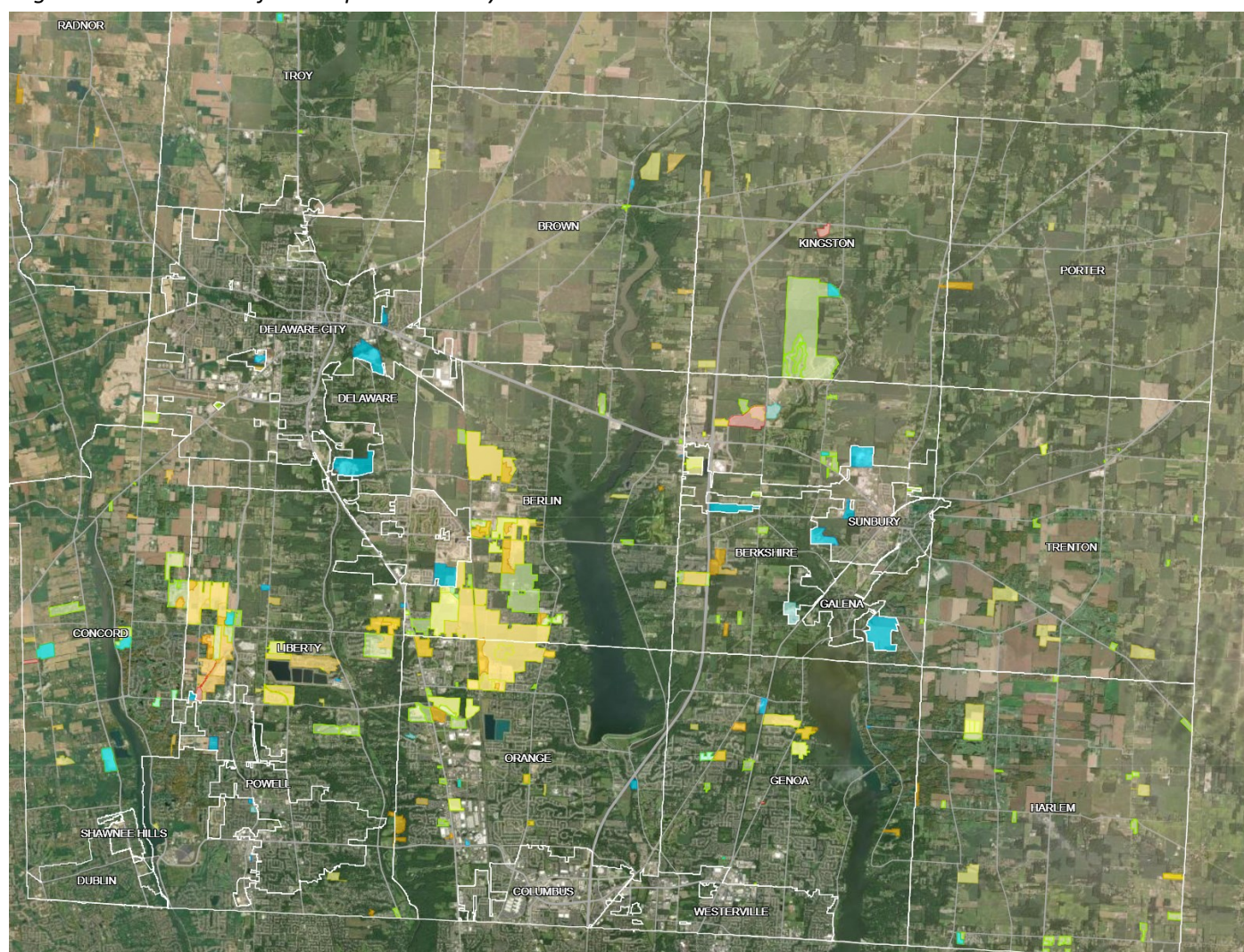


Figure 3A.4. Numbers of lots in various stages of the Development Pipeline

Development Process	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Zoning approved	1,925	1,636	1,401	2,816	4,558	2,317	2,312	1,978	1,453	1,531
Sketch Plan reviewed	464	220	228	176	171	176	958	315	929	458
Preliminary approved	1,563	2,454	1,934	2,161	2,153	4,030	4,190	4,568	3,800	3,559
Final Plat approved	36	19	83	29	124	131	146	95	25	61
Non-built, recorded lots	825	849	907	1,138	1,299	1,576	1,101	1,273	1,289	1,165
Total Lots in Pipeline	4,813	5,178	4,553	6,320	8,305	8,230	8,707	8,229	7,496	6,774
Multi-Family Units	2,591	2,492	3,299	3,244	2,671	2,284	2,585	2,852	3,930	3,982

Figure 3A.5. Location of Development Activity



The image above indicates all active projects within unincorporated areas as of 2/25/22. Green indicates zoning projects that are not yet subdivisions. Yellow indicated areas with active Preliminary Plans. Darker yellow is currently being reviewed for platting and blue is a category showing other projects, such as multi-family or commercial sites or municipal projects.

Figure 3A.6 Historical County Building Permits

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Berkshire	38	45	91	55	84	269	66	284	234	137
Berlin	19	28	24	50	73	62	108	125	210	123
Brown	3	6	3	6	3	4	10	6	15	12
Concord	67	32	39	31	70	185	107	212	162	117
Delaware	7	1	7	4	2	20	9	6	18	9
Genoa	110	39	66	109	77	74	46	48	45	40
Harlem	21	13	22	29	44	38	23	38	48	31
Kingston	9	5	7	10	9	33	24	26	18	17
Liberty	133	89	104	117	178	137	99	474	573	357
Marlboro	0	2	0	0	1	4	0	0	2	0
Orange	214	209	213	358	205	119	56	222	282	217
Oxford	1	1	1	1	0	7	3	2	3	2
Porter	13	10	13	11	13	15	14	10	12	16
Radnor	6	6	2	5	10	3	3	4	12	10
Scioto	8	9	9	21	22	11	33	16	50	15
Thompson	1	0	2	1	2	1	0	4	7	5
Trenton	4	4	5	9	5	11	19	14	20	9
Troy	1	3	8	7	2	4	6	2	12	12
Total Twps	655	502	616	824	800	997	626	1,493	1,723	1,129

Figure 3A.7 Historical Municipality Building Permits

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Delaware	313	259	186	306	246	587	646	454	506	475
Galena	4	6	7	5	10	4	63	87	120	22
Sunbury	73	36	36	31	95	91	59	34	56	111
Shawnee Hills	10	10	5	11	3	1	3	1	4	1
Powell	95	110	66	388	73	59	35	59	98	75
Ashley	1	0	0	0	1	0	0	0	0	0
Ostrander	23	12	12	7	31	25	10	29	34	29
Dublin*	0	2	0	9	18	9	5	4	7	4
Westerville*	10	121	111	136	65	0	101	16	1	0
Columbus*	921	255	560	379	0	10	557	1	2	0
Total	1,450	811	983	1,272	542	786	1,479	685	828	717
Municipalities										

*Portions within Delaware County

Figure 3A.8 Permits for Larger Jurisdictions

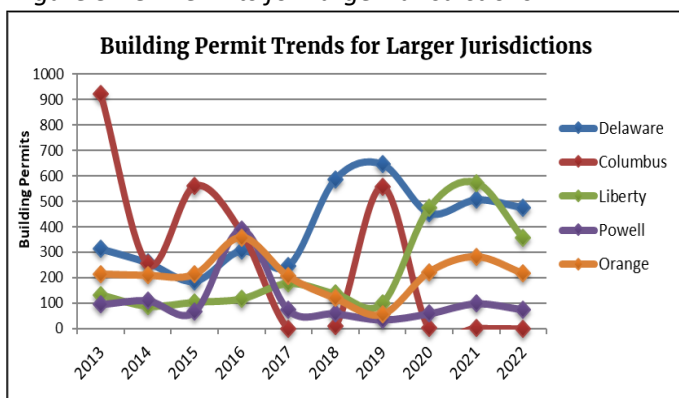
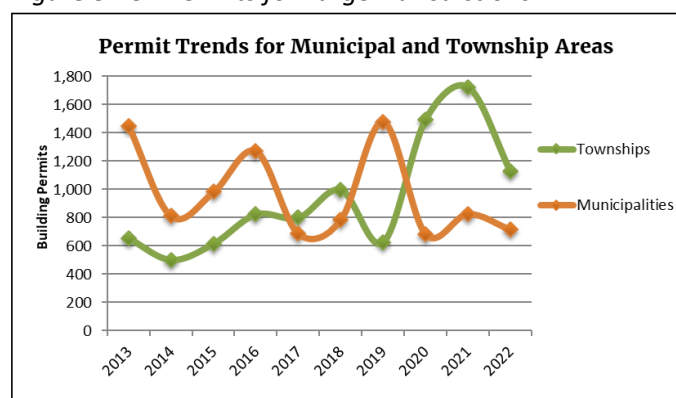


Figure 3A.9 Permits for Larger Jurisdictions



Chapter 4A

Existing Land Use

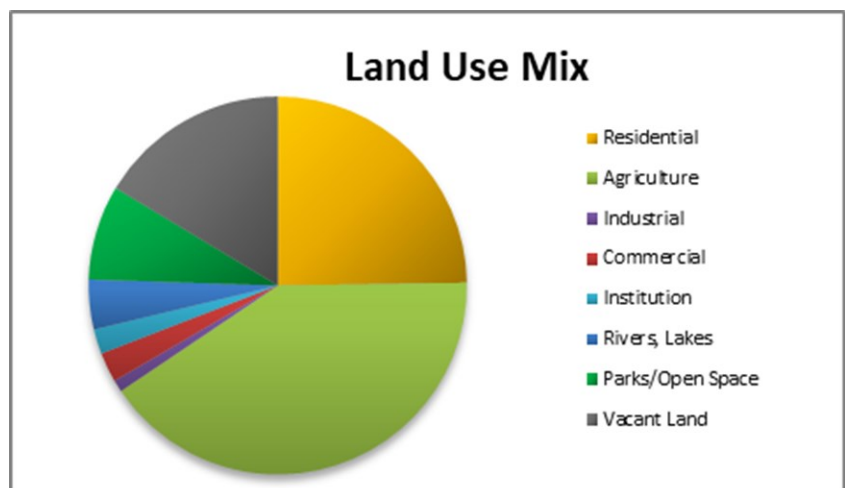
Delaware County

Land Use in Delaware County

The following tables, pie charts, and map shows the land use percentages across Delaware County.

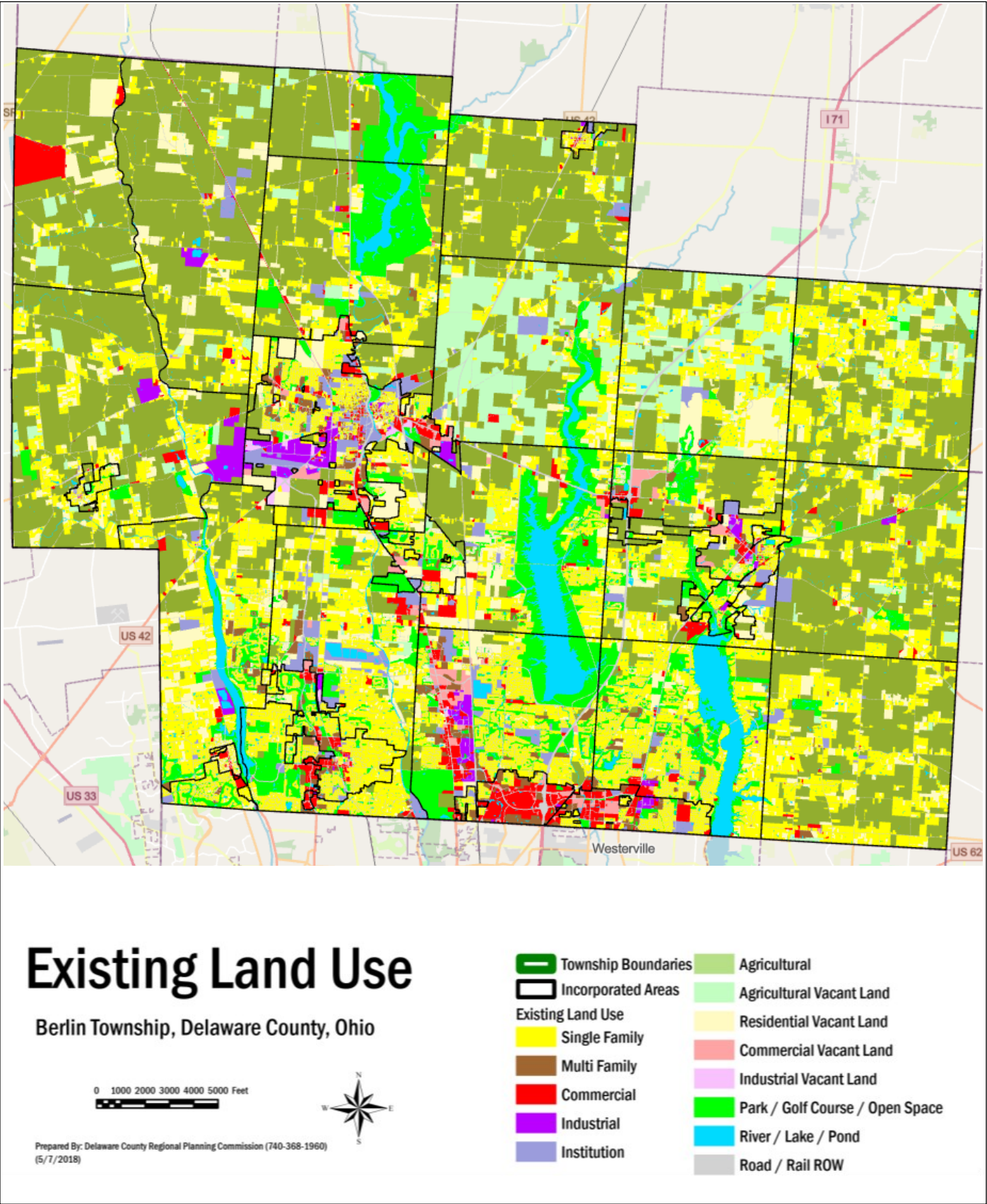
Figure 4A.1. Delaware County Land Use 4/2018

LAND USE	ACREAGE	PERCENTAGE
Residential	69,158	25%
Commercial	7,119	3%
Industrial	2,841	1%
Institution	5,930	2%
Agricultural	113,922	41%
Residential Vacant Land	26,797	10%
Com/Ind Vacant Land	2,590	1%
Agricultural Vacant	16,377	6%
Parks/Open Spaces	22,652	8%
ROW	13,486	(not calculated)
River/Lakes/Ponds	11,845	4%
Total	279,232	100%



The following map shows the Auditor’s land use categorization throughout the entire county.

Map 4A.2. County Land Use map



Chapter 5A

Natural Resources

Delaware County



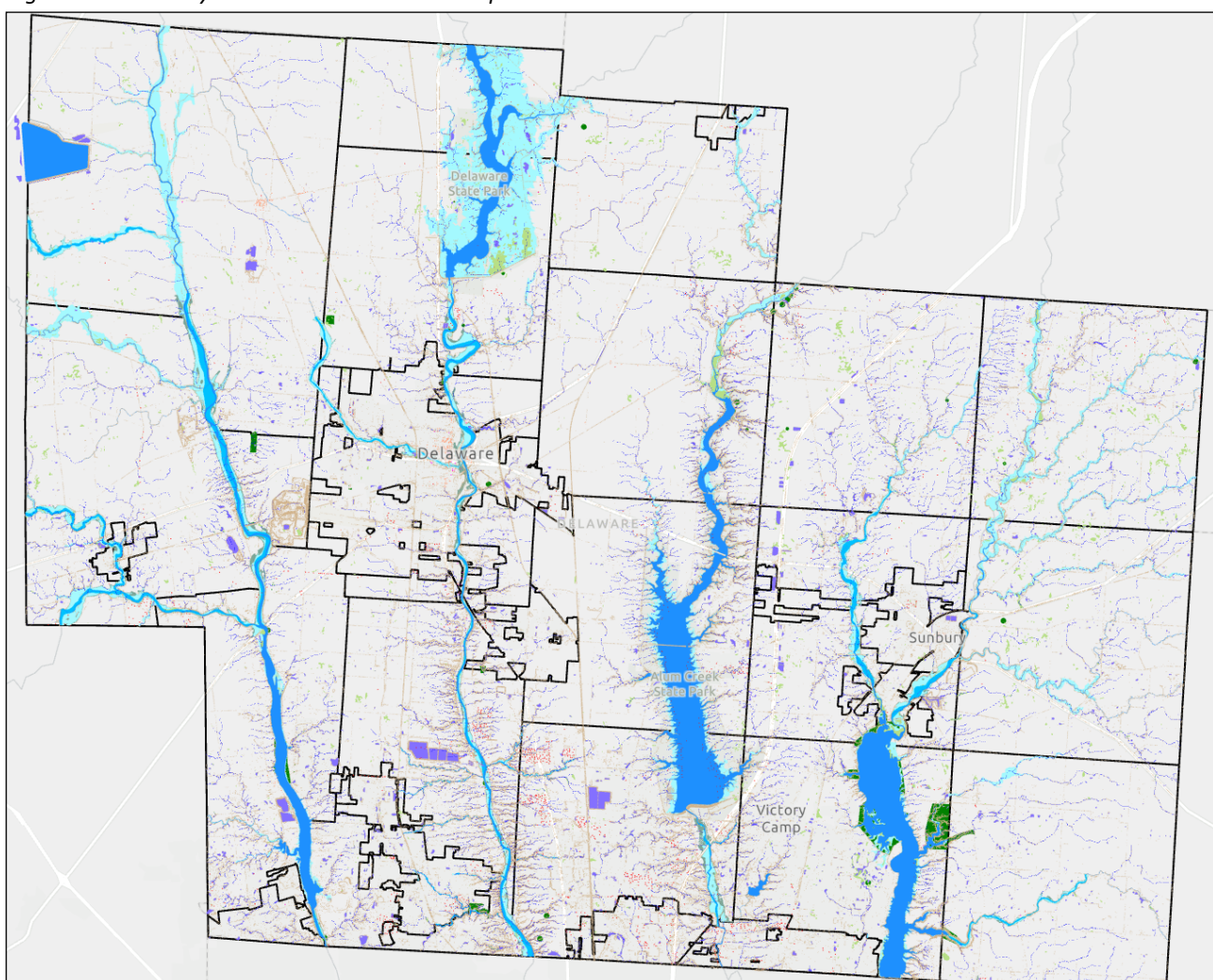
Introduction

Depending on the location, Delaware County has numerous natural resources and features. These include large reservoirs, their connecting creeks, floodplains, wetlands, fertile soils, woods, and abundant wildlife. Other features include steep slopes, wooded ravines, treelines, These resources are displayed on several maps and are generally described below. These resources should be conserved as much as possible while development continues.

Critical Resources

The combined Critical Resources map (below) displays generalized floodplains, water, wetlands, slopes, and historic and archeological sites, all of which are covered in this chapter.

Figure 5A.1 County-wide Critical Resources Map



Watersheds

The term “watershed” typically refers to the 10th level of the hydrologic unit classification system (HUC). Sub-watersheds are the 12th level, while sub-basins are the 8th level. Each level feeds into the HUC above it. For example, an HUC level 10 is a subsection of an HUC 8.

From an environmental standpoint, storm water and subsequent pollutants in these sub-watersheds feed into the Rivers for which the watersheds are named. For example, pollutants released or picked up in the Olentangy Watershed will flow into the Olentangy River.

Topography (Elevation)

The topography map indicates the high point and low point of each community, as well as the various changes in elevation.

Slopes Greater than 20%

Generally, slopes greater than 20% follow the streams near reservoirs and other significant tributary streams. Such slopes should be preserved to the greatest extent practicable in an effort to maintain some of the more dynamic topographic profiles in the township for aesthetics and community character. Though expensive to do, houses can be permitted on slopes up to 20%, provided doing so doesn’t negatively impact the environment, waterways, or floodplains.

Floodplains, bodies of water

The National Flood Insurance Program discourages development in the 100-year floodplain and prohibits development in the 100-year floodway. These areas are mapped by the Federal Emergency Management Agency (FEMA). The floodplain map gives a general location of the floodplains. For specific information see the FEMA maps at the Delaware County Building Safety Department.

According to *Protecting Floodplain Resources* (FEMA, 1996) undisturbed floodplains perform several critical functions:

- **Water Resources - Natural flood and erosion control:** flood storage and conveyance; reduce flood velocities; reduce peak flows; reduce sedimentation.
- **Water Quality Maintenance:** filter nutrients and impurities from runoff; process organic wastes; moderate temperature fluctuations.
- **Groundwater Recharge:** reduce frequency and duration of low surface flows.
- **Biological Resources:** rich, alluvial soils promote vegetative growth; maintain bio diversity, integrity of ecosystems.
- **Fish and Wildlife habitats:** provide breeding and feeding grounds; create and enhance waterfowl habitat; protect habitats for rare and endangered species.
- **Societal Resources:** harvest of wild and cultivated products; enhance agricultural lands; provide sites for aqua culture; restore and enhance forest lands.

- **Recreation:** provide areas for passive and active uses; provide open space; provide aesthetic pleasure.
- **Scientific Study/Outdoor Education:** contain cultural resources (historic and archeological sites); environmental studies.

The Delaware County FEMA floodplain maps were revised in 2009. New maps are scheduled to be released by FEMA in 2023.

Wetlands

Some wetlands that appear on the map may be jurisdictional wetlands, which are regulated by the Clean Water Act of 1972. Wetlands are generally defined as soils that support a predominance of wetland vegetation, or are under water at least two weeks per year. A more specific wetland definition is provided by the U. S. Army Corps of Engineers Wetlands Delineation Manual Technical Report Y-87-1.

Wetlands provide many of the same functions as floodplains. They are natural stormwater detention systems that trap, filter, and break down surface runoff. In the Township some former wetlands are now agriculturally-drained (tiled) fields or low-lying areas by existing ponds and waterways.

The DCRPC's National Wetlands Inventory GIS data indicates general locations of potential jurisdictional wetlands. Wetlands often include other natural features such as woodland areas.

Prime Agricultural Soils

The Prime Agriculture Soils map shows the location of soils suited for high yields. Agriculture is still an important land use in the county, although the land value for future development may exceed the short-term value for continued agricultural use. Creative zoning and development techniques may be able to save some agricultural land as open space.

The Delaware Soil and Water Conservation District also recommend that farmers who want to help preserve the viability of farming utilize edge buffers on cropland. Some benefits of edge buffers include:

- Filtering surface water runoff to protect against harmful algae blooms;
- Planting in edge buffers can protect against erosion and loss of farmland;
- Buffers resist the accumulation of sediment and debris in water;
- Slows water runoff from storms, preventing excessive flooding, and protecting the topsoils;
- Planted buffers can provide a habitat for predatory insects, insect-eating birds, and pollinators;
- Can aid in the economic production of farms through hay, lumber, fruit trees, and bees for honey; and
- May decrease property tax liabilities for farmers by using a conservation buffer to combat soil erosion. (Check with the Delaware County Auditor's Office for details).

Soil Suitability for Septic Systems

Since sanitary sewer service is not available everywhere in Delaware County, it is useful to evaluate the soil capability for septic systems. Land with very poor suitability for septic systems should be served by centralized sanitary sewer or alternative sewage disposal systems.

Historical Sites

The Ohio Historic Preservation Office (OHPO) maintains the state's official record of historic properties listed in the National Register of Historic Places. These properties are recognized for their contribution to the culture of a community.

The OHPO lists the following benefits to listing in the National Register:

- The listing of a building, structure, site, object or district in the National Register of Historic Places accords it a certain prestige, which can raise the property owner's and community's awareness and pride, and
- Income-producing (depreciable) properties which are listed in the National Register individually or as part of a historic district may be aided by tax credits and other funding programs.

A listing on the National Register is sometimes a prerequisite for funding applications for restoration work through various private, nonprofit organizations, such as the National Trust for Historic Preservation.

The OHPO also maintains the Ohio Historic Inventory (OHI), which is a record of buildings and structures which may have architectural or historical significance. The Ohio Historic Inventory form is an important reference for organizing community preservation efforts and is used by state, federal, and local agencies when making land use, transportation, and development decisions.

Land Cover

The Land Cover map shows the land cover categories from the National Land Cover Database (NLCD), as delineated by the United States Geologic Survey (USGS). Using several dates of aerial imagery, the USGS categorizes land cover into one of several different coded classes. The National Land Cover Database data is updated every 5 years and can provide valuable information regarding general changes in land cover that may not be represented well in the Auditor's land use data. For example, a 10-acre parcel with a residence will be classified as residential according to Auditor data, but will not take into account the potential forested areas on the property.

Development or Harvesting of Natural Resources

Deposits of materials that can be mined commercially (i.e. minerals, stone, gravel, oil, and natural gas) are limited in the county both in location and the ability to extract them based on surrounding land uses. Other than current active quarries, prime agricultural soils are the main natural resource. It is conceivable that someday these soils could be extracted and moved for landscaping or other uses.

Individual plans may describe features that are unique to the community and include maps.

Chapter 6A

Housing

Delaware County



General

Housing has been the primary index of growth in the County. Planning for a range of housing in a developing community on a county-wide basis is a complex issue. Many factors are involved, such as the availability or lack of public water and centralized sanitary sewer, land values, market demand, proximity to major employment and shopping centers, transportation network, as well as how the community wants to feel. There are also legal considerations related to nondiscrimination in housing, and “fair share” provision of the regional housing needs, to the extent necessary services can be provided.

Most unincorporated areas were initially zoned with a minimum lot size of 1-5 acres allowing a single residential use in addition to any other agricultural uses.

Typically, landowners who gain access to centralized sanitary sewer may apply for Planned Residence District (PRD) zoning, which permits a variety of housing types, though it is primarily used for single-family development. PRDs range from a density-neutral 1 unit per acre to 1.25 units per net developable acre. Some include a provision for certain multi-family uses and some townships have specific zoning regulations for multi-family uses.

Existing housing stock

Most township plans started with a house-to-house windshield study, finding that anywhere from 85% to 95% of the housing stock was either new/well maintained or in need of normal repair. It is assumed that all structures since that point are in comparable shape.

Future Housing

Zoning battles over density sometimes occur along the edges of municipal areas. Where the possibility of annexation exists, townships cannot be certain of their future boundaries. For that reason, it is impossible to assess fair share allocations of housing to be provided by the township when a city or village with separate services may annex land and provide housing at a higher density. A more pragmatic approach to housing distribution is for the township to:

1. determine how the community wants to look when it is all built out (vision);
2. determine what services it can and should provide;
3. anticipate its fair share of the County’s projected population;
4. permit a variety of housing that relates to the other items above.

Age-Based Housing

An emerging trend in the housing market is the recognition that communities need to respond to different generational needs based on the ages and lifestyles of its current and future

residents. Single-family suburban development typically appeals to families with children. As children age and leave home, many parents no longer want the maintenance and responsibility related to the single-family home and yard. The desire to downsize is met with the reality that there is no available product in their community, and they must look elsewhere. This group of empty-nesters is a demographic group that will continue to grow in the coming decades.

In response to this trend (and the recent challenges in the single-family market), developers have proposed several “age-restricted” or “age-targeted” residential developments. These projects seek densities that are not necessarily comparable to those reflected on the local Comprehensive Plan. Those densities are factored on impacts to traffic, schools, services, and utilities. For example, the average single-family home generates approximately 10 trip ends per day while “detached senior housing” generates approximately 3.71 trip ends per day (source: Institute of Transportation Engineers). For sewage use, an institutional residential unit can use a fourth of the average single-family residence (source: EPA). The County calculates one-bedroom facilities at 60% per unit versus that of a single-family home. However, non-institutional uses are calculated on the same sanitary use as a single-family home.

Workforce, or Affordable Housing

“Affordable housing” refers to housing that is constructed for those that cannot afford to live in the average residential unit, but it can also refer to housing types that fill a need for a diverse population that are older, are downsizing, or are in a service-oriented field with lower wages.

Affordable housing as a percentage is diminishing in the County. National trends are showing an increasing population, while the number of all new housing units being built is constantly decreasing. This trend is accompanied by a decreasing household size and an increase in the market price for those units that are being built. The U.S. Department of Housing and Urban Development seeks to offer assistance to those households that are paying more than 30% of their gross household income toward housing without a choice. The low-skilled job market is not raising salaries to meet the needs of those employees where the cost of living is increasing significantly.

A lack of affordable housing as population increases is unavoidable unless developers are encouraged and/or granted incentives to develop more reasonably priced units. The housing market is driven by developers’ profits, which increase with housing market values.



Chapter 7A

Economic Conditions

Delaware County

Introduction

Delaware County has a broad-based economy. No one sector drives the economy, which protects the County from sharp up and down spikes. Delaware County's overall employment by sector very closely mirrors the state of Ohio's. Unlike some counties that are largely single-industry driven (auto manufacturing, agriculture, etc.), Delaware County has a healthy mix of many diverse employment sectors as shown in Figure 7A.1.



Commercial development at I-71 in Berkshire Township

Figure 7A.1. Establishments, Employment, and Wages by Sector, Delaware County (2016)

Industrial Sector	Number of Establishments	Average Annual Employment	Total Wages
Private Sector	4,898	77,525	\$4,067,147,734
Goods-Producing	572	9,558	\$572,083,879
<i>Natural Resources</i>	30	312	\$11,759,044
<i>Construction</i>	387	3,177	\$177,672,782
<i>Manufacturing</i>	155	6,069	\$382,652,053
Service-Producing	4,326	67,967	\$3,495,063,855
<i>Trade, Transportation, and Utilities</i>	1,031	16,682	\$589,820,187
<i>Information</i>	76	621	\$46,651,137
<i>Financial Services</i>	525	6,540	\$536,544,491
<i>Professional and Business Services</i>	1,175	19,779	\$1,638,484,206
<i>Education and Health Services</i>	554	8,415	\$350,940,093
<i>Leisure and Hospitality</i>	515	13,376	\$255,248,481
<i>Other Services</i>	438	2,540	\$76,991,571
<i>Unclassified</i>	12	14	\$383,689
Federal Government		230	\$13,404,169
State Government		357	\$21,593,984
Local Government		7,056	\$352,778,235

Source: Ohio Development Department

The Ohio Department of Development showed that between 2011 and 2016, all sectors saw an increase both in the number of employees, except for Information, which saw -40.2% employment. The areas with the greatest increases were Construction (34.7% employment, -1.8% establishment), Other Services (33.5% employment, 23.7% establishment), and Education and Health Services (27.4% employment, 28.8% establishment). Generally, the Service sector saw a 13.5% employee growth, the Goods sector saw a 18.2% growth and the Local Government sector saw a 4.9% growth in employees.

Figure 7A.2. Top 13 Major Employers, Delaware County (2017)

Employer	Employment Sector	# of Employees
JP Morgan Chase	Finance	10,700
Kroger Company	Retail/Warehouse	2,249
Olentangy Local School District	School System	2,203
Delaware County	Government	1,159
Ohio Health (Grady Memorial Hospital)	Hospital/Medical Services	1,108
PCM/Sarcom, Inc.	IT Solutions	1,001
Meijer Limited Partnership	Retail	746
Exel, Inc.	Motor Freight Transportation	660
Delaware City School District	School System	632
American Showa, Inc.	Manufacturing	600
Central Ohio Primary Care Physicians, Inc.	Hospital/Medical Services	
Ohio Wesleyan University	Private Liberal Arts University	
WalMart Real Estate Business Trust	Retail	

Economic Development Tools

Economic Development, or the process of actively seeking businesses to locate to the County, is typically performed on the county and municipal levels. The following is a list of economic tools and development-related issues of which the Township should be aware.

Enterprise Zone

Enterprise Zones are defined areas within the County that allow for tax abatements on industrial projects conducted within the zone. Real property abatements can be made for improvements on the real property as a result of the project. Personal property abatements can be taken on machinery, equipment, furniture, fixtures, and inventory that is new or first-



Simon Tanger Mall in Berkshire Township

used in the State of Ohio. A three-member negotiation team reviews the project and negotiates a package specific to each project.

Delaware County currently has three active zones: the City of Delaware Enterprise Zone, the Orange Township Enterprise Zone, and the Sunbury Enterprise Zone. Tax levels can be abated up to an agreed-upon percentage for a certain number of years. This program also has a requirement of job creation associated with any abated project. If properly managed, this program has proven to be an engine of growth.



Commercial development along 36/37 in Berkshire Twp.

Delaware County Finance Authority (Port Authority)

Port Authorities are political subdivisions created by statute for the purpose of enhancing and promoting transportation, economic development, housing, recreation, research, and other issues within the jurisdiction of the Authority. Such organizations can acquire and sell property, issue bonds, loan monies for construction, operate property in connection with transportation, recreation, government operations, or cultural purposes, and engage in activities on behalf of other political subdivisions, among other functions. Where funding is concerned, it may issue revenue bonds, apply for grants and loans, and even levy a property tax not exceeding one mill for a maximum period of five years. In short, an Authority can accomplish more in the way of economic development in a competitive fashion than a government entity, which is limited by disclosure requirements.

New Community Authority

The “New Community Authority” (NCA) is a tool defined by ORC Chapter 349. It creates a process by which a district is created for the “conduct of industrial, commercial, residential, cultural, educational, and recreational activities, and designed in accordance with planning concepts for the placement of utility, open space, and other supportive facilities.” The establishment of the NCA can identify sources of revenue, such as a community development charge, or “a dollar amount which shall be determined on the basis of the assessed valuation of real property.”

The NCA is an area of land described by the developer in a petition as a new community and approved by the County Commissioners. The ORC allows the addition of land to the district by amendment of the Resolution establishing the authority and by request of landowners.

An NCA may do many things as defined in the ORC. In summary, it may:

- acquire and dispose of property;
- engage in educational, health, social, vocational, cultural, beautification, landscaping, and recreational activities and related services primarily for residents of the district;
- collect and receive service and user fees;
- adopt rules governing the use of community facilities;

- employ managers and employees;
- sue and be sued;
- enter into contracts, apply for and accept grants, and issue bonds;
- maintain funds or reserves for performance of its duties;
- enter agreements with boards of education for the acquisition of land or other services for educational purposes; and
- engage in planning efforts.

Several NCAs have been established in Delaware County. The Liberty/Powell CA was established to help fund improvements in and around Golf Village. The Concord/Scioto NCA was created to accompany the development of the Lower Scioto Wastewater Treatment Plant.

Community Reinvestment Area

Community Reinvestment Areas (CRA) are designated zones in which tax abatements are allowable on real property improvements made as a result of an expansion or relocation project. These agreements are available for expanding or relocating businesses. Job creation is an additional requirement for participation in the Community Reinvestment Area program.

Only one CRA exists in Delaware County, located in the City of Delaware with the same boundaries as the Delaware Enterprise Zone. The available abatement rate can extend up to 100% on the real property improvements for a term of up to 15 years. The abatement rate and term is a unique negotiation for each project, considering such factors as job creation numbers and real and personal property investment levels.

Figure 7A.3 Top 13 Major Employers, Delaware County (2017)

TIF Name	Terms	Value, Tax Year 2021	2nd Half 2021 net
Genoa	30 years/	\$12,188,450	\$63,359
Olentangy Crossing (Orange)	30 years/100% for roads and US 23	\$11,493,800	\$112,826
Slate Ridge (Orange)	20 years/75%	\$6,488,320	\$148,654
Columbus Outlets (Berkshire)	10 years/75% for public improvements around dev.	\$27,547,040	\$713,902
Creekside (Orange)	20 Years/75% for internal roads	\$2,394,900	\$79,582
Evans (SE Residential) (Berlin/Orange)	20 years/75% for road and sewer	\$7,587,430	\$0
Northwest Berkshire Twp I	10 years/75% for Four Winds Drive extension	\$5,889,520	\$216,481
Slate Ridge II (Orange)	20 years/75% for roads and sanitary	\$8,442,680	\$125,086
Evans Farm (Commercial) (Orange)	20 years/75% for roads and sewer	N/A	\$0
Orange Road (Orange)	10 years/75% for railroad underpass and related	\$252,570	\$8,592
OSU Medical/Home Road (Liberty)	10 years/75% for roads and sanitary	\$2,183,320	
Home High (Orange)	18 years/75% for roads and utility improvements	N/A	\$0
Berlin Business Park	20 years/75% for roads including interchange and sewer	N/A	\$0
Kilbourne (Brown)	10 years/75% for roads and utility improvements	N/A	\$0

Tax Increment Financing

Tax Increment Financing (TIF) is a program to finance public infrastructure by redirecting new real and personal property tax to a debt retirement fund. A portion of the real property tax on improvements to a site, up to 75% for 10 years, can be paid into a special fund used to retire the debt of an improvement tied to the project.

A county negotiating committee meets with a potential business and discusses if the TIF program can be utilized for the proposed project. The Delaware County Economic Development Office works with both the business and negotiating committee to facilitate the process. Generally, TIFs are used exclusively in commercial and industrial settings. However, in larger residential projects, where required infrastructure may go beyond what is needed to serve the proposed development, a “residential TIF” may be considered. Such TIFs would be applied only if a number of conditions were met. The TIF would have to be supported by the local jurisdiction, the applicable school district, local fire district, and county representatives.

Joint Economic Development Districts

Joint Economic Development Districts (JEDD) are contractual agreements formed between local jurisdictions (cities and townships) to create a new board/political subdivision that is authorized to improve the economic vitality of an area. A JEDD allows a municipality to extend its ability to implement an income tax to a township. JEDDs must “facilitate economic development to create or preserve jobs and employment opportunities, and to improve the economic welfare of the people in the state and in the area of the contracting parties.” JEDDs help to alleviate the need for municipalities to annex land from townships.

JEDDs are formed with the consent of the property owners and agreement by the partnering local jurisdictions. The agreement contains the terms by which the JEDD will be governed, including income tax sharing arrangements and the authority of the JEDD’s board. If the JEDD is authorized without the full consent of the township trustees, it must move forward to a vote. Land cannot include residential property or land zoned for residential use.

JEDDs should be supported by the County when funds are being provided to the County to undertake public infrastructure improvement projects. As the entity responsible for constructing sanitary sewers and roads (as well as other improvements), the County can receive reimbursement through the JEDD for certain services. The County can also help with the administrative responsibilities of the JEDD’s board.

Designated Special Improvement District

There are multiple types of Special Improvement Districts (SID) that can be created to encourage new investments to occur within the County. Some of these SIDs that can be established are Transportation Improvement Districts (TID), Entertainment Districts, and Historic Technology Districts. These Improvement Districts allow government entities to combine funds from local, state, and federal entities to address infrastructure demands and reallocate property taxes to develop and support activities that grow the economy. The Economic Development Department analyzes each request individually. The Department engages all affected parties before issuing its recommendation to the County Commissioners.

Ohio Job Creation Tax Credit

The Ohio Department of Development administers this program in conjunction with local incentive program participation. This program allows a business to receive a tax credit or even

a refund against its corporate franchise tax based upon the number of new jobs created with the project.

The requirements of the program are that at least 25 new, full-time jobs must be created within three years of the beginning of the project, and that the new employees must be paid a minimum of 150% of the federal minimum wage.

The basis of the credit lies in the state income tax withholding per new employee. A percentage of the withheld tax will be credited against the business' corporate franchise tax each year for the term of the agreement. This rate can be up to 75% with a term of up to 10 years.

The Delaware County Economic Development Office works with businesses interested in this program and puts them in contact with the Ohio Department of Development's representative.

Impact Fees

With increased costs due to rapid growth, many communities would like to impose impact fees on new development. Models for estimating the fiscal impact of new development were developed by Robert Burchell, David Listokin, and William Dolphin in various publications through the decades.

Ohio planning and zoning legislation does not empower townships to charge impact fees that offset costs of service expansion (roads, schools, parks, etc.). It has been generally held, however, that if road improvements are needed immediately adjacent to the development, can be directly attributable to the project, and the benefit of contributing to the improvement outweighs the burden of such improvement for the development in question, then a "fair share" contribution to the improvement can be requested by the community and determined by the County Engineer.

Under the current legal system in Ohio, townships must be aware of the need to encourage a mix of commercial, industrial, and a variety of residential uses to curtail the growth of property taxes.

Chapter 8A

Roads and Transportation

Delaware County



General

Many of Delaware County's main roads were laid out in the 19th Century. As areas develop, the function of these original roads change. As traffic counts increase, roadway improvements and new roads will be needed.

Every unincorporated community's transportation system is a composite of roadways maintained by different entities. Federal and state roads are maintained by Ohio Department of Transportation (ODOT), District 6; The Delaware County Engineer maintains county roads; individual townships maintain township roads; homeowner associations maintain private subdivision roads; and CADs are private roads serving two to five lots, maintained by the lot owners.

Functional classification of roads

Roads are functionally classified by design and/or usage. Delaware County created a Functional Classification Map as part of the 2001 Delaware County Thoroughfare Plan. This plan incorporates these classifications by reference, unless exceptions are noted.

Some roads may fall into multiple classifications. Some roads may exceed the ADT related to their classification.

Arterial roads have the primary purpose of carrying through traffic to and from residential, commercial, and industrial areas, and the secondary purpose of providing access to abutting property. They are usually a continuous route carrying heavy loads and Average Daily Traffic (ADT) in excess of 3,500 vehicles. Arterials generally require a right-of-way of 80 to 100 feet for a two-lane section and 100 feet for a four-lane section.

Collector roads have the primary purpose of intercepting traffic from intersecting local streets and handling this movement to the nearest major collector or arterial street. ADT typically ranges from 1,500 to 3,500 vehicles, with AM peak hour traffic about 7-8% and PM peak hour of 10%.

Local Streets represent the lowest category. Their primary function is to serve abutting land use. Typical ADTs range from 100 to 1,500 vehicles. Local streets are further classified as Loop, Through, and Cul-de-sac.

Traffic Counts

Traffic counts indicate the ADT in both directions on a road. These counts can be used to determine if the Level of Service (LOS) is acceptable or unacceptable. LOS A is considered ideal, LOS F is failure. The LOS depends on traffic counts, number of lanes of road in each direction, and width of lanes, including shoulders. Traffic counts are also used to determine functional classification.

The Mid-Ohio Regional Planning Commission (MORPC) is the Metropolitan Planning Organization (MPO) for Central Ohio. It acts on behalf of Delaware County in certain transportation planning functions and is a funnel for federal funds. MORPC maintains a database of traffic counts for the Central Ohio region.

Access Management

Access management is the practice of limiting curb cuts to major roads to prevent conflicting turning movements and maintain safe traffic flow. In July 2010 ODOT completed an Access Management Study that will impact future access to the 36/37 corridor. The resultant Access Management Plan (AMP) is used as development occurs, and particularly as properties that have direct access to 36/37 go through the zoning process. Access can be granted, denied, or converted from a full access to a limited one, or temporarily granted until such time as other adequate access, such as a “backage” road, is provided.

According to ODOT, AMPs find the following to be true:

- Poor access management can reduce highway capacity to 20% of its design;
- Delay is as much as 74% greater on highways without access management;
- 60% of urban and 40% of rural crashes are driveway- and intersection-related;
- 15,000 access-related crashes occur each day at an estimated annual cost of \$90 billion.

ODOT Access Management Principles:

- Avoid disconnected street systems;
- Regulate the location, spacing, and design of drives - space access points so they do not interact with each other;
- Provide adequate sight distance for driveways;
- Use appropriate curve radius, lane widths, and driveway angle;
- Provide turn lanes to separate conflict points for acceleration, deceleration, and storage lanes;
- Prohibit some turns in critical areas; relocate that activity to a less conflicted point;
- Use feeder roads to relocate critical movements and to handle short trips parallel to the main road;
- Locate driveways away from intersections to reduce conflicts (corner clearance);

- Use right-in/right-out drives to prevent unwanted left turns across traffic;
- Ensure that Development Plans presented and approved at the zoning stage reflect appropriate access management design principles;
- Encourage internal access to out-parcels - connect parking lots; share driveways;
- Use frontage roads to connect commercial traffic and keep it parallel to the main road - connect frontage roads to collector streets at properly spaced intersections;
- Use backage roads as rear access roads connecting commercial uses;
- Use the 30-curb cuts/mile standard, or maximum of one access each 350 feet;
- Minimize the number of traffic signals. Two per mile is ideal (half-mile spaced);
- Use medians to separate traffic flows;
- Coordinate access permit review between ODOT, local zoning, and building departments.

For example, the following recommended policies were part of the 36/37 Access Management Study.

- Closure of all access drives (non-signalized) as the current use changes and new drive permits are required;
- Closure of median crossings as the drives they serve are closed;
- Dedication of right-of-way for future expansion along 36/37 as opportunities present themselves;
- Construction of access road(s) as necessary to provide access to 36/37 at a minimum setback of 650' from highway;
- Conversion of one intersection to right-in/right-out access by closure of median opening and construction of right turn deceleration lanes on 36/37.

Future Roads - The Thoroughfare Plan

A plan for the major streets or highways, or Thoroughfare Plan, is a tool for counties and local jurisdictions. A county-wide Thoroughfare Plan is enabled and defined by ORC Section 711.10. See township chapter for projects in the area.

Delaware County Engineer Projects

The Delaware County Engineer maintains and improves a number of county roads, and also works closely with townships to assist in their efforts toward proper road maintenance and improvement. Some projects also involve other entities, such as ODOT and local municipalities, when projects impact multiple jurisdictions.

Metropolitan Transportation Plan

The Mid-Ohio Regional Planning Commission (MORPC) is the Metropolitan Planning Organization for the Columbus region. As such, MORPC maintains a Metropolitan Transportation Plan (MTP) for Franklin, Delaware, and parts of Union and Fairfield Counties. This plan lists projects that are eligible for potential state and/or federal funding in the future.

Bikeways

As roads become more congested there is a need to separate pedestrian and bicycle traffic from automobile and truck traffic for safety purposes, as well as for recreation and alternate transportation. There are no sidewalks or bike paths along “traditional” township collector and arterial roads. Bike paths should be placed along at least one side of collector and both sides of arterial roads. Most communities require standard sidewalks in subdivisions that go through the rezoning process.



Multi-use path near the Tanger Outlets

For many years, the Delaware County Regional Planning Commission has also sought sidewalks in subdivisions, adding a requirement in 2007 to the Subdivision Regulations to capture those neighborhoods that do not go through the rezoning process, such as under the FR-1 zoning designation.

In 2016, the County Commissioners established the Delaware County Trail Committee (DCTC), which produced the Delaware County Trail System Master Plan, adopted by the Commissioners in November 2017. Improvements would be coordinated with Central Ohio Greenways’ (COG) efforts to create major routes from existing trails in other counties. This group includes representatives from DCRPC, the County Engineer, Preservation Parks, the Delaware General Health District, Economic Development, MORPC, and the public.

Clean Ohio Fund

Although there are several grant sources, the Clean Ohio Fund is a state-wide funding program often cited for trails and parks. In 2015, 19 projects were funded, with 16 funded in 2014.

Bike/Pedestrian Policy

As the subdivision authority, the Regional Planning Commission seeks connections between subdivisions by often requiring new subdivision streets to connect to vacant adjacent parcels of land. The main benefits to connectivity are shorter trips, greater travel choice, and savings in infrastructure. Township zoning may also provide a policy of neighborhood-to-neighborhood street connections, provided safety and quality of life impacts from the connection are mitigated. As part of a rezoning review, subdivisions that are platted along existing collector streets may also stipulate that bike paths or sidewalks be constructed as part of a regional system.

Other Road-Related Issues

Increase in population yields increased traffic flow on local roads. The following considerations should be made when reviewing rezoning requests:

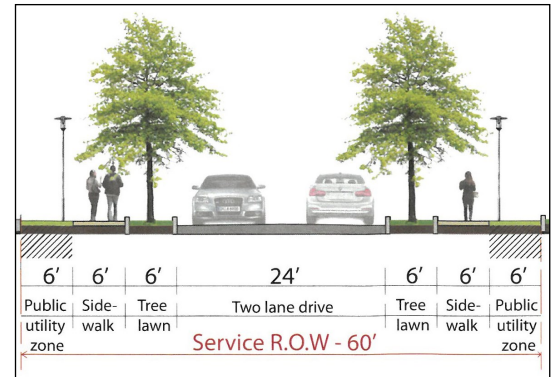
Patterns of Development

Traffic can be reduced by the design of development and the mix of land uses. Low density (1-acre lots or larger) development generates significant traffic per unit, but the number of units is modest overall. In large developments with densities greater than 1 unit per acre, a mix of local convenience commercial uses and a network of sidewalks, trails, and bike paths can reduce auto trips. Neo-traditional development patterns may be encouraged near existing village

centers or as greenfield development. A combination of a grid street core, with curvilinear edges can allow for the preservation of open space. A typical home in an exclusively residential area generates 10 or more trips per day while condominiums generate approximately seven per day. A home located in a neighborhood that is designed to be convenient for walking and biking with mixed commercial and service uses can reduce auto trips to as little as 4 trips per home per day.

Streetscapes

Streets are a significant part of the look of a community. Every community needs a streetscape standard. For local streets with lot widths less than 100 feet, no through traffic, and less than 1,500 vehicle trips per day, the current standard 20-foot wide street with drainage ditches within a 60-foot right-of-way is acceptable. In an open ditch road, the sidewalk is typically located near the outside edge of the ditch, which can be problematic if not designed properly. For collector and arterial roads, pedestrian and bike traffic should be separated from vehicular traffic. The following is a recommended streetscape for collector or arterial streets. A 5-foot wide asphalt bike path may be preferable to a sidewalk to maintain the rural character of the road. A bike path may be placed on one side of the street for minor-collector streets. Major collectors and arterials should have a bike path on at least one side of the street plus a sidewalk on the other side.



Streetscape example with trees in the treelawn.

Complete Streets

Complete Streets accommodate the need for an integrated, connected street network that serves all of its users, including motorists, bicyclists, pedestrians and transit riders of all ages and abilities. As the subdivision authority, the DCRPC seeks connections between subdivisions by often requiring new subdivision streets to connect to vacant adjacent parcels of land. The main benefits to connectivity are shorter trips, greater travel choice, and savings on infrastructure. Township zoning may also provide a policy of neighborhood-to-neighborhood street connections, provided safety and quality of life impacts from the connection are mitigated.

In addition to having a sidewalk requirement for all new streets, townships should create a policy for existing roads as they change from local to collector status. Minor collector streets within platted subdivisions should also be considered for traffic calming devices. Major collectors should consider the construction of bike paths on both sides of the street when traffic warrants it. Subdivisions that are platted along existing collector streets may stipulate that bike paths or sidewalks be constructed as part of a township or regional system.

Alternative Street Designs - The Roundabout

Low Speed Roundabouts have begun to be used as an alternative to the traditional signalized intersection throughout Delaware County. Roundabouts have been proven to reduce crashes, flow more traffic than traffic signals, cost less, and require less pavement than signalized intersections. Not all intersections are candidates, but the roundabout is a viable traffic management tool.



Modern, low-speed roundabout; South Section Line Road and Riverside Drive, Concord Township. Pedestrian crosswalks are behind the pause line for traffic. Safe design speed is 11 miles per hour.

Paying for Road Improvements

Ohio planning and zoning legislation does not currently empower townships to charge Impact Fees to offset costs of service expansion (roads, schools, parks, etc.). Generally, road improvements immediately adjacent to the development can be attributable to the project as part of the subdivision and zoning process. Projects that contribute to regional traffic can be required to contribute to those future improvements.

Transit

The Delaware County Transit offers an on-call non-scheduled bus service from point to point in the County. As the County grows, new transportation will continue to be studied by transportation-related agencies.



DATA offers an on-call non-scheduled bus service from point to point in the County. By calling 740-363-3355 at least by noon of the business day prior, a pickup and destination can be scheduled if a vehicle is available. DATA requires a window of 15 minutes prior to the scheduled pickup time and 15 minutes after the schedule pickup time. Demand response service is limited. Policies may change—current information can be found at www.ridedata.com.

Chapter 9A

Utilities

Delaware County

General

Water, sanitary sewer, telephone, electric, natural gas, cable television, and high speed internet are desirable utilities in the Delaware County real estate market. As a county with multiple jurisdictions, utilities are managed by separate entities. Delaware County provides sanitary sewer to much of the southern half of the county. Municipalities can also provide sewer to unincorporated areas, but typically only as with contractual conditions. Del-Co water provides water service throughout most of the unincorporated areas, as well as in some villages. Stormwater management is required by Delaware County.

Water

The Del-Co Water Company, a cooperatively owned private water company established in 1973, serves most of Delaware County as well as parts of several other counties with potable water. As the County has grown, Del-Co has expanded its service to provide larger diameter water lines for residential and commercial service, as well as fire protection.

Supply

There is generally good water pressure for domestic use and fire protection throughout the County. Del-Co Water utilizes water from the Olentangy River, Alum Creek Reservoir, and from the Scioto River utilizing a raw water line in Liberty Township. Wells along the Kokosing River in Knox County provide additional supply. The water is pumped to upground reservoirs in Orange



Del-Co Water Headquarters on S.R. 315, Liberty Township

Township (800 million-gallon capacity) and Liberty Township (1.6 billion-gallon capacity). Raw water is purified at the Alum Creek, Old State Road, and State Route 315 treatment plants, and then pumped to a network of elevated storage tanks with 12.5 million gallons capacity.

With these facilities, as well as others in Morrow County, a total of 38 million gallons per day is the long-term pumping and treatment capacity of Del-Co. Although planning for future growth, such as a new upground reservoir in Thompson Township, Del-Co does not have unlimited supply options. Potable centralized water is not currently a constraining factor to growth of the Township. There is adequate water capacity for human consumption and population growth in the Township. The demands for lawn sprinkling systems, however, can quickly tax capacity in

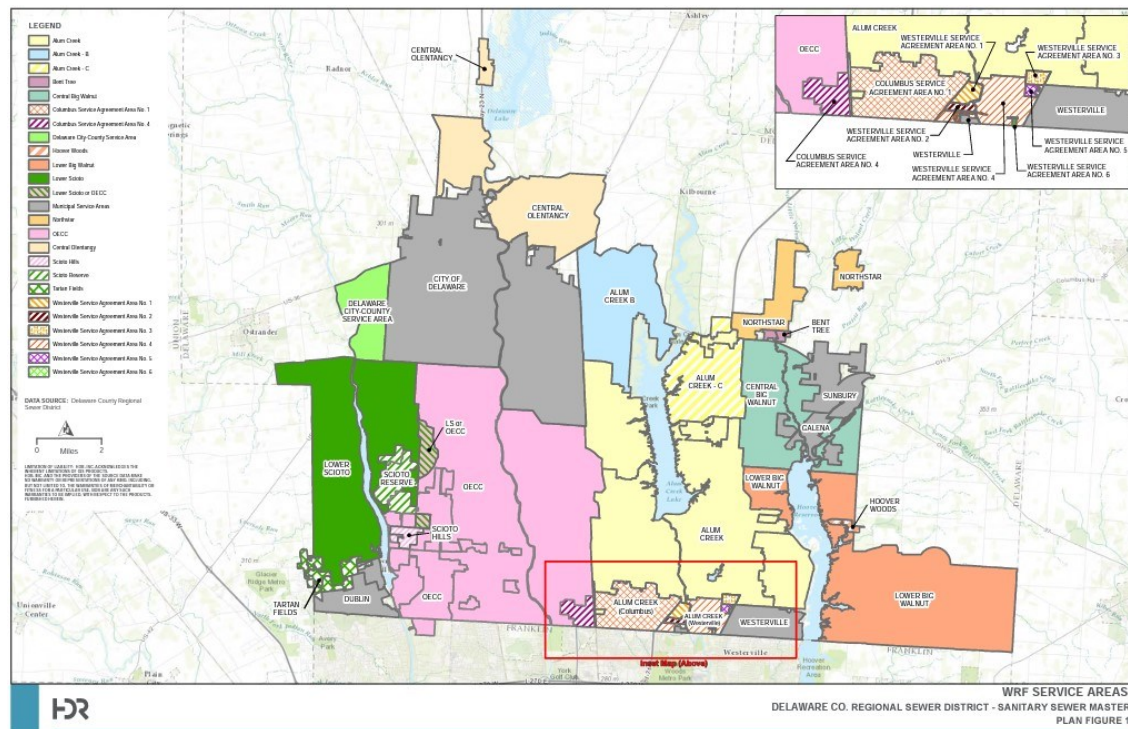
dry periods. As a result, Del-Co has a year-round, three days per week restriction on lawn watering.

Water Lines

The Utilities map shows the location and diameters of water lines in Delaware County. In general, those streets that have water lines of less than 6 inches in diameter will not offer fire hydrants. Fire hydrants are normally a requirement of new development.

Sanitary Sewer

Until lands have access to public sanitary sewer, they must use septic systems and leach fields for sewage disposal. In 2016/2017, the County Commissioners updated the 2004 Facilities Master Plan for the County. The service areas shown on the map below were updated based on recent development pressure and service area amendments.



Policy Implications for Land Use - County Sewer

1. The County Commissioners' sewer user policy is "first come, first served." The County Sanitary Engineer does not police the densities of land uses using the sewer.
2. It is up to the township to determine the density of population by zoning. If the township zones land in sewer service areas for higher densities than the average density based upon residual sewer capacity, there may be "holes" in the sewer service area without sewer capacity.

Stormwater Management

Stormwater management is regulated by the Delaware County Engineer's Office for new subdivisions and road construction. The Delaware Soil & Water Conservation District maintains ditches on public maintenance and reviews stormwater plans by agreement with the County Engineer.

Chapter 10A

Community Facilities

Delaware County



General

Community Facilities can include a number of items that create quality of life in a community. These facilities are usually public, but may represent other features that bring value to the community, such as historic sites. Based upon the complexity of local government, ownership and responsibility of these facilities can include township, county, municipal, and other organizations. This chapter is by no means exhaustive.

Schools (post K-12)

Delaware Area Career Center (DACC)

Delaware City and County boards of education established the Joint Vocational School in 1974 as a career/technical school to offer specific career training to Delaware County residents. The center, now called the Delaware Area Career Center, provides career training and academic instruction to over 650 area High School juniors and seniors who desire skilled employment immediately upon high school graduation. The expanded DACC is located on a single campus at 4565 Columbus Pike, Delaware, Ohio 43015 (740) 548-0708.

Columbus State

In 2008, Columbus State built a Delaware County campus at 5100 Cornerstone Drive in the Park at Greif and U.S. 23. The 80,000 square foot building opened in the autumn of 2010 and offers four Associate Degree programs.

Effect of Land Use Planning on School Planning

(This section applies to local public schools) When schools become overcrowded due to rapid growth, there may be a call for growth controls, or limitations on residential building permits (moratoriums). A series of 1970s cases regarding growth rate limitations, the most famous of which is *Golden v. Ramapo* (1972), suggested that communities could control growth to allow new infrastructure to be built at a reasonable, attainable rate. Where upheld, moratoriums have been temporary, based on a critical shortage of a basic community service. Cities and

villages in Ohio have home rule authority which “provides the flexibility to experiment with different types of planning programs to respond to the issues of rapid growth” (Meck and Pearlman).

Since townships do not have the authority in Ohio to control their growth by moratoriums, and they do not have the authority to impose impact fees, their only recourse to overly rapid growth is to monitor critical facilities in making zoning decisions. While a decision cannot be based on any one facility, a township can consider a totality of factors when making a decision to rezone property.

Libraries

County residents can obtain a library card at any of the following libraries.

The Delaware County District Library has its downtown library at 84 E. Winter Street, Delaware, and branch libraries in the City of Powell at 460 S. Liberty Street, the Village of Ostrander at 75 N. 4th Street, and Orange Township at 7171 Gooding Boulevard. The District Library employs 98 people, or 68.75 full-time equivalents. Its annual budget is approximately \$6.7 million, which is used for staff salaries and materials, maintenance, and operating expenses. 66% of the budget comes from a local property tax, 30% is generated from state income tax through the Public Library Fund, and the remaining 4% comes from grants, donations, investment earnings, and fees.

There are 126,000 residents in the Delaware District Library service area and 71,000 registered borrowers (borrowers can be outside of the district). The Library’s service district comprises all of Delaware City, Olentangy Local, and Buckeye Valley Local School Districts (except the portion in Oxford Township), and portions of Centerburg, Elgin Local, Dublin, and Johnstown-Monroe Local School District that are in Delaware County. Currently, the District has 327,000 print volumes. The Library also offers millions of additional materials through digital resources and resource sharing programs like the Central Library Consortium and SearchOhio.

Ohio Wesleyan University, Beeghley Library is located at 43 University Avenue, Delaware and extends borrowing privileges to all residents of Delaware County.

Ashley Wornstaff Library is located at 302 E. High Street, Ashley.

Hospitals

Grady Memorial Hospital is located on Central Avenue in the City of Delaware. Some services have relocated to the future site of the Grady campus at the northeast corner of U.S. 23 and OhioHealth Boulevard. Grady competes with northern Franklin County Hospitals, such as Riverside Methodist Hospital, Olentangy River Road in Columbus, and St. Ann’s in Westerville. Medical uses would be well suited for areas near the I-71 Interchange, along 36/37, and along Sawmill Parkway.

Chapter 10C

Major Delaware County School Districts

Big Walnut School District

The Big Walnut Local School District is situated in the southeastern part of Delaware County, with its boundaries all being east of I-71. The district's boundaries fall either completely or partially in several Townships: Genoa, Harlem, Berkshire, Trenton, Kingston, and Porter. The district also completely includes the Villages of Sunbury and Galena.

Big Walnut Enrollment

Enrollment over the last 10 years has slightly increased. The school district saw a massive increase of 37.13% in 2013-2014, only to be followed by a 27.66% decrease in 2017-2018 before tapering off then somewhat increasing to its current number.

Figure 10C.1. Overall Enrollment and Demographics

Demographic	Enrollment	Percentage
All Students	3,831	
American Indian	-	-
Asian or Pacific Islander	54	1.4%
Black, Non-Hispanic	48	1.2%
Hispanic	146	3.8%
Multiracial	142	3.7%
White, Non-Hispanic	3,437	89.7%
Students with Disabilities	395	10.3%
Economic Disadvantage	641	16.7%
Limited English Proficiency	51	1.3%

Source: Ohio Department of Education, 2020-2021

Figure 10C.2. Historical School-Year Enrollment

Grade	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Pre-K – 4	1,213	1,485	1,530	1,574	1,616	1,568	1,530	1,574	1,616	1,568
5 – 8	1,058	1,120	2,358	2,458	2,521	2,479	1,130	1,149	1,212	1,196
9 – 12	950	920	946	933	941	963	964	1,030	1,060	1,121
Pre-K – 12	3,221	3,525	4,834	4,965	5,078	5,010	3,624	3,753	3,888	3,885
Ungraded	<10	<10	<10	<10	<10	<10	0	0	<10	0
G. Total	3,221	3,525	4,834	4,965	5,078	5,010	3,624	3,753	3,888	3,885
Change		+9.44%	+37.13%	+2.71%	+2.26%	-1.34%	-27.66%	+3.56%	+3.60%	-0.08%

Source: Ohio Department of Education, September 2021

Big Walnut continued

Student and Teacher Performance Metrics

The Ohio Department of Education performs an annual evaluation of local school districts based on a Performance Index and a number of Indicators. Due to the COVID-19 pandemic, the full indicators for each grade 2019-2020 were unavailable. The following figures illustrate the Big Walnut Local Schools' academic rankings by component. Big Walnut Local Schools' grades were across the board, with the strongest components being in "Progress" and "Graduation Rate", and the weakest components being in "Prepared For Success."

In addition to the Student Performance Grades, the Ohio Department of Education does a profile on the educators for the district. The educators for Big Walnut Local Schools are relatively experienced, and are on the higher end when compared to some of the other school districts (specifically, Buckeye Valley School District, Delaware City Schools, and Olentangy Local School District) in Delaware County. However, the salary, attendance rate, and percentage of educators with a Masters' Degree is at median-to-above-average compared with the other school districts.

District Financial Information

The Big Walnut District reported a 2021 total revenue of approximately \$48.4 million, including approximately \$33.8 million in local revenue and approximately \$10.4 million in state revenue. For the District Spending Per Pupil, the total was approximately \$30.9 thousand, with the highest categories being Operating Spending Per Pupil, and State and Local Funds.

Figure 10C.3. Performance Grades

Component	Grade
Achievement	C
Graduation Rate	A
Progress	A
Gap Closing	B
Improving At-Risk K-3 Readers	C
Prepared for Success	D

Source: Ohio Department of Education, 2018-2019

Figure 10C.4. Educator Information

Informational Metric	Value
Attendance Rate (%)	94
Salary (Average)	69,345
Years of Experience (Average)	13
w/ a Bachelors' Degree (%)	99.6
w/ a Masters' Degree (%)	64.2

Source: Ohio Department of Education, 2020-2021

Figure 10C.5. Source of Funds

Source	District	State Total
Local	\$33,759,990	\$10,445,025,000
State	\$10,364,328	\$10,766,602,000
Federal	\$2,221,272	\$2,390,865,000
Other	\$2,018,571	\$1,703,394,600
Rev. Total	\$48,364,161	\$25,305,886,600

Source: Ohio Department of Education, 2020-2021

Figure 10C.6. District Spending Per Pupil

Category	Spending per Pupil
Operating Spending Per Pupil	\$10,292
Classroom Instruction	\$6,962
Non-Classroom Spending	\$3,329
Federal Funds	\$307
State and Local Funds	\$9,984
Total	\$30,874

Source: Ohio Department of Education, 2020-2021

Buckeye Valley School District

The Buckeye Valley School District is situated in the northern and western parts of Delaware County, reaching north into Morrow County and west into Union County. The district's boundaries cover over 200 square miles and include all of Oxford, Marlboro, and Radnor, most of Scioto and Concord, and about half of Kingston, Troy, and Thompson Townships. The district also completely includes the Villages of Ashley and Ostrander. All data contained herein was obtained from the Ohio Department of Education's data for the 2020/21 school year, unless otherwise noted.

Enrollment

Enrollment over the last 10 years has declined overall. Between the 2011/12 school year and the 2020/21 school year, the district lost 186 students (7.9%). While not immediately concerning, the decrease may be due to an increasing amount of acreage annexing and redistricting for residential development purposes.

Current enrollment indicates that Buckeye Valley is weighted towards elementary school enrollment with almost 50% of the student population in grade 5 or below. The student base is also predominately white, non-Hispanic at nearly 90% of the total enrollment. Providing educational opportunities for the disabled and providing resources for economically disadvantaged students may be a challenge, with more than 1 in 10 students having a disability or being disadvantaged economically. To protect student identities, some of the reported data

Figure 10C.7. Overall Enrollment and Demographics

Demographic	Enrollment	Percentage
All Students	2158	
American Indian	-	-
Asian or Pacific Islander	23	1.1%
Black, Non-Hispanic	11	0.5%
Hispanic	60	2.8%
Multiracial	136	6.3%
White, Non-Hispanic	1928	89.3%
Students with Disabilities	296	13.7%
Economic Disadvantage	414	19.2%
Limited English Proficiency	0	0%

Source: Ohio Department of Education, 2020-2021

Figure 10C.8. Historical School-Year Enrollment

Grade	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Pre-K – 5	1,080	1,018	973	922	926	910	954	975	1,041	1,023
6—8	563	560	576	568	573	541	519	513	484	453
9 – 12	719	713	723	693	680	706	737	714	734	700
Ungraded	0	0	0	0	0	0	0	0	0	0
Total Enroll.	2,362	2,291	2,272	2,183	2,179	2,157	2,210	2,202	2,259	2,176
Change		-3.0%	-0.8%	-3.9%	-0.2%	-1.0%	-2.5%	-0.4%	2.6%	-3.7%

Source: Ohio Department of Education, September 2021

Buckeye Valley continued

may not add up to or equal 100%, or reflect exact comparisons with other metrics.

Student and Teacher Performance Metrics

The Ohio Department of Education performs an annual evaluation of local school districts based on a Performance Index and a number of Indicators, but due to the COVID-19 pandemic, the full indicators for each grade 2019-2020 were unavailable. The following figures illustrate the Buckeye Valley School District's academic rankings by component. The Buckeye Valley School District's grades varied, with the strongest component being in "Graduation Rate", and the weakest component being in "Prepared for Success."

In addition to the Student Performance Grades, the Ohio Department of Education does a profile on the educators for the district. The educators for the Buckeye Valley School District are highly experienced and are on the higher end when compared to some of the other school districts (specifically, Delaware City Schools, Big Walnut Local School District, and Olentangy Local School District) in Delaware County. Aside from the percentage of educators with a Masters' Degree and salary, both of which are on the lower end, every other informational metric is similar to other districts.

Current Facilities

The district maintains four academic facilities:

- **Buckeye Valley Local High**, 901 Coover Road, Delaware;
- **Buckeye Valley Local Middle**, 683 Coover Road, Delaware;
- **Buckeye Valley East Elementary**, 522 E. High Street, Ashley; and
- **Buckeye Valley West Elementary**, 4340 OH 257 South, Ostrander.

Financial Information

The Buckeye Valley Local School District reported a 2020/21 total revenue of approximately \$30.9 million. The revenues are heavily supported by local funds with \$20.9 million in local revenue, while State and Federal contributions total approximately \$8.5 million. The District's spending per pupil was \$11,280. The majority of those expenses come from classroom instruction costs.

Figure 10C.9. Performance Grades

Component	Grade
Achievement	C
Graduation Rate	A
Progress	B
Gap Closing	B
Improving At-Risk K-3 Readers	C
Prepared for Success	D

Figure 10C.10 Educator Information

Informational Metric	Value
Attendance Rate	95.4%
Salary (Average)	\$65,671
Years of Experience (Average)	16
w/ a Bachelors' Degree	99.3%
w/ a Masters' Degree	43.5%

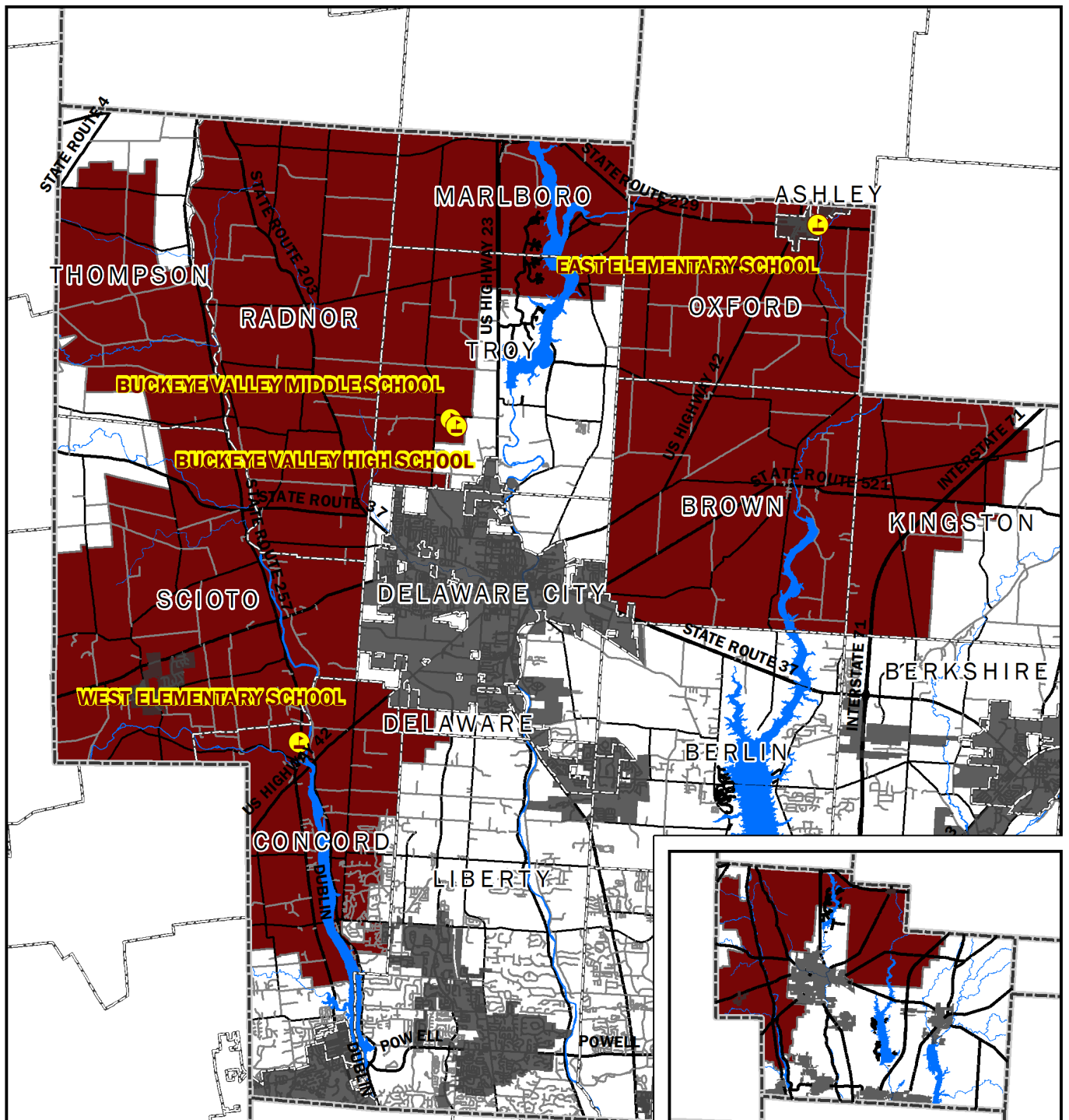
Figure 10C.11. Source of Funds

Source	District	State Total
Local	\$20,903,992	\$10,445,025,000
State	\$6,768,727	\$10,766,602,000
Federal	\$1,718,783	\$2,390,865,000
Other	\$1,510,701	\$1,703,394,600
Rev. Total	\$30,902,203	\$25,305,886,600

Figure 10C.12. District Spending Per Pupil

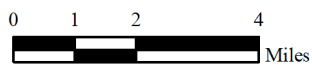
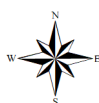
Category	Spending per Pupil
Operating Spending Per Pupil	\$11,280
Classroom Instruction	\$7,421
Non-Classroom Spending	\$3,859
Federal Funds	\$307
State and Local Funds	\$9,984
Total	\$30,874

Source: Ohio Department of Education, 2020-2021



Buckeye Valley School District

Delaware County



Prepared by: Delaware County Regional Planning Commission (740-833-2260)
www.dcrpc.org (3/5/2021)

-  Schools
-  Buckeye Valley School District
-  Rivers/Lakes/Streams
-  Incorporated Area
-  Township Boundaries
-  County Boundaries

Delaware City School District

The Delaware City School District is centrally located in the County, covering the City of Delaware, the majority of Troy Township, and most of Delaware Township; covering just over 36 square miles. All data contained herein was obtained from the Ohio Department of Education's data for the 2020/21 school year, unless otherwise noted.

Enrollment

Enrollment over the last 10 years has remained relatively constant. There was a small jump in enrollment in the 2012/13 school year, but the school district lost that increase in the 2014/15 school year. Since that time, enrollment has been gradually increasing until the 2020/21 school year which saw a loss of 6.8% of the student body. That reduction largely appeared to be across all grade ranges.

Current enrollment indicates that the Delaware City School District has a distribution of students that is heavily weighted among the elementary schools with almost half of the District's student body.

The student base is also predominately white, non-Hispanic (though less than other school districts in Delaware County) at nearly 80% of the total enrollment. Funding educational opportunities for the disabled and providing resources for economically disadvantaged students is a major factor for the district, with 16% of the student body having a disability, and 23% being disadvantaged economically. To protect student identities, some of the reported data

Figure 10C.13. Overall Enrollment and Demographics

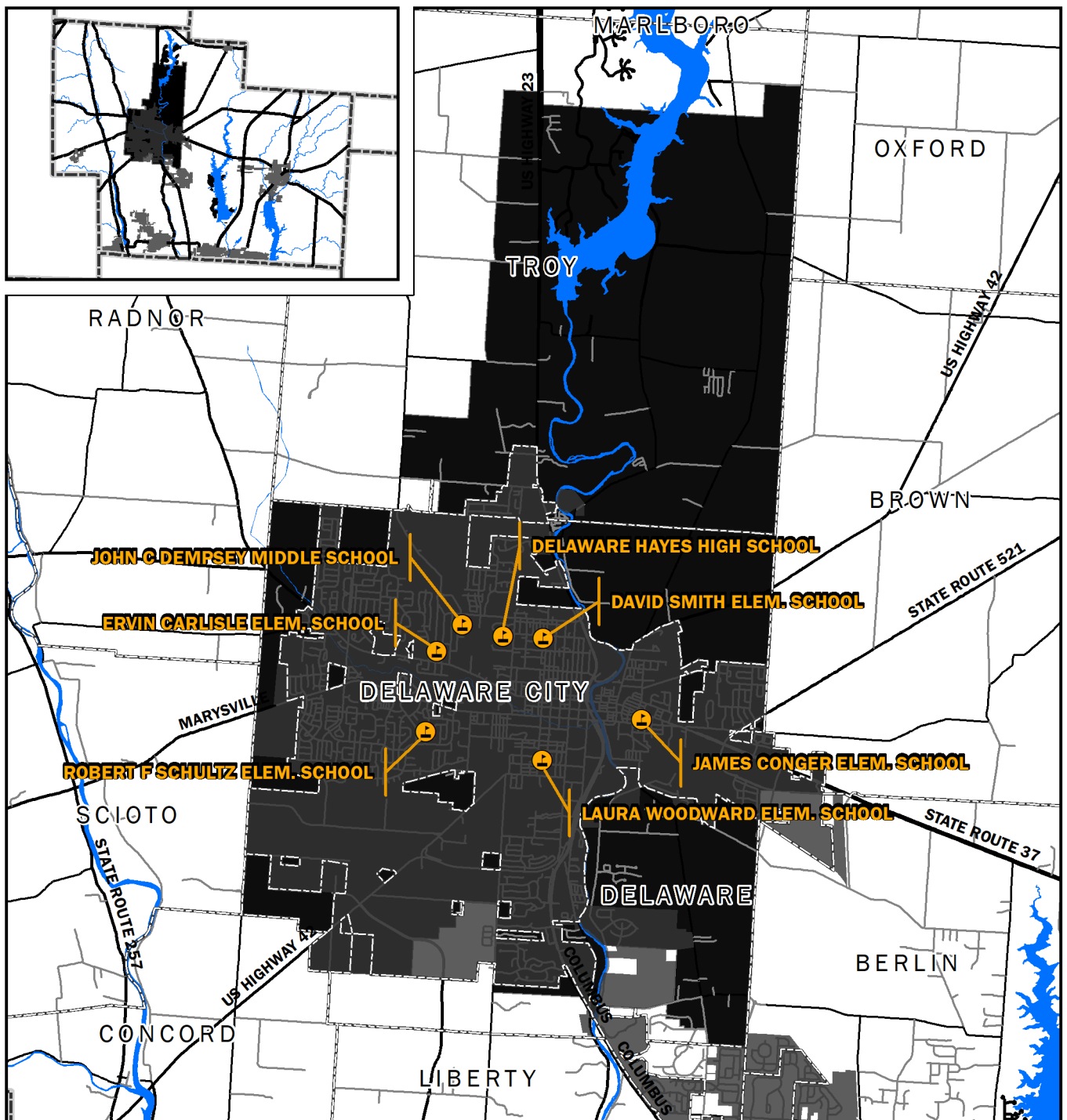
Demographic	Enrollment	Percentage
All Students	5,296	
Native American	-	-
Asian or Pacific Islander	23	0.4%
Black, Non-Hispanic	228	4.3%
Hispanic	397	7.5%
Multiracial	431	8.1%
White, Non-Hispanic	4,217	79.6%
Students with Disabilities	850	16.0%
Economic Disadvantage	1,219	23.0%
Limited English Proficiency	125	2.4%

Source: Ohio Department of Education, 2020-2021

Figure 10C.14. Historical School-Year Enrollment

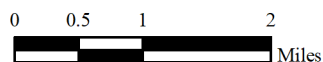
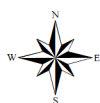
Grade	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Pre-K – 5	2,681	2,776	2,767	2,685	2,708	2,727	2,736	2,750	2,727	2,500
6 – 8	1,178	1,238	1,304	1,255	1,257	1,210	1,279	1,303	1,336	1,242
9 – 12	1,391	1,441	1,480	1,408	1,427	1,595	1,573	1,611	1,615	1,562
Ungraded	0	0	0	0	0	0	20	18	12	0
Total Enroll.	5,250	5,455	5,551	5,348	5,392	5,532	5,608	5,682	5,690	5,304
Change		3.9%	1.8%	-3.7%	0.8%	2.6%	1.4%	1.3%	0.1%	-6.8%

Source: Ohio Department of Education, September 2021



Delaware City School District

Delaware County



- Delaware City Schools
- Delaware City School District
- Rivers/Lakes/Streams
- Incorporated Area
- Township Boundaries
- County Boundaries

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Delaware continued

may not add up to or equal 100%, or reflect exact comparisons with other metrics.

Student and Teacher Performance Metrics

The Ohio Department of Education performs an annual evaluation of local school districts based on a Performance Index and a number of Indicators. Due to the COVID-19 pandemic, the full indicators for each grade 2019-2020 were unavailable. The following figures illustrate the Delaware City School District academic rankings by component. The Delaware City's School District's grades varied. The strongest components were "Progress" and "Gap Closing", and the weakest components being "Improving At-Risk K-3 Readers" and "Prepared for Success."

In addition to the Student Performance Grades, the Ohio Department of Education does a profile on the educators for the district. Educators for the Delaware City School District have an average of 8 years of experience. Salaries are above some of the rural school districts like the Buckeye Valley and Big Walnut School Districts. Educators in this school district are highly educated. All educators have attained a Bachelor's Degree, and the majority have attained a Master's Degree.

Financial Information

The Delaware City Local School District reported a 2020/21 total revenue of approximately \$72.0 million. The revenues are heavily supported by local funds with \$40.4 million in local revenue, while State and Federal contributions total approximately \$27.6 million. The District's spending per pupil was \$9,895. The majority of those expenses come from classroom instruction costs.

Current Facilities

The district maintains seven academic facilities (attendance in parenthesis):

- **David Smith Elementary School (385)**, 355 North Liberty Street, Delaware;
- **Ervin Carlisle Elementary School (547)**, 746 State Route 37 West, Delaware;
- **James Conger Elementary School (389)**, 10 Channing Street, Delaware;
- **Laura Woodward Elementary School (483)**, 200 South Washington Street, Delaware;
- **Robert F. Schultz Elementary School (696)**, 499 Applegate Lane, Delaware;
- **John C. Dempsey Middle School (1,242)**, 599 Pennsylvania Avenue, Delaware;
- **Rutherford B. Hayes High School (1,562)**, 289 Euclid Avenue, Delaware; and
- **Willis Education Center (Administrative Offices)**, 74 West William Street, Delaware.

Figure 10C.15. Performance Grades

Component	Grade
Achievement	C
Graduation Rate	B
Progress	A
Gap Closing	A
Improving At-Risk K-3 Readers	D
Prepared for Success	D

Figure 10C.16. Educator Information

Informational Metric	Value
Attendance Rate	95.8%
Salary (Average)	\$71,092
Years of Experience (Average)	8
w/ a Bachelors' Degree	100.0%
w/ a Masters' Degree	69.7%

Figure 10C.17. Source of Funds

Source	District	State Total
Local	\$40,421,050	\$10,445,025,000
State	\$23,076,608	\$10,766,602,000
Federal	\$4,598,360	\$2,390,865,000
Other	\$3,939,078	\$1,703,394,600
Rev. Total	\$72,035,096	\$25,305,886,600

Figure 10C.18. District Spending Per Pupil

Category	Spending per Pupil
Classroom Instruction	7,252
Non-Classroom Spending	2,643
Federal Funds	541
State and Local Funds	9,353
Total	9,895

Source: Ohio Department of Education, 2020-2021

Olentangy School District

The Olentangy Local School District is located entirely within Delaware County, situated primarily in the southern and central parts of Delaware County which have developed rapidly. The district's boundaries includes all of Berlin, Orange, and Liberty Townships, and some of Genoa, Berkshire, Concord, and Delaware Townships. The district also includes the City of Powell and parts of the Cities of Columbus and Delaware.

Enrollment

Unlike some of the other school districts in Delaware County, enrollment over the last 10 years has generally increased every year. Increases in student enrollment has mostly been between 3 and 4%, year-over-year. However, in the 2018/19 school year, enrollment increases slowed to between 2 and 3%, and actually declined in the most recent year of data (2020/21 school year). Despite the recent minor decline, enrollment is anticipated to increase due to the significant residential development pressures in the Olentangy School District boundaries.

Current enrollment indicates that the Olentangy City School District has a distribution of students that is heavily weighted among the elementary schools with almost half of the District's student body enrolled in grades K through 5. The enrollment skew towards elementary aged school kids may indicate a growing number of younger families within the school district in general.

The student base is also predominately white, non-Hispanic (though less than other school districts in Delaware County) at nearly 70% of the total enrollment. Funding educational opportunities for the disabled and providing resources for economically disadvantaged students is far less of an issue than other districts in Delaware County, with 13% of the student body having a disability, and only 6% being

Figure 10C.19. Overall Enrollment and Demographics

Demographic	Enrollment	Percentage
All Students	21,963	
Native American	-	-
Asian or Pacific Islander	3,503	15.9%
Black, Non-Hispanic	963	4.4%
Hispanic	912	4.2%
Multiracial	1,352	6.2%
White, Non-Hispanic	15,233	69.4%
Students with Disabilities	2,878	13.1%
Economic Disadvantage	1,297	5.9%
Limited English Proficiency	768	3.5%

Source: Ohio Department of Education, 2020-2021

Figure 10C.20. Historical School-Year Enrollment

Grade	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Pre-K – 5	8,963	9,037	9,151	9,344	9,316	9,441	9,646	9,963	10,187	9,871
6 – 8	3,898	4,165	4,413	4,589	4,832	5,021	5,141	5,083	5,099	5,082
9 – 12	4,202	4,511	4,753	5,111	5,511	5,857	6,184	6,512	6,794	6,956
Ungraded	0	0	12	0	0	12	25	11	0	0
Total Enroll	17,063	17,716	18,329	19,044	19,659	20,331	20,996	21,569	22,080	21,909
Change		3.8%	3.5%	3.9%	3.2%	3.4%	3.3%	2.7%	2.4%	-0.8%

Source: Ohio Department of Education, September 2021

Olentangy continued

disadvantaged economically. To protect student identities, some of the reported data may not add up to or equal 100%, or reflect exact comparisons with other metrics.

Student and Teacher Performance Metrics

The Ohio Department of Education performs an annual evaluation of local school districts based on a Performance Index and a number of Indicators. Due to the COVID-19 pandemic, the full indicators for each grade 2019-2020 were unavailable. The following figures illustrate the Olentangy Local School District's academic rankings by component. The Olentangy Local School District's grades were high, with three areas receiving "A" ranks: "Graduation Rate", "Progress", and "Gap Closing." There was only one weakest component that received a "C" rank: "Improving At-Risk K-3 Readers."

In addition to the Student Performance Grades, the Ohio Department of Education does a profile on the educators for the district. The educators for the Olentangy Local School District's have—on average—12 years of experience, and are highly educated. All Olentangy School District educators have received a Bachelor's Degree, and over 75% have received a Master's Degree. The combination of experience and educational attainment lend to the higher average salary when compared to other districts, at \$78,584.

Financial Information

The Olentangy Local School District reported a 2021 total revenue of approximately \$285.5 million, including approximately \$199.3 million in local funds and approximately \$34.3 million in state funds. For the District Spending Per Pupil, the total was \$10,521.

Current Facilities

The district maintains 25 academic facilities (attendance in parenthesis):

- **Alum Creek Elementary School (540)**, 2515 Parklawn Drive, Lewis Center;
- **Arrowhead Elementary School (706)**, 2385 Hollenback Road, Lewis Center;
- **Cheshire Elementary School (739)**, 2681 Gregory Road, Delaware;
- **Freedom Trail Elementary School (598)**, 6743 Bale Kenyon Road, Lewis Center;
- **Glen Oak Elementary School (675)**, 7300 Blue Holly Drive, Lewis Center;
- **Heritage Elementary School (696)**, 679 Lewis Center Road, Lewis Center;
- **Indian Springs Elementary School (577)**, 3828 Home Road, Powell;
- **Johnnycake Corners Elementary School (719)**, 6783 Falling Meadows Drive, Galena;

Figure 10C.21. Performance Grades

Component	Grade
Achievement	B
Graduation Rate	A
Progress	A
Gap Closing	A
Improving At-Risk K-3 Readers	C
Prepared for Success	B

Figure 10C.22. Educator Information

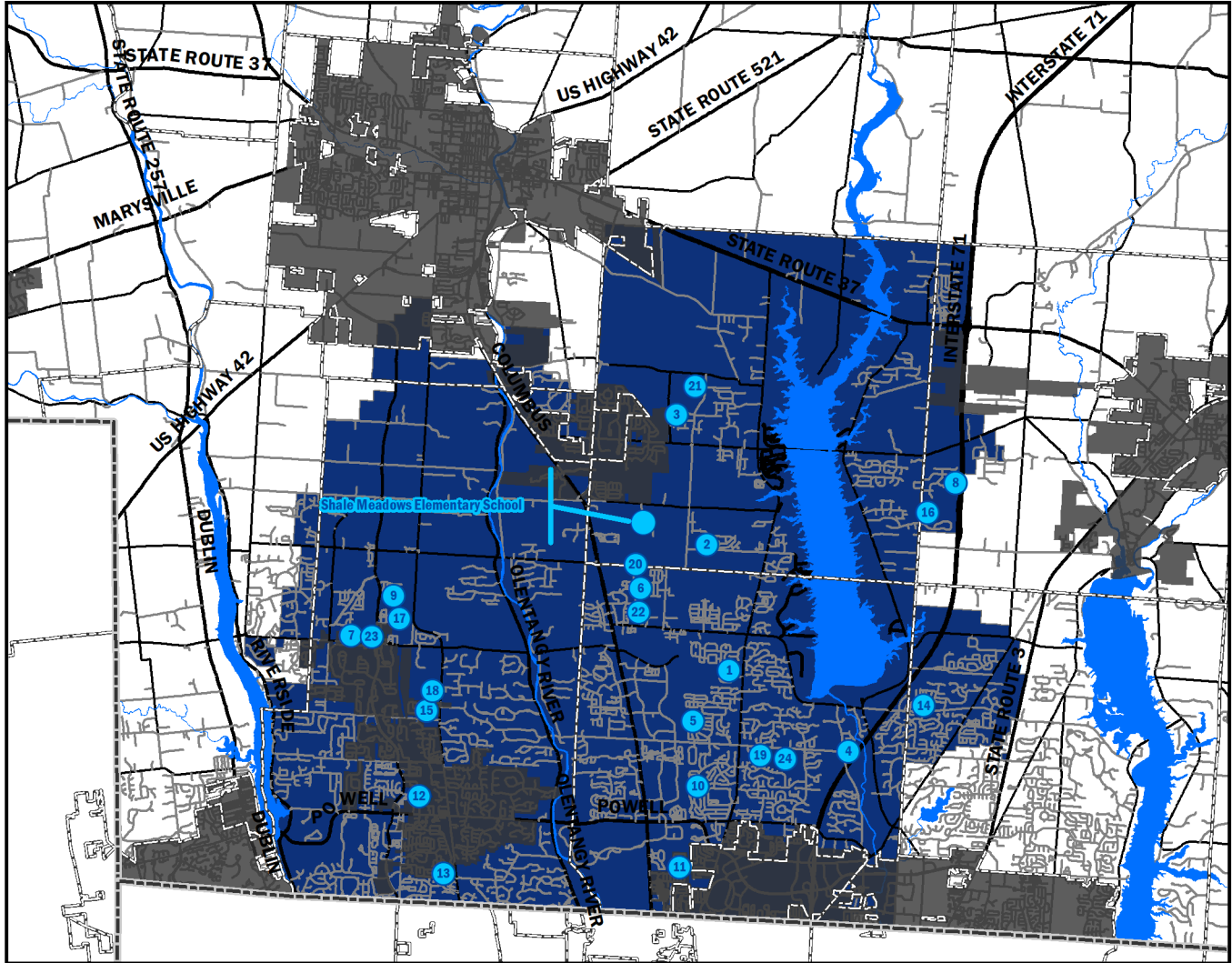
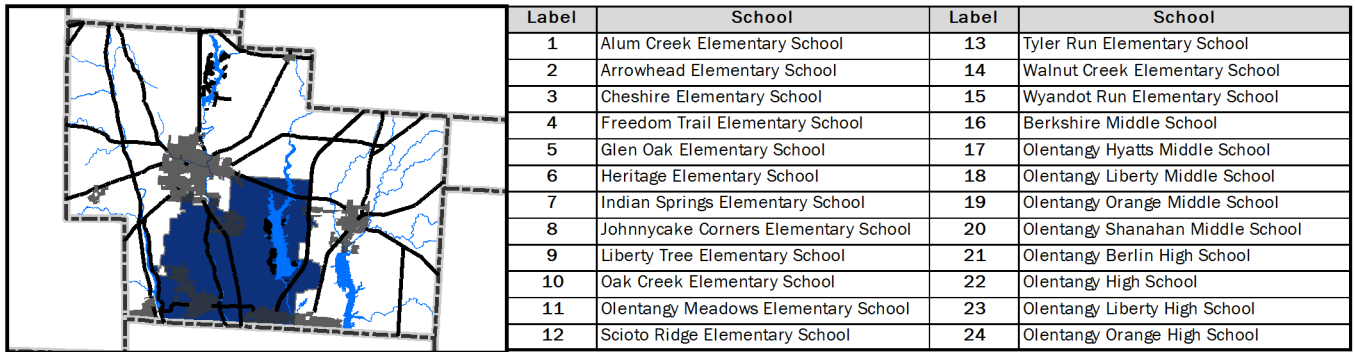
Informational Metric	Value
Attendance Rate (%)	95.8%
Salary (Average)	\$78,584
Years of Experience (Average)	12
w/ a Bachelors' Degree (%)	100%
w/ a Masters' Degree (%)	78.3%

Figure 10C.23. Source of Funds

Source	District	State Total
Local	\$199,267,760	\$10,445,025,000
State	\$34,338,924	\$10,766,602,000
Federal	\$12,358,249	\$2,390,865,000
Other	\$39,601,900	\$1,703,394,600
Rev. Total	\$285,566,833	\$25,305,886,600

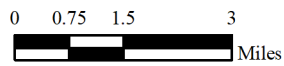
Figure 10C.24. District Spending Per Pupil

Category	Spending per Pupil
Classroom Instruction	\$7,929
Non-Classroom Spending	\$2,592
Federal Funds	\$297
State and Local Funds	\$10,242
Total	\$10,521



Olentangy School District

Delaware County



- Schools
- Olentangy School District
- Rivers/Lakes/Streams
- Incorporated Area
- Township Boundaries
- County Boundaries

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- **Liberty Tree Elementary School (586)**, 6877 Sawmill Parkway, Powell;
- **Oak Creek Elementary School (676)**, 1256 Westwood Drive, Lewis Center;
- **Olentangy Meadows Elementary School (712)**, 8950 Emerald Hill Drive, Lewis Center;
- **Scioto Ridge Elementary School (590)**, 8715 Big Bear Avenue; Powell;
- **Tyler Run Elementary School (655)**, 580 Salisbury Drive, Powell;
- **Walnut Creek Elementary School (666)**, 5600 Grand Oak Boulevard, Galena;
- **Wyandot Run Elementary School (736)**, 2800 Carriage Road, Powell;
- **Berkshire Middle School (1,139)**, 2869 South Three B's & K Road, Galena;
- **Olentangy Hyatts Middle School (889)**, 6885 Sawmill Parkway, Powell;
- **Olentangy Liberty Middle School (988)**, 7940 Liberty Road, Powell;
- **Olentangy Orange Middle School (1,067)**, 2680 East Orange Road, Lewis Center;
- **Olentangy Shanahan Middle School (999)**, 814 Shanahan Road, Lewis Center;
- **Olentangy Berlin High School (1,451)**, 3140 Berlin Station Road, Delaware;
- **Olentangy High School (1,516)**, 675 Lewis Center Road, Lewis Center;
- **Olentangy Liberty High School (1,979)**, 3584 Home Road, Powell; and
- **Olentangy Orange High School (2,010)**, 2480 East Orange Road, Lewis Center

The Olentangy School District also opened a new elementary school in the 2021/22 school year. Shale Meadows Elementary School is located at 4458 North Road. Data regarding the Olentangy School District did not include any information from Shale Meadows Elementary School, as the school is too new to have been included in the tabulated information.

Chapter 11A

Open Space

Delaware County



Introduction

The Ohio Revised Code acknowledges the importance of open space and recreation in both the zoning and subdivision enabling legislation. ORC 519.02 states that the trustees may regulate by [zoning] resolution “sizes of yards, courts, and other open spaces ... the uses of land for ... recreation.” ORC 711 states that “a county or regional planning commission shall adopt general rules [subdivision regulations] ... to secure and provide for ... adequate and convenient open spaces for ... recreation, light, air, and for the avoidance of congestion of population.”

The importance of open space and recreation has long been recognized. In the 1850s the City Beautiful Movement advocated public parks as retreats from the congestion and overcrowding of city life. New York’s Central Park (1856, Frederick Law Olmstead, Sr.) is the best known American example. Many desirable communities in America have a significant park and recreation system as one of their building blocks.

The Subdivision and Site Design Handbook (David Listokin and Carole Walker, 1989, Rutgers, State University of New Jersey, Center for Urban Policy Research) is considered a planner’s bible for many accepted standards in subdivision review. The chapter on open space and recreation relates the following critical functions of open space:

- Preserving ecologically important natural environments
- Providing attractive views and visual relief from developed areas
- Providing sunlight and air
- Buffering other land uses
- Separating areas and controls densities
- Functioning as a drainage detention area
- Serving as a wildlife preserve
- Providing opportunities for recreational activities
- Increasing project amenity
- Helping create quality developments with lasting value

The economic benefits of open space cannot be overstated. Undeveloped land demands fewer community services and requires less infrastructure than suburban-style development. There is an old adage that says “cows do not send their children to school,” which emphasizes the fact that farms and other types of open lands generate more in property taxes than the services they demand. And given the evidence that single-family housing rarely “pays its own way” through additional property tax revenues, open space becomes an important part of a local government’s economic outlook. (Source: *The Economic Benefits of Parks and Open Space*, TPL, 1999)

Open Space Defined

Listokin and Walker define open space as: “Essentially unimproved land or water, or land that is relatively free of buildings or other physical structures, except for outdoor recreational facilities. In practice, this means that open space does not have streets, drives, parking lots, or pipeline or power easements on it, nor do walkways, schools, clubhouses, and indoor recreational facilities count as open space. Private spaces such as rear yards or patios not available for general use are not included in the definition either.”

“Open space is usually classified as either developed or undeveloped. Developed open space is designed for recreational uses, both active and passive, whereas undeveloped open space preserves a site’s natural amenities.”

Land Area Guidelines

The National Recreation and Park Association (NRPA) has standards for local open space. Although these standards have been promoted as goals, they are not universally applicable. Recreational needs vary from community to community, and desires for recreation vary also.

Listokin and Walker note that: “Ideally, the [NRPA] national standards should stand the test in communities of all sizes. However, the reality often makes it difficult or inadvisable to apply national standards without question in specific locales.”

Location of Open Space Parcels

The authors note what has been the subject of many debates in the developing parts of the County, namely that: “Open space parcels should be easily accessible by development residents. In smaller developments, one large, centrally located parcel may suffice; but a large development may require several parcels, equitably distributed. Linking open space parcels is a good strategy, because it enlarges the area available for recreation. Parcels containing noise generators, such as basketball courts or playgrounds, should be sited to minimize disturbance to residents. The authors suggest that “No general standard can specify the amount of open space that should remain undeveloped: a determination will depend on the particular development site.”

Recommendations at Build-Out

- Overall active recreational area required - NRPA recommends 6.25-10.5 acres /1,000 population. Use the lower ratio because of the existence of Alum Creek State Park, Hoover Reservoir, and Big Walnut Creek.
- Establish mini parks of 1 acre or less within neighborhoods, serving the population within a ¼ mile radius (these should be developer dedications as part of the PRD zoning).
- Establish neighborhood parks of 15 acres, with field games, play ground apparatus, serving the population within a ¼ to ½ mile radius.
- Establish a community park of 25-50 acres (when built out) with an athletic complex, large swimming pool, and recreational fields.

Preservation Parks receives a 0.4 mills levy, which is expected to generate about \$900,000 per year for parks. Some of that money is set aside for townships and municipalities to develop parks. Townships can apply for this funding.

Greenways

An inexpensive way to provide undeveloped open space is to assure the linkage of neighborhoods by greenways, or corridors of natural or man-made landscaped paths, and trails. These can be placed along drainage ways, creeks, sewer easements, and portions of the land that cannot be otherwise developed. These paths can maintain undisturbed wildlife habitat or create new habitat through plantings and creative use of stormwater retention and detention facilities. Instead of afterthoughts in the design and planning process, they should be viewed as opportunities to improve the value of the development and link developments.

NRPA Recreational Standards

Excerpted from *The Subdivision and Site Plan Handbook*, David Listokin and Carole Walker, copyright 1989, Rutgers, State University of New Jersey, Center for Urban Policy Research, New Brunswick, New Jersey. This classification system is intended to serve as a *guide* to planning – not as a blueprint.

Figure 11A.1. NRPA Recommended Standards for Local Developed Open Space

Component	Use	Service Area	Desirable Size	Acres / 1,000 Population	Desirable Site Characteristics
LOCAL / CLOSE-TO-HOME SPACE					
Mini-Park	Specialized facilities that serve a concentrated or limited population or specific group, such as tots or senior citizens.	Less than ¼ mile radius	1 acre or less	0.25 to 0.5 acres	Within neighborhoods and in close proximity to apartment complexes, townhouse developments, or housing for the elderly.
Neighborhood Park / Playground	Area for intense recreational activities, such as field games, craft, playground apparatus area, skating, picnicking, wading pools, etc.	¼ to ½ mile radius to serve a population up to 5,000 (a neighborhood)	15+ acres	1.0 to 2.0 acres	Suited for intense development. Easily accessible to neighborhood population – geographically centered with safe walking and bike access. May be developed as a school-park facility
Community Park	Area of diverse environmental quality. May include areas suited for intense recreational facilities, such as athletic complexes, large swimming pools. May be an area of natural quality for outdoor recreation, such as walking, viewing, sitting, picnicking. May be any combination of the above, depending upon site suitability and community need.	Several neighborhoods 1 to 2 mile radius	25 + acres	5.0 to 8.0 acres	May include natural features, such as water bodies, and areas suited for intense development. Easily accessible to neighborhood served.
TOTAL CLOSE-TO-HOME SPACE = 6.25-10.5 acres / 1,000 population					

Source: National Recreation and Park Association, *Recreation, Park and Open Space Standards and Guidelines*

Chapter 12A

Development Patterns

Delaware County

Rural Large-Lot Development

Residential development began along existing township and county roads. Many of these splits result in lots that are larger than 5 acres and simply recorded with the County with no review process. When land is split resulting in parcels that are smaller than 5 acres, a process called a “No Plat” or “minor” subdivision is required. These NPA subdivisions may be used to create no more than four lots from an original parcel (five including the residue, if smaller than 5 acres), and where there is no creation of new streets or easements of access. The ORC now allows review of lots up to 20 acres in size.

Large-lot development can occur on CAD subdivisions, which are three to five lots on a 12-foot wide gravel drive approved by the Regional Planning Commission. CAD subdivisions follow the same procedure as any other “major” subdivision, including the Sketch Plan, Preliminary Plan, and Final Plat steps. CAD standards are defined by the DCRPC and include a maximum grade of 10%, passing areas every 350 feet, tree and shrub removal specifications, and an easement width of 60 feet along the CAD. A private maintenance agreement must be recorded with the County as well.



(left) “No Plat” Lot splits in Berkshire where all lots have frontage on an existing road. (right) Hickory Woods in Genoa Township, a conventional subdivision with large lots.

Larger subdivisions that include paved private or public streets built to county standards can be developed as long as the lots conform to local zoning. Such larger scale subdivisions follow the same process as CAD developments. The developer or consulting engineer takes each project through an approval process with the Delaware County Regional Planning Commission staff as well as an engineering process with the oversight of the County Engineering staff.

Large acreage development, surrounded by woods and farm fields, has been generally accepted as helping retain rural character. However, township residents may find that if *all* rural lands were developed for 2- or 5-acre house lots, there would be no interconnecting open space, and the rural character would be destroyed. Development of large lots *everywhere* on township roads can lead to “rural sprawl.”

Alternative Development Patterns

PRD Subdivisions

For years, cluster subdivisions, or “Planned Residential Developments,” have been touted as an improved alternative to the conventional subdivision. Township PRDs can take the form of a rezoning or use an overlay system that defines allowable density based on the underlying zoning. The open space requirement is usually around 20-40%, depending on specific factors within the township.

In PRDs, greater design flexibility is obtained by reducing lot size and width. However, the absence of comprehensive standards for quantity, quality, and configuration of open space has permitted uninspired designs, which are reduced-scale conventional subdivisions.

The typical Delaware County PRD has often resulted in developments that do not fulfill community expectations for:

Open Space - PRD regulations usually include an open space requirement. Environmentally sensitive areas or unbuildable areas (wetlands, steep slopes, floodplains, stormwater detention basins, and utility easements) do not have to be delineated.



Killdeer subdivision west of I-71 in Berkshire Township

Useable Open Space - PRD subdivisions with small (7,200-10,000 square feet) lots have been created without any *useable* common open space. Scioto Reserve has little common or public open space. The golf course is private open space, for members only.

Density - The typical PRD ordinance defines a maximum density based on gross acreage. In townships throughout the County, this can be anywhere from 1 unit per gross acre to 2.2 units per gross acre or more. When undevelopable land such as powerline easements and road right-of-way are included in the allowable density, it has the effect of creating a much higher “net” density and smaller lot sizes.

Design - Large (300 units or more) Planned Unit Developments need a local pedestrian-oriented design with a possible local commercial and service core, active recreation area, and sidewalks/bike paths.



Harbor Pointe, Berlin Township. Note the preserved tree lines and open space at the entrance and distributed throughout the site.

Architectural Standards - To make higher density cluster subdivisions work, considerable thought needs to be given to the architecture, materials, façades, detailing, colors, and landscape features that will bind the neighborhood into a cohesive unit. Although such criteria are generally required, seldom does a land developer, who intends to sell the subdivision to a builder, bother to provide significant criteria. The result is either a jarring hodge-podge of different builders' standard production houses with no continuity of material or architectural syntax, or a blandness that results from a single builder using a limited number of home design options. Without specific standard criteria, the zoning commission must negotiate these details on an individual (and therefore, inconsistent) basis. Cluster housing demands greater advance planning and significant landscape architecture and architectural design elements.

Harbor Pointe is a Berlin Township planned residential development on 154 acres designed to modern standards of open space and environmental protection. With an overall density of 1.25 units per acre, Harbor Pointe saves sensitive areas, preserves useable open space, and connects neighborhoods with trails. Overall open space is 46 acres.

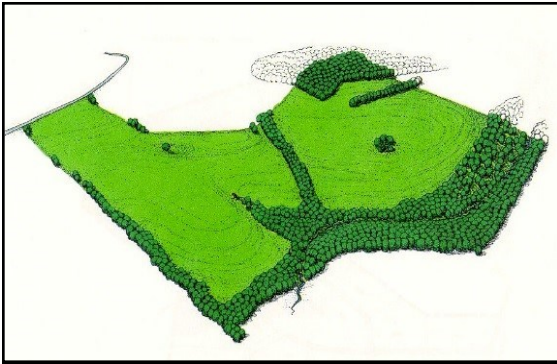
Conservation Subdivisions

Conservation Subdivisions are a form of rural cluster subdivisions where natural features and environmentally sensitive areas are excluded from development and preserved. Homes are clustered in the remaining areas. The term "Conservation Subdivision," as coined by author Randall Arendt (*Conservation Design for Subdivisions*, 1996, Island Press) requires the following elements:

- 50% or more of the buildable land area is designated as undivided permanent open space.
- The overall number of dwellings allowed is the same as would be permitted in a conventional subdivision layout based on an alternative "yield plan."
- Primary Conservation Areas are protected as open space and may be deducted from the total parcel acreage to determine the number of units allowed by zoning on the remaining parts of the site. Primary Conservation Areas are highly sensitive resources that are normally unusable, such as wetlands, steep slopes, and floodplains.
- Secondary Conservation Areas are preserved to the greatest extent possible. Secondary Conservation Areas are natural resources of lesser value, such as woodlands, prime farmland, significant wildlife habitats, historic, archeological, or cultural features, and views into or out from the site.
- Compact house lots are grouped adjacent to the open space.
- Streets are interconnected to avoid dead ends wherever possible.
- Open space is interconnected and accessible by trails or walkways.

The Conservation Subdivision concept can be best described by looking at the following images.

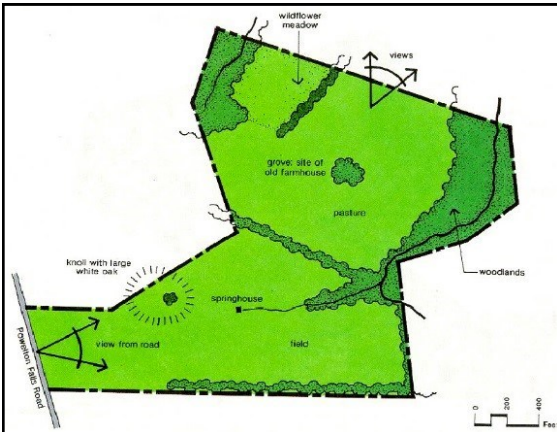
Some townships have taken the additional step by including the Conservation Subdivision standard in its zoning code, sometimes adopted pursuant to ORC Section 519.021(C), the "floating cloud" provision. This process overlays the Planned Residential Conservation Subdivision standards across all land zoned FR-1. It is a permitted use with the submission and



Site before development



Typical layout with acreage lots



Identifying conservation areas



End result, same number of houses

approval of a Development Plan that meets a number of standards. The basics of these include:

- 10-acre project minimum size;
- Open space requirement of 50%, 15% of which shall be suitable for active recreation purposes;
- Density of 0.75 units per gross acre if sewer is available;
- Additional density to 0.85 units per acre if natural features make up less than 10% of the site and the developer has to create such features. Also, open space may be reduced to 40% in such cases.

New Urbanism - Traditional Neighborhood Development

Traditional Neighborhood Development (TND) is a reaction to conventional suburban development. A school of architects and planners, led by the firm Duany, Plater-Zyberk, and Calthorpe advocates a return to traditional design. A growing group of supporters make up "The New Urbanism," a movement based on principles of planning and architecture that work together to create human-scale, walkable communities similar to neighborhoods that were typical in the United States



Clark's Grove, a development with a mixture of lot sizes in Covington, Georgia, is a small-scale TND surrounding a school and park site.

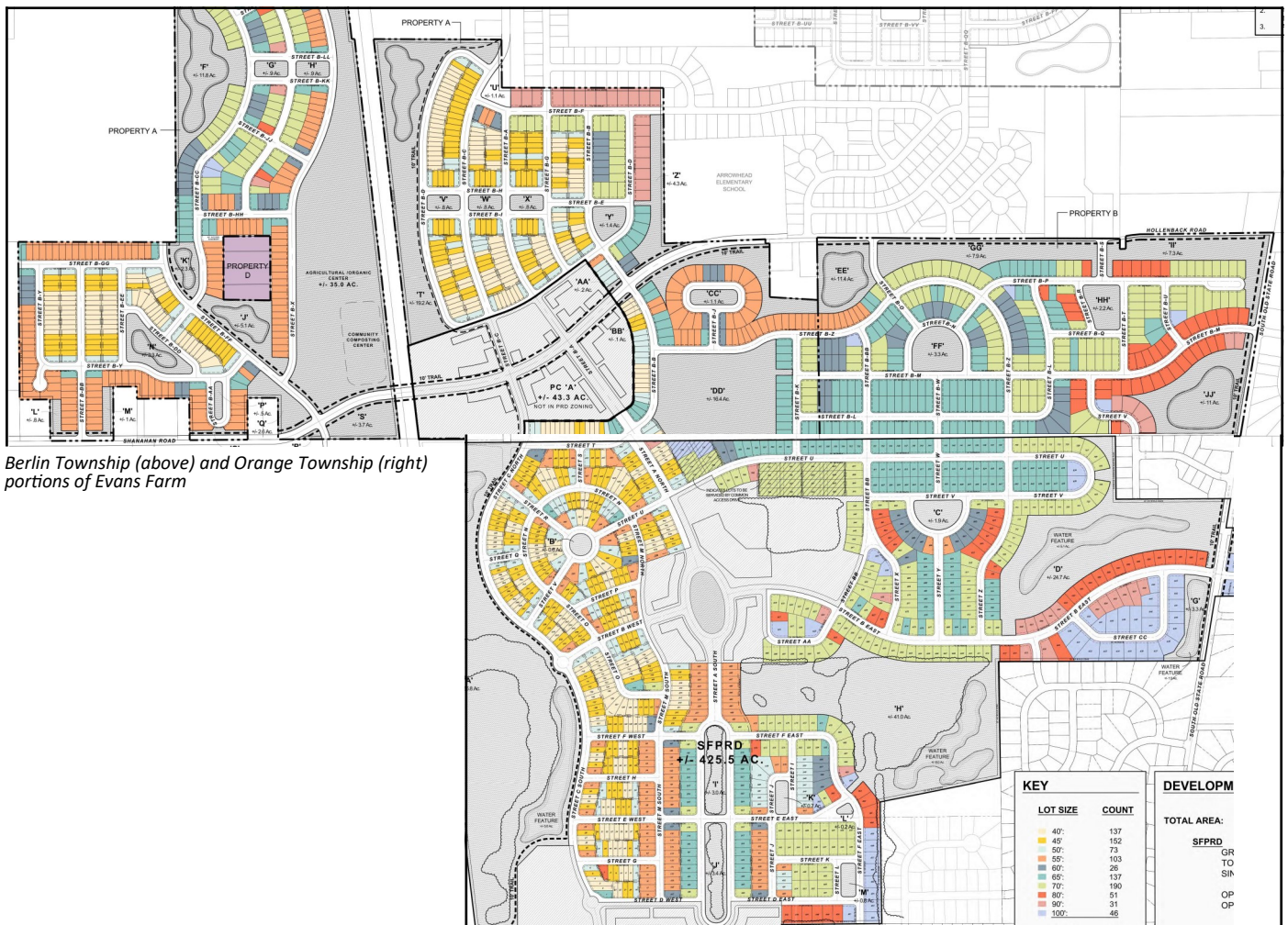
before World War II, such as Delaware's north end historic district and old Sunbury. Benefits of this type of development include reduced auto trips, more compact infrastructure, more efficient land-consumption, and potentially positive fiscal impact as values per acre tend to be much higher.

The heart of the New Urbanism can be defined by certain elements, according to the founders of the Congress for the New Urbanism. An authentic neighborhood contains most of these elements:



Clark's Grove features small shops with wide sidewalks surrounding a public square.

- The neighborhood has a discernible center. This is often a square or a green, and sometimes a busy or memorable corner. A transit stop would be located at this center.
- Most dwellings are within a five-minute walk of the center, an average of roughly 2,000 feet.



Berlin Township (above) and Orange Township (right) portions of Evans Farm

- There is a variety of dwelling types — houses, townhouses, and apartments — so that younger and older people, singles and families, the poor and the wealthy may find places to live.
- At the edge of the neighborhood, there are shops and offices of sufficiently varied types to supply the weekly needs of a household.
- A school is close enough so that most students can walk from their home.
- There are small playgrounds accessible to every dwelling — not more than a tenth of a mile away.
- Streets form a connected network, which disperses traffic by providing a variety of pedestrian and vehicular routes to any destination.
- The streets are relatively narrow and shaded by rows of trees. This slows traffic, creating an environment suitable for pedestrians and bicyclists.
- Buildings in the neighborhood center are placed close to the street, creating a well-defined outdoor room.
- Parking lots and garage doors rarely front the street. Parking is to the rear of buildings, accessed by alleys.
- Certain prominent sites at the termination of street vistas or in the neighborhood center are reserved for civic buildings. These provide sites for community meetings, education, and religious or cultural activities.



Streetscape at Easton

These elements combine to form the ideal form of TND as promoted by the New Urbanists.

Starting in 2016, Evans Farm began to be reviewed and developed in Orange and Berlin Townships. The overall plan covers more than 1,100 acres and proposes over 2,000 single-family parcels of varying sizes, more than 500 other types of housing units, two commercial areas, a school site, parks, trails, and recreational features. The currently planned Evans Farm represents a sufficient amount of new urbanism development in Berlin Township.

Best Management Practices for Development

Best Management Practices are visual examples that demonstrate the positive design principles in the public realm. Visuals are used because defining design elements in a text-only format can be limiting, restrictive, and can result in a bland sameness. The following general principles enhance the quality and reflect development goals within commercial and other non-residential areas.

“Conventional” Residential Subdivisions

Conventional developments would require densities at a maximum of 2 units per acre, unless some multi-family is mixed in the overall development. Front setbacks of 30-35', no “snout houses” (fully projecting front load garages). Narrow residential streets with limited on-street parking. Separate residential uses from all other uses but include pedestrian access. At least 10% open space in the neighborhood, with small “pocket” parks.

Traditional Neighborhood Design Village Developments

Densities at 4-6 units per acre for moderate density villages and town centers with 2-3 story structures. Higher densities for town centers, with minimum front setbacks (0-15'). Houses

Setbacks	<ul style="list-style-type: none"> - “Core” Downtown: 0' setback - “Center” Residential Blocks 1-3: 15' setback - “Center” Blocks” 4-6: 20' setback - “General” beyond block 7: 30' setback
General Residential standards	Use of privacy walls on side lot lines. Brick, masonry best materials for party walls. Decorative iron fencing, or open picket wood fencing (no stockade, split rail, chain link fencing) in front court yards.
When smaller lots call for alleys	Garages access exclusively off alleys Setback off alley - 15' Alley width 14-20'
Road Design	Vertical curbs, enclosed drainage. Grid streets with an interconnecting pattern. Street widths wide enough for on-street parking, at least on one side. R.O.W. typically 60'. Traffic calming features (center islands with landscaping, eyebrow islands with landscaping), parks at block ends to divert traffic flow.
Housing Styles	Variety of styles and architecture. Highly detailed exteriors. Limited use of vinyl, or requirement for a higher-gauge vinyl siding.
Lot Design	Narrow, deep lots, that lend themselves to “shotgun” style houses with rear loading garages.
Uses	Mixture of residential and commercial as part of a town center, strict architectural controls and elements. At least 10% open space in the neighborhood, with many small “pocket” parks. Open space should be within direct view of at least 50% of all residential lots.

with zero-foot setback should require masonry construction. Maximum front setback - 15 feet. Lots on streets closest to the “Core” could have the shallowest setbacks, then increase setbacks as you move outward. For example:

The following images represent how some of these principles can be applied in both a formal town center development, and any setting where a quality “sense of place” is desired.

Site Furnishings

Given the suburban environment’s preference to the automobile, developments rarely feature the site furniture that helps create a vibrant commercial destination. They can also be integrated into elements that serve to screen parking lots and adjacent uses. A consistency in furnishings can enhance the visual unity of the corridor. Such furnishings include lighting fixtures, trash receptacles, benches, and other usable structures. Furniture should be permanently installed, be vandal-resistant, have replaceable components, and be easily maintained. It should be of high quality design and “timeless” in style (image to the right). Seating should be located at logical resting points and situated so they do not block the internal walkway system.



Example of site furnishings

Buildings Form the Space of the Street

Buildings have the potential to create a shared public “room.” The character and scale of these walls determine the character of the room. Continuous building frontage with active uses on a street creates a welcome space that supports pedestrian and economic activity. In typical suburban commercial developments where the building fronts on a vast expanse of paved parking, no such room is created.



Parking is incorporated into the site and street furnishings are pedestrian-oriented.

Building indentations, penetrations, and façade treatments can be used to complement adjacent structures. These features also reduce the monotonous blank walls often seen on “big-box” developments. A series of doors, windows, porches, and other projections in new construction can add value and character to a commercial development. Continuous ‘strip’ buildings should be discouraged.



Blank walls (left) should include architectural detail (right), although windows and doors are preferred.

Building Height/Appearance

Streets have a more cohesive, pedestrian feel when contiguous buildings are of similar height. The maximum building height is generally 35 feet, or as otherwise limited by the available emergency equipment. Though this would allow building of two stories, most commercial development has been built with only a single story. Creating a pedestrian-oriented development would likely require a mix of uses, where retail would be located on the ground floor with offices or even specific types of residential above.



Façade treatment (left) is preferred over repetitive elements (right).

Roof Forms and Building Materials

Roofs on new structures should generally be pitched or hipped. Building materials may be wood frame, brick, or stone. Roof material should have a shingle look, either as asphalt shingles, slate, tile, or metal.

Environmental Sustainability

Mixing uses can result in lower impact to the environment. “Green” buildings can cost less, improve worker productivity, enhance marketing efforts, and help to create a district identity. Structures and parking should respond to the specific building site, be efficient in water and energy use, be constructed of sustainable materials, and create a healthy environment for the occupants. The Leadership in Energy and Environmental Design (LEED) *Reference Guide for New Construction and Major Renovation, Version 2.2*, is a valuable resource for guidance on green building techniques, practices, and standards.

Parking and Access

Where there is limited access to a major road, circulation streets should be created rather than individual entrance drives to parking lots. Secondary streets should also limit access and a coherent network of backage streets is created. Parking and access to parking should be located at limited locations along these secondary streets.

Parking lots should be screened and separated from the public right-of-way. Large expanses of surface parking should be broken up into smaller areas. These may be located beside or between buildings. Parking located directly in front of buildings should be minimized where possible. All lots should be landscaped and shading maximized.

Townships will often regulate aspects of commercial parking that have a direct impact on the appearance and quality of its commercial development. The code may include specifications on dimensions, paving, driveways, setbacks, and landscaping. Commercial zoning text can also limit the percentage of the parcel that can be covered with impervious surfaces.

Commercial zoning can require a certain number of parking spaces per square footage of commercial space. In commercial developments with multiple tenants, this can result in an excessive amount of pavement leading to a “sea of asphalt.” Retail parking requirements should be somewhere between 4 and 5 spaces per 1,000 feet of gross leasable



Example of cohesive contiguous building heights



“In-line” stores, or strip centers, built with high-quality materials and architectural details



Example of circulation streets



When parking is located in a variety of places, buildings can be oriented toward the street and can be a more pedestrian-oriented streetscape.

space. This amount can be reduced in multiple-tenant developments, where different uses demand different peak parking times, and in retail buildings above a certain size threshold (i.e. “big box” stores).

Pedestrian Orientation

Even large, commercial-only areas can be tailored to the pedestrian and create a walkable environment. The first image shows the typical big-box store with inline stores and outlots. Although stores are fronted with a sidewalk, the walkway has no character and merely serves as a covered area between the building and the access driveway. Painted crosswalks are provided, but they serve a utilitarian function.

The second image adds pedestrian elements, providing connections to an existing bikeway along the existing road. That walkway also provides a focal point, ending in a communal feature between the buildings. This area also allows for outdoor dining, a feature which is becoming increasingly popular. This dining area is separated from direct contact with the parking area. Walkways are provided between various buildings on the site as well.

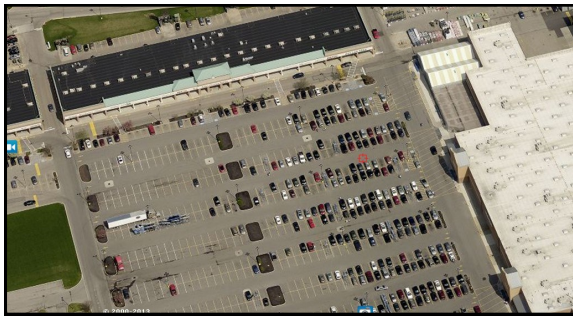
The third image shows an arrangement of buildings around a square, providing green space and a public area. Parking is provided along the storefronts, protecting the walkway from traffic. Sidewalks are wide, providing areas for outdoor dining in front of the buildings. Larger parking areas are provided throughout the site, hidden from the public street while allowing for walkways between buildings.

Service

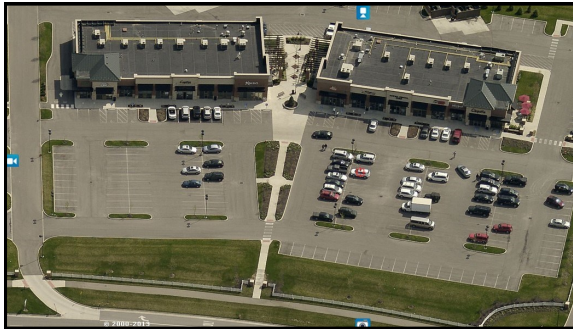
Service and delivery should be accommodated on side streets or from the rear of buildings. Dumpsters may be grouped for multiple users. All refuse collection areas should be screened from public rights-of-way (below).

Lighting

Building and site lighting is recognized as a necessity for security and visibility, and should be designed to eliminate light trespass and minimize light pollution. The best lighting schemes will maximize uniformity and eliminate glare. Lighting for pedestrians is an important consideration and should be designed to maximize visibility and comfort. These considerations can decrease initial costs, have marked value in life-cycle costs, and create a more attractive and comfortable nighttime environment.



Example of typical big-box stores



Example of retail with connected pedestrian elements



Example of protected and connected retail with open space



Example of screened dumpster

Creating a hierarchy of lighting standards is another way to unify image and identity. Lighting used to illuminate parking areas, the street, or signage should be indirect and shielded, avoiding off-site spillage of light into other properties. The amount of light that is cast upon adjacent development is often regulated by township zoning codes. Sign codes can also stipulate that signs be internally lit, or that external lighting point down from above the sign and not on adjacent property.

Signage

Each community must address sign control appropriate to that community. Although there are legal limitations to the extent of regulations (i.e. political signs and content), townships in Ohio can regulate the number of signs allowed, their location, height, size, and materials used in construction. Some signs are allowed with no permit required. These typically include “For Sale” signs, political signs, certain temporary signs, signs approved as part of planned districts, and farm signs. Though no permit is required, the size, number, and placement of these signs may be regulated.

The second category, signs requiring a permit, includes billboards or off-premise signs and on-site commercial, industrial, and office display signs.

Prohibited signs often include portable signs, sandwich boards, revolving or animated signs, and wall-painted signs.

Finally, a sign code will define provisions for signs that already exist but do not conform to the standards when a code is adopted. These “non-conforming” regulations define which signs must be removed and which can continue. Typically, such signs cannot be improved or changed and, if a particular percentage of the sign is ever destroyed, the sign must be replaced to conform to the standards. If changes other than routine maintenance are made to a sign, it should be brought into compliance with current regulations.

Signs on awnings, in windows, and projecting from the face of the building can help create an interesting pedestrian environment. Traffic signage should have a consistent look and placement, where possible.

Natural-colored materials should be used for the base of monument signs (above). Variation of signage themes based on sign type or location should be encouraged (below). Signs should be of high quality and ‘timeless’ in style to avoid becoming outdated. Signs should be limited to one per lot or one per multiple lots if devoted to one specific use or user. Graphics should be



Example of natural-colored materials for monument signs



Example of variation in signage themes based on sign types



A parking lot (left) is screened from the sidewalk, and landscaping blends with the streetscape.

simple to encourage readability and increase identification. No sign should interfere with the safe movement of pedestrians and vehicles.

Accessibility

Standard concrete walks should be 6 feet wide, where sufficient right-of-way exists. Along secondary streets, the walk should be located 4 feet from the back of curb. Handicap-accessible curb ramps should be used at all access drives, public streets, and private streets and shared easements that function as public streets.

Landscaping and Buffering

Zoning codes often include provisions for landscaping standards and buffering between incompatible uses, or may require establishment of tree cover or other foliage as may be necessary to achieve the purpose of the open space standards. Such buffering usually includes a setback distance, but will often go farther by requiring mounding, opaque fencing, or a defined spacing of trees. Many zoning codes in the County require the following common language in non-residential uses:

“All yards, front, side and rear, shall be landscaped, and all organized open spaces or non-residential areas shall be landscaped and shall meet the landscaping requirements of this resolution, unless a variation from these standards is specifically approved as part of the final Development Plan. A landscape plan showing the caliper, height, numbers, name and placement of all material, prepared by a licensed landscape architect shall be approved as a part of the final Development Plan.”

The following concepts may or may not be codified, but are always worth considering when reviewing a development plan:

- Large shade trees should avoid conflicts with structures and reinforce the streetscape (assuming they do not conflict with emergency access and utility placement).
- Small ornamental trees should be used as accent plants and frame views to special architectural features. Avoid placing ornamental trees in locations that would block the view from the street to the structure and impair visibility for drivers.
- Plant materials should be native to the area when possible, and approved by the Delaware County Soil and Water Conservation District.
- Screen parking lots with a minimum 4-foot high continuous evergreen or deciduous hedge, low earth mounding, or stone wall. Hedge size at installation should be at least 30" in height. A creative combination of these elements is encouraged to avoid visual monotony.
- Planting, mounding, and fencing should be incorporated at the rear of commercial areas that are adjacent to residential areas. Screened planting should be 75% opacity at installation during full foliage.
- Guidance for minimum standard plant sizes at installation:

Shade Trees – 3" Caliper, 12'-14' height

Ornamental Trees - 8'-10' height

Evergreen and Deciduous Shrubs – 24" height



Examples of “snout houses”; two-story houses on 75-foot frontage (top) and single-story houses on 50-foot frontage (bottom)

- If landscaping is used as screening for trash receptacles, it should have a minimum opaqueness of 80% during full foliage. The height of a screen wall should be at least 6 feet.

Residential Garage Placement

One issue that often arises in Planned Residential reviews is streetscape. Sidewalks, street trees, and structure setbacks all contribute to the perception of a neighborhood’s value. One factor that can impact the streetscape of a subdivision is the placement of the garage. On large lots with at least 90 feet of frontage, most garages are side-load or do not make up a large percentage of a house’s front elevation. As lots become smaller and frontage decreases, such as in TNDs and some condominium developments, garages take up more and more of the frontage. In extreme cases, the garage projects fully in front of the house. Such residential structures have been termed “snout houses” (image on following page). The result is a streetscape that is not “friendly” to the pedestrian or driver, tending to devalue the neighborhood as a whole. Planned District regulations can require that garage protrusions be limited, or that garages be flush with the front wall of the house or set back behind the front wall of the house. In TNDs and village centers, where lots may be 70 feet wide or smaller, garages can be accessed from a rear alley.

Conclusion – Best Management Practices

Some of these Development Plan issues are zoning-related and may go beyond the overall recommendations of land use and density usually emphasized in a Comprehensive Land Use Plan. However, recommendations related to these issues may be included in this Plan for review by the Zoning Commission in future changes in the Zoning Resolution.

Smart Growth

Since 1997, Smart Growth has been a topic for planners nationwide. The American Planning Association (APA) defines Smart Growth as “a collection of planning, regulatory, and development practices that use land resources more efficiently through compact building forms, in-fill development and moderation in street and parking standards.” For APA, one of the purposes of Smart Growth “is to reduce the outward spread of urbanization, protect sensitive lands and in the process create true neighborhoods with a sense of community.”

This differs from Delaware County’s stated definition of smart growth: “commercial development that helps to diversify the tax base, create jobs for residents and respect the heritage of the community.” This fits more appropriately as the definition of “good planning.”

The **broad**er definition of Smart Growth from a Planner’s standpoint is encouraging the location of stores, offices, residences, schools, and related public facilities within walking distance of each other in compact neighborhoods. The popularity of smart growth has captured the interest of the press as well, though some criticism has come from developers who see it as government controlling the market. Smart growth incorporates some of the concepts of conservation subdivisions in rural areas and TNDs in urban areas.

