

Berlin Township

Delaware County, Ohio

Comprehensive Land Use Plan, 2010



Prepared by
Delaware County Regional Planning Commission
Delaware County, Ohio

in conjunction with the Berlin Township Zoning Commission
and Berlin Township Board of Zoning Appeals

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Executive Summary

Berlin Township was the fourth-fastest growing township from 1990-2000 and the third fastest from 2000-2009 in percentage of growth in the fastest growing county in Ohio. Its 67% growth from 1990-2000 was mirrored by the same growth rate from 2000-2009, similar to Delaware County's overall growth rate of 64% in the 1990s and 49% so far in the 2000s. While Berlin displaced Liberty to go from fourth to third, it was only in the rate of growth, not in actual numbers, where Berlin is still a distant fourth place.

Berlin's neighbor to the south, Orange Township, has grown at a decade rate of 229% in the 1990s and 78% in the 2000s. This growth wave is pushing north along the sanitary sewer line on South Old State Road, changing agriculture into suburban residential development.

Berlin Township 2010 – Land Use Facts and Issues:

1. 6.86% of the township (or 1,148.36 acres) has been annexed into the City of Delaware.
2. Population grew from 1,978 in 1990 to 3,315 in 2000 for an increase of 68%. Population grew to 5,563 in 2009 (DCRPC estimate) for an additional increase of 68%.
3. From 2000 to 2009 there were 758 new house lots zoned, 415 new multi-family units zoned, and 231 new acres of commercial and industrial ground zoned.
4. There is a 9-10 year supply of house lots in the subdivision process in the County.
5. Assuming that most rezonings result in the conversion of agricultural acreage to development acreage, the township saw 752 acres rezoned. Loss of farmland is no longer the primary concern of residents regarding growth.
6. Traffic continues to be a significant problem, at certain locations during certain times of the day.
7. There is a commitment and interest in more open space, environmental protection, and recreational amenities.
8. Berlin Township has significant natural beauty in its ravines and other natural land around the Alum Creek Reservoir. These natural features need to be protected.
9. More than ninety-two percent of all housing is new, or in very good condition, and 74% is valued at \$225,000 and higher.
10. There are 2,077 housing units within the boundaries of Berlin Township. Of the total, 1,853 or 89%, are single family homes and 224 are multi-family housing units.
11. Economic conditions are comparatively good in Berlin Township and Delaware County. The current county unemployment rate is 6.4%, the lowest in the state. Columbus is the 3rd most stable housing market in a national economy where many are concerned about sliding housing values. Median income in the county is the state's highest at \$79,173.

12. The Polaris area has been a huge job and traffic generator. It has boosted Delaware County and the city of Columbus but continues to impact Berlin Township with school-related growth and increased traffic.
13. Township collector roads were built in the 1800s for farm-to-market use and are too narrow for today's traffic. Some township collector roads have been widened and some key intersections have been improved, and narrow roads, if safe, are considered part of the scenic character.
14. U.S. 23 is a major four-lane highway that is losing its ability to move through-traffic as it becomes a commercial frontage road. Access management principles that limit curb cuts can help prevent the deterioration of this important highway.
15. ODOT has recently completed work on an Access Management Plan for U.S. 36/S.R. 37 which will guide the location of backage roads and signalized intersections.
16. There is adequate potable water supplied by the Del-Co Water Company, but summertime lawn watering taxes its ability to maintain treatment and pressure. A year-round alternate-day watering ban was instituted in July 1999 and continues to be in effect.
17. Except for a few locations where topography is a limiting factor, sanitary sewer service will eventually be available for the entire township. Sewer design densities are typically between 1.5 and 1.85 housing units per acre.
18. The Olentangy School system is adding approximately 1,000 new students every year. Regular levies are being passed for operations and new construction, but the pace of growth is an ongoing concern for the district. Olentangy maintains an excellent academic record for student proficiency test scores. A new elementary school is under construction on Gregory Road and a new middle school will soon open just east of the township on 3 Bs and K Road.
19. Future school sites have been secured on Sweeney Road and Berlin Station Road. Future development proposals and the transportation network should consider these future facilities in their planning.
20. The Village of Cheshire represents an opportunity for economic growth, attracting visitors to the state park and becoming an identifiable center of the township.
21. There is some township park land at the new fire station, and Alum Creek State Park provides passive open space and recreation. There is a need for active recreation such as baseball and soccer fields, as well as other recreational activities.
22. There is a desire to see more trails and bikeways both for recreational purposes and for alternative transportation. A specific goal is the placement of a path along Piatt and Cheshire Roads, although any improvements to existing roads and all new subdivisions should consider sidewalks and bike/pedestrian facilities.

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CHAPTER 1

Introduction

Why Plan?

City and community planning in the United States is a fairly recent effort, with a foundation in the City Beautiful movement at the turn of the 20th Century. At that time, open space was seen as a deliverance from the stuffy, overcrowded and disease-filled tenements of American cities in the late 1800s. The City Beautiful movement used parks and public open spaces as centerpieces of the future city, oases of respite from the typical hustle and bustle. After the First World War, the movement evolved from its landscape architecture revitalization roots to a legal instrument for planning for orderly future growth.



The intent of the city planning movement was to plan for the future. At first this was done by the creation of zones with separate land use regulations attached to each zone. In some communities, there was a plan, which was the basis for the zoning map and resolution. However, in most communities, zoning itself was seen to be the plan. Zoning was tested immediately, and found to be an appropriate legislative power.

Ohio has never taken the additional step to *require* land use planning as a mandatory underpinning of zoning or other land use controls. It is recommended by the American Planning Association, and the American Institute of Certified Planners. It is suggested by the Ohio Revised Code, and it is bolstered by Ohio and United States Supreme Court cases that a comprehensive plan strengthens a community's police power to zone and control its growth.

How Planning Relates to Zoning and the Community Vision

By Ohio law (Ohio Revised Code 519.05) it is the duty of the zoning commission to submit a plan, both text and maps, to the Trustees to control land use and as a basis for zoning.

The Berlin Township Zoning Commission convened on March 10, 2009 for the purpose of updating the 1999 Berlin Township Land Use Plan. The 1999 plan has served the community well for ten years, but is due for an update. In light of the growth and changes within the township over the last decade, the update is intended to evaluate the goals, objectives and vision statement as well as the policies and recommendations of the 1999 plan to determine if those elements are still representative of the residents today.

A survey was mailed to the residents and landowners of the township to gauge the issues of most concern today. They were also encouraged to participate in the planning process to evaluate the goals for future development of Berlin Township. A group of committed residents and landowners attended monthly meetings for one year to chart the township's development path for the next five to ten years.

The 2010 Berlin Township Comprehensive Land Use Plan update is intended to:

- 1.) Review the changes in land use, population, utility services, roads, and boundaries that have occurred from 1999 to 2009.
- 2.) Review the changes in economic, legislative, judicial and regulatory conditions that have occurred from 1999 to 2009.
- 3.) Review the goals and policies adopted in 1999; judge whether the goals and policies are still representative of the communities values and visions of its future, and if the goals and policies conform to current federal and state land use legislation and court decisions.
- 4.) Amend the goals and objectives for the growth in the ensuing five to ten years.
- 5.) Create a revised text and map for the recommended land use of each parcel on a site- specific basis to guide future growth of the township.
- 6.) Recommend amendments to local zoning, and the adoption of development policies to assure that the township will be what it has envisioned when it is all built out.

The comprehensive plan is policies, goals and recommended land use map for the future development of the township. After the adoption of the 2010 comprehensive plan, the township will amend their zoning code, as needed, to implement its recommendations.

The 2010 Comprehensive Land Use plan is intended to be the township's vision for the next five to ten years. It is based upon economic and environmental conditions, availability of utilities, adequacy of roads, and the values of the township regarding density of housing and the look of the community when completely developed. It makes site-specific land use recommendations for each parcel in the township. It is subject to review and possible amendment whenever requested by a landowner, or as part of a potential rezoning.

Delaware Area Land Information System – How Digital Information Affects the Township's Ability to Plan

The Delaware County Auditor maintains a Geographic Information System (GIS) for the primary purpose of accurately mapping tax parcels. The Delaware Area Land Information System (DALIS) is a very accurate computer mapping system which offers both tabular and graphic real estate data about each of more than 80,000 tax parcels. This mapping system has a cadastral (property line) layer and topography layer. In addition, the office has created soil maps and digital ortho photos with structure outlines.

Maps can be created with accuracy to a scale of 1" = 100' for Berlin Township. Planners may view each parcel individually at any scale. This allows the DCRPC to make a Comprehensive Land Use Plan that is site-specific. The DALIS mapping is used as the base map for the 2010 Berlin Township Comprehensive Plan. The software used is ArcInfo and ArcView, by ESRI.

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CHAPTER 2

Population

Regional Population

To put Central Ohio and Berlin Township's growth rate into general perspective, consider the state and national annual growth rates in Figure 2.1. This figure also indicates population changes in townships and municipalities surrounding Berlin Township to indicate a true comparison of growth rates from 1990 to 2000, with additional estimates for 2009.

Figure 2.1 Regional/Local Growth Rates

Nation/State/Region	1990 population	2000 population	Rate 1990-2000	Current est.	Source
Delaware County	66,929	109,989	64.34%	164,319	2009 DCRPC est.
Franklin County	961,437	1,068,978	11.19%	1,164,725	2009 MORPC est.
Central Ohio	1,377,419	1,581,066	14.78%	1,577,169	2009 MORPC est.
Ohio	10,847,115	11,353,140	4.67%	11,485,910	2008 Census est.
USA	248,709,873	281,421,906	13.15%	305,862,000	2009 Census est.
Area Townships					2000-2009
Berkshire Township	1,713	1,946	13.60%	2,358	21.17%
Berlin Township	1,978	3,315	67.59%	5,563	67.81%
Genoa Township	4,053	11,293	178.63%	21,421	89.68%
Liberty Township	3,790	9,182	142.27%	12,989	41.46%
Orange Township	3,789	12,464	228.95%	22,264	78.63%
Trenton Township	1,906	2,137	12.12%	2,281	6.74%
Area Municipalities				MORPC 2009 est.	
Columbus (Franklin)	632,910	711,470	12.41%	776,463	8.37%
Delaware (Delaware)	20,030	25,243	26.03%	32,142	21.46%
Galena (Delaware)	361	305	-15.51%	485	37.11%
New Albany (Franklin)	1,621	3,711	128.93%	6,622	43.96%
Pataskala (Licking)	3,046	10,249	236.47%	15,535	34.03%
Powell (Delaware)	2,154	6,247	190.02%	10,792	42.11%
Sunbury (Delaware)	2,046	2,630	28.54%	3,248	19.03%
Westerville (Del, Fra)	30,269	35,318	16.68%	37,879	6.76%

(Source, U.S. Bureau of Census, Internet Release Date: April 2001; Statistical Information, Washington D.C, (301) 457-2422).

While Ohio experienced a growth rate at one third that of the national average, the Central Ohio regional growth rate was much more comparable to the national trend. Delaware County, as the fastest growing county in Ohio, had a growth rate of 64.34%. Population in the City of Delaware grew by 26.03% from 20,030 in 1990 to 25,243 in 2000, partially as a result of annexations. In examining the varied growth rates surrounding Berlin Township, the generalization can be made that growth pressures are mostly eminent from the west and northwest, as well as from the south.

The Delaware County growth rate has continued to increase as people push north from Franklin County (Columbus) into the “country” for larger lots with more “rural character”. While Franklin County is losing population to out-migration, Delaware County is growing by in-migration.

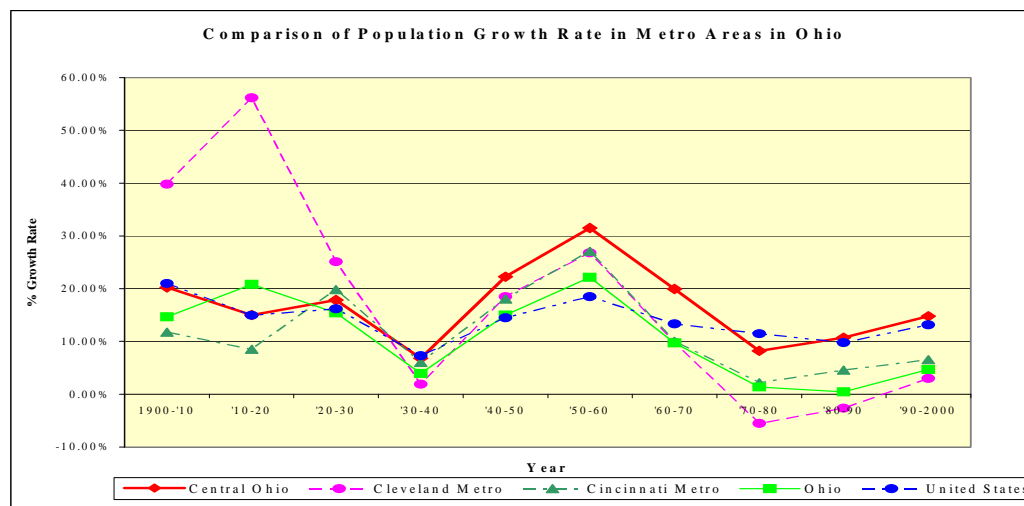
Delaware County is growing largely by domestic in-migration with 38,964 new residents moving into the county from 2000 to 2008. Births minus deaths represented 12,771 additional residents in this same time span. By contrast, Franklin County experienced an outward migration of 40,851 from 2000-2008. Delaware County received a larger number of people through domestic migration, suggesting that some migration came from other Central Ohio counties. Figures 2.2 & 2.3 illustrate these trends.

Figure 2.2 Central Ohio Growth Rates

Area	2000/2008 Census	Percentage/Numerical Change in Population	Births/Deaths (2000-2008)	International Migration	Domestic Migration
Delaware County	109,989/165,026	50.04%/55,037	+18,700/-5,929	460	38,964
Franklin County	1,068,978/1,129,176	5.62%/60,198	+145,177/-68,649	30,100	-40,851
Central Ohio	1,581,066/1,738,515	9.97%/157,449	+209,858/-103,369	31,363	24,045
Ohio	11,353,140/11,485,890	1.17%/132,750	+1,245,352/-891,908	96,251	-345,793
USA	281,421,906/304,057,028	8.04%/22,635,122	+34,126,003/-20,001,837	8,114,516	--

(Data Source Population Division, U.S. Census Bureau)

Figure 2.3 Central Ohio Growth Rates (1900-2000)



(Data Source Census 2000)

Delaware County’s growth should be thoroughly reviewed as an indicator of future growth pressures in Berlin Township. Delaware County’s population is 50% male and 50% female, over 93% Caucasian. 80% of the population resides in owner-occupied homes. Figure 2.4 indicates the significant rate of growth within Delaware County compared to other counties. The growth rate for the period 2000-2008 was 50% which ranked Delaware County 21st nationally.

Figure 2.4 Area Counties in Context with Nation's Fastest-Growing Counties: April 1, 2000 to July 1, 2008

County	State	Percent Increase	Numerical Increase	July 2008 est. Population	National Rank By Percentage Growth
Delaware	Ohio	50	55,037	165,026	21
Franklin	Ohio	5.62	60,089	1,129,067	NR
Warren	Ohio	30.92	48,970	207,353	NR
Kendall	Illinois	89.6	48,900	103,460	1
Flagler	Florida	83.1	41,415	91,247	2
Pinal	Arizona	82.1	147,586	327,301	3
Rockwall	Texas	80.2	34,554	77,633	4
Loudoun	Virginia	71	120,396	289,995	5

NR = not ranked in the top 100. (Source, U.S. Census Bureau, 2008)

Township Population/Demographics

For the period from 1960 to 1990 Berlin Township saw a steady growth rate between 15-20 percent. In the decade of the 1990's, during the explosive growth period for Delaware County, the township saw a jump of 67.49 %, which is on par with the county's rate for the same period (64.34 %) (see Figure 2.5).

Figure 2.5 Census Population Figures, Berlin Township 1960-2000

Year	Census Population	Population Change from Last Census	Percent Change from Last Census
1960	1,145	--	--
1970	1,412	267	23.32%
1980	1,625	213	15.08%
1990	1,978	353	21.72%
2000	3,313	1,335	67.49%
2009 est.	5,635	2,322	70.01%

(Source Census 2000 and DCRPC 2009 Demographic Package)

Figure 2.6 shows a breakdown of the demographic data of Berlin Township residents. Detailed census information released in 2002 uses sampling to create details on population at the township level. The following census page depicts Berlin Township's demographic information such as ethnic background, household type and ownership.

Figure 2.6 2000 General Demographic Profile of Berlin Township, Delaware County Ohio

Table DP-1. Profile of General Demographic Characteristics: 2000					
Geographic Area: Berlin township, Delaware County, Ohio					
[For information on confidentiality protection, nonsampling error, and definitions, see text]					
Subject	Number	Percent	Subject	Number	Percent
Total population.....	3,315	100.0	HISPANIC OR LATINO AND RACE		
SEX AND AGE			Total population.....	3,315	100.0
Male.....	1,674	50.5	Hispanic or Latino (of any race).....	16	0.5
Female.....	1,641	49.5	Mexican.....	8	0.2
Under 5 years.....	272	8.2	Puerto Rican.....	2	0.1
5 to 9 years.....	295	8.9	Cuban.....	-	-
10 to 14 years.....	262	7.9	Other Hispanic or Latino.....	6	0.2
15 to 19 years.....	225	6.8	Not Hispanic or Latino.....	3,299	99.5
20 to 24 years.....	97	2.9	White alone.....	3,177	95.8
25 to 34 years.....	408	12.3			
35 to 44 years.....	694	20.9	RELATIONSHIP		
45 to 54 years.....	566	17.1	Total population.....	3,315	100.0
55 to 59 years.....	162	4.9	In households.....	3,315	100.0
60 to 64 years.....	113	3.4	Householder.....	1,181	35.6
65 to 74 years.....	129	3.9	Spouse.....	833	25.1
75 to 84 years.....	72	2.2	Child.....	1,127	34.0
85 years and over.....	20	0.6	Own child under 18 years.....	949	28.6
Median age (years).....	36.5	(X)	Other relatives.....	82	2.5
18 years and over.....	2,332	70.3	Under 18 years.....	21	0.6
Male.....	1,177	35.5	Nonrelatives.....	92	2.8
Female.....	1,155	34.8	Unmarried partner.....	45	1.4
21 years and over.....	2,238	67.5	In group quarters.....	-	-
62 years and over.....	286	8.6	Institutionalized population.....	-	-
65 years and over.....	221	6.7	Noninstitutionalized population.....	-	-
Male.....	99	3.0			
Female.....	122	3.7	HOUSEHOLD BY TYPE		
RACE			Total households.....	1,181	100.0
One race.....	3,285	99.1	Family households (families).....	946	80.1
White.....	3,186	96.1	With own children under 18 years.....	509	43.1
Black or African American.....	56	1.7	Married-couple family.....	833	70.5
American Indian and Alaska Native.....	7	0.2	With own children under 18 years.....	449	38.0
Asian.....	26	0.8	Female householder, no husband present.....	72	6.1
Asian Indian.....	5	0.2	With own children under 18 years.....	37	3.1
Chinese.....	14	0.4	Nonfamily households.....	235	19.9
Filipino.....	4	0.1	Householder living alone.....	187	15.8
Japanese.....	1	-	Householder 65 years and over.....	67	5.7
Korean.....	2	0.1	Households with individuals under 18 years.....	530	44.9
Vietnamese.....	-	-	Households with individuals 65 years and over.....	170	14.4
Other Asian ¹	-	-	Average household size.....	2.81	(X)
Native Hawaiian and Other Pacific Islander.....	1	-	Average family size.....	3.16	(X)
Native Hawaiian.....	-	-	HOUSING OCCUPANCY		
Guamanian or Chamorro.....	-	-	Total housing units.....	1,239	100.0
Samoan.....	1	-	Occupied housing units.....	1,181	95.3
Other Pacific Islander ²	-	-	Vacant housing units.....	58	4.7
Some other race.....	9	0.3	For seasonal, recreational, or occasional use.....	6	0.5
Two or more races.....	30	0.9	Homeowner vacancy rate (percent).....	2.6	(X)
Race alone or in combination with one or more other races:³			Rental vacancy rate (percent).....	2.4	(X)
White.....	3,214	97.0	HOUSING TENURE		
Black or African American.....	62	1.9	Occupied housing units.....	1,181	100.0
American Indian and Alaska Native.....	24	0.7	Owner-occupied housing units.....	1,099	93.1
Asian.....	33	1.0	Renter-occupied housing units.....	82	6.9
Native Hawaiian and Other Pacific Islander.....	1	-	Average household size of owner-occupied units.....	2.81	(X)
Some other race.....	11	0.3	Average household size of renter-occupied units.....	2.80	(X)

- Represents zero or rounds to zero. (X) Not applicable.
¹ Other Asian alone, or two or more Asian categories.
² Other Pacific Islander alone, or two or more Native Hawaiian and Other Pacific Islander categories.
³ In combination with one or more of the other races listed. The six numbers may add to more than the total population and the six percentages may add to more than 100 percent because individuals may report more than one race.

Source: U.S. Census Bureau, Census 2000.

Population Projections using Building Permits

Building permit figures tell more than the Census regarding growth in the township. Over the last 10 years (1999-2008) the township has issued 1,023 building permits, a dramatic increase from the previous 19 year period (1980-1998) when only 582 new building permits were issued. In fact, nearly as many permits were issued in the 5-year period from 2000-2004 (686) as the previous 20 years (699). Clearly, the township has evolved from a rural farming township with no sanitary sewer service, to a low density suburban community with expanding services. Figure 2.7 lists the number of permits issued for all Delaware County townships and municipalities from 1995 to 2008. Note that Berlin Township has generally ranked 5th out of all townships in the county since 1995 in terms of new building permits, behind Orange, Genoa, Liberty, and Concord townships.

Figure 2.7 Building Permits issued per Delaware County Township/Municipality (1995 to 2008)

Townships	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Berkshire	21	22	16	17	34	16	16	13	15	18	28	29	37	17
Berlin	65	66	54	98	117	128	182	156	123	97	84	66	40	30
Brown	11	17	9	10	8	17	10	14	11	8	4	3	2	3
Concord	35	30	43	96	103	235	355	294	410	235	167	134	80	67
Delaware	3	4	12	25	11	31	49	46	50	26	19	13	1	3
Genoa	243	363	342	622	507	651	667	716	643	443	305	183	148	72
Harlem	25	30	30	23	27	16	18	26	29	34	20	14	19	17
Kingston	19	18	19	24	37	30	37	34	35	18	14	13	12	1
Liberty	164	202	231	262	322	276	198	238	175	179	168	102	75	69
Marlboro	1	1	0	1	1	1	10	4	4	0	2	4	2	0
Orange	188	268	352	378	637	410	532	558	601	762	420	216	228	142
Oxford	3	6	6	4	9	10	11	11	8	7	4	6	5	1
Porter	12	13	16	17	11	12	9	11	18	15	8	11	6	3
Radnor	13	11	9	13	11	12	5	15	16	15	16	6	3	3
Scioto	33	26	20	27	37	21	9	18	20	15	25	15	5	10
Thompson	0	3	4	4	4	2	11	8	6	4	4	6	7	0
Trenton	11	25	17	13	12	10	11	12	11	11	14	7	7	3
Troy	9	15	13	12	6	7	14	24	10	16	9	7	6	3
Sub Total	856	1,120	1,193	1,646	1,894	1,885	2,114	2,198	2,185	1,903	1,311	835	683	444

Incorporated Areas

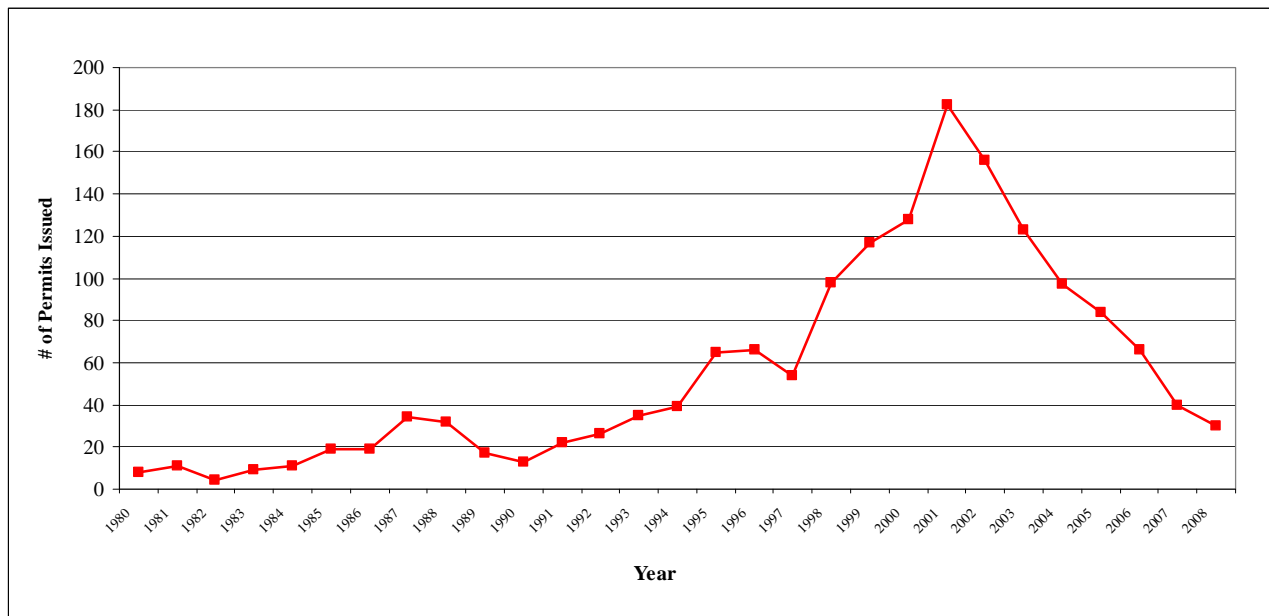
Delaware	305	465	248	355	790	318	368	313	510	446	324	220	199	108
Galena	0	2	0	2	2	1	0	1	1	25	35	13	4	3
Sunbury	17	40	30	33	19	47	75	72	54	3	0	18	20	31
Shawnee Hills	7	1	2	1	0	4	5	17	15	24	16	7	2	0
Powell	103	130	163	217	141	103	105	127	370	339	216	146	137	36
Ashley	3	0	2	0	0	1	0	3	3	2	1	1	0	1
Ostrander	9	7	1	0	1	0	0	1	1	0	16	15	7	6
Dublin	-	-	-	-	4	9	1	3	4	2	0	2	1	2
Westerville	-	-	-	-	-	140	122	58	17	38	161	81	61	29
Columbus	83	121	546	184	774	146	97	236	251	246	295	254	225	43
Sub Total	527	766	992	792	1,731	769	773	831	1,226	1,125	1,064	757	656	259
County Total	1,383	1,886	2,185	2,438	3,625	2,654	2,917	3,029	3,411	3,028	2,375	1,592	1,339	703

*Data available through December, 2008

(Source Delaware County Building Dept., 2008)

Figure 2.8 shows the history of new building permits over the last two decades.

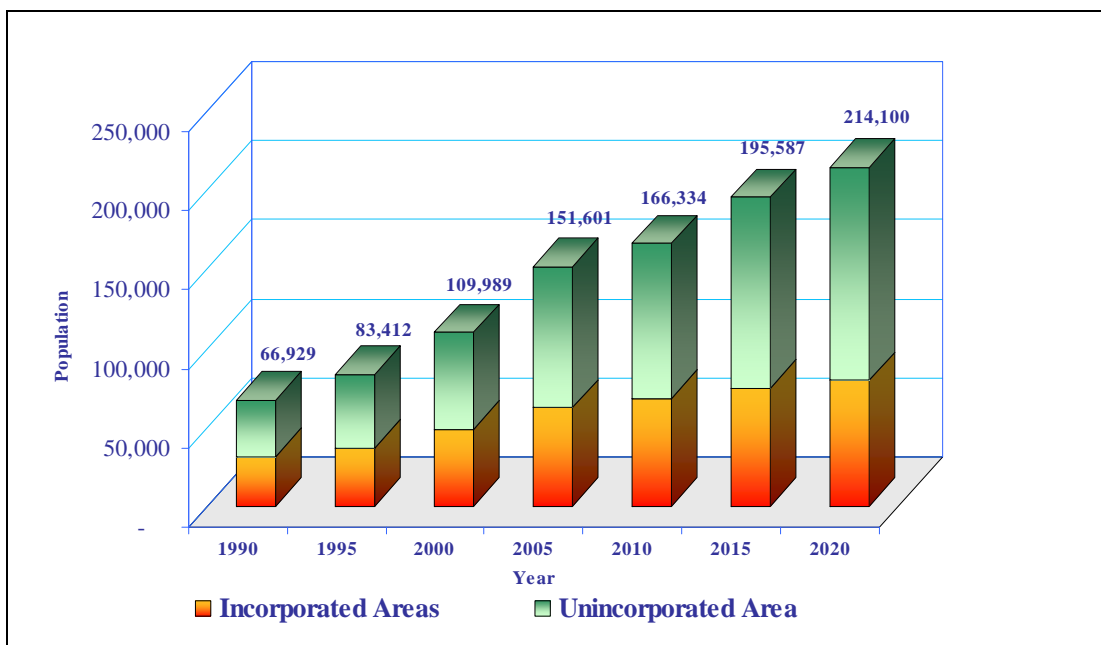
Figure 2.8 Berlin Township Building Permit History (1980 to 2008)



(Source DCRPC, 2008)

Figure 2.9 demonstrates the projected population for Delaware County in five-year increments to 2020, based on the building permit projection method.

Figure 2.9 Population Projections for Delaware County to 2020 using building permit data



(Source DCRPC, 2008)

The Delaware County Regional Planning Commission makes population projections based upon a Housing Unit Method. The formula works as follows:

- 1.) Last Census (2000) used as a base year.
- 2.) Number of residents per dwelling unit is used from the last Census (2.81 for Berlin Township).
- 3.) Number and type of new residential building permits is tracked by month for all jurisdictions.
- 4.) A time lag factor anticipates the occupancy date of new housing after building permit issuance.
- 5.) New population is projected for each jurisdiction based on the number of building permits issued times the number of residents per dwelling unit type, after the lag factor (average eight-month construction time).
- 6.) New population added to last census data to create projected population.

The *Population by Housing Unit Method Projections* table (Figure 2.10) contains population projections for area townships and municipalities of Delaware County through the year 2020. This table indicates that 8,143 people will reside in Berlin Township by 2020. This represents 4,830 new residents from 2000 to 2020, a 245.8% increase (this does not include projects which are “in the development pipeline”).

Figure 2.10 *Population by Housing Unit Method Projections for Area Townships/Municipalities*

Jurisdiction	Census Data				DCRPC Est.	DCRPC Projected			Growth Rate	
	1990	2000	Pop. Index	Vacancy Rate	2008	2010	2015	2020	2001-'10	2011-'20
Berkshire	1,713	1,946	2.81	4.5%	2,358	2,529	2,716	2,851	28.08%	12.75%
Berlin	1,978	3,313	2.81	4.7%	5,563	5,747	7,135	8,143	64.44%	41.68%
Brown	1,164	1,290	2.85	3.3%	1,431	1,433	1,533	1,606	9.42%	12.07%
Delaware City	20,030	25,243	2.63	6.7%	31,184	31,496	34,405	37,024	21.60%	17.55%
Galena Village	361	305	2.61	7.6%	485	505	597	681	65.32%	34.93%
Genoa	4,053	11,293	2.93	5.0%	21,421	21,887	28,269	28,269	79.61%	29.16%
Harlem	3,391	3,762	2.82	3.1%	4,100	4,215	4,482	4,672	11.69%	10.83%
Kingston	1,136	1,603	3.02	3.1%	2,113	2,110	3,890	5,551	27.74%	163.07%
Orange	3,789	12,464	2.93	8.4%	22,264	23,160	29,393	35,000	75.10%	51.12%
Porter	1,345	1,696	2.87	3.0%	1,875	1,881	2,012	2,106	10.31%	11.96%
Sunbury Village	2,046	2,630	2.55	3.9%	3,248	3,280	3,583	3,855	21.85%	17.51%
Trenton	1,906	2,137	2.92	3.0%	2,281	2,276	2,403	2,494	6.22%	9.59%
Delaware County	66,929	109,989	2.70	6.4%	162,224	166,334	195,587	214,100	44.40%	28.72%

(Source: DCRPC, 2008)

Township Growth Summary

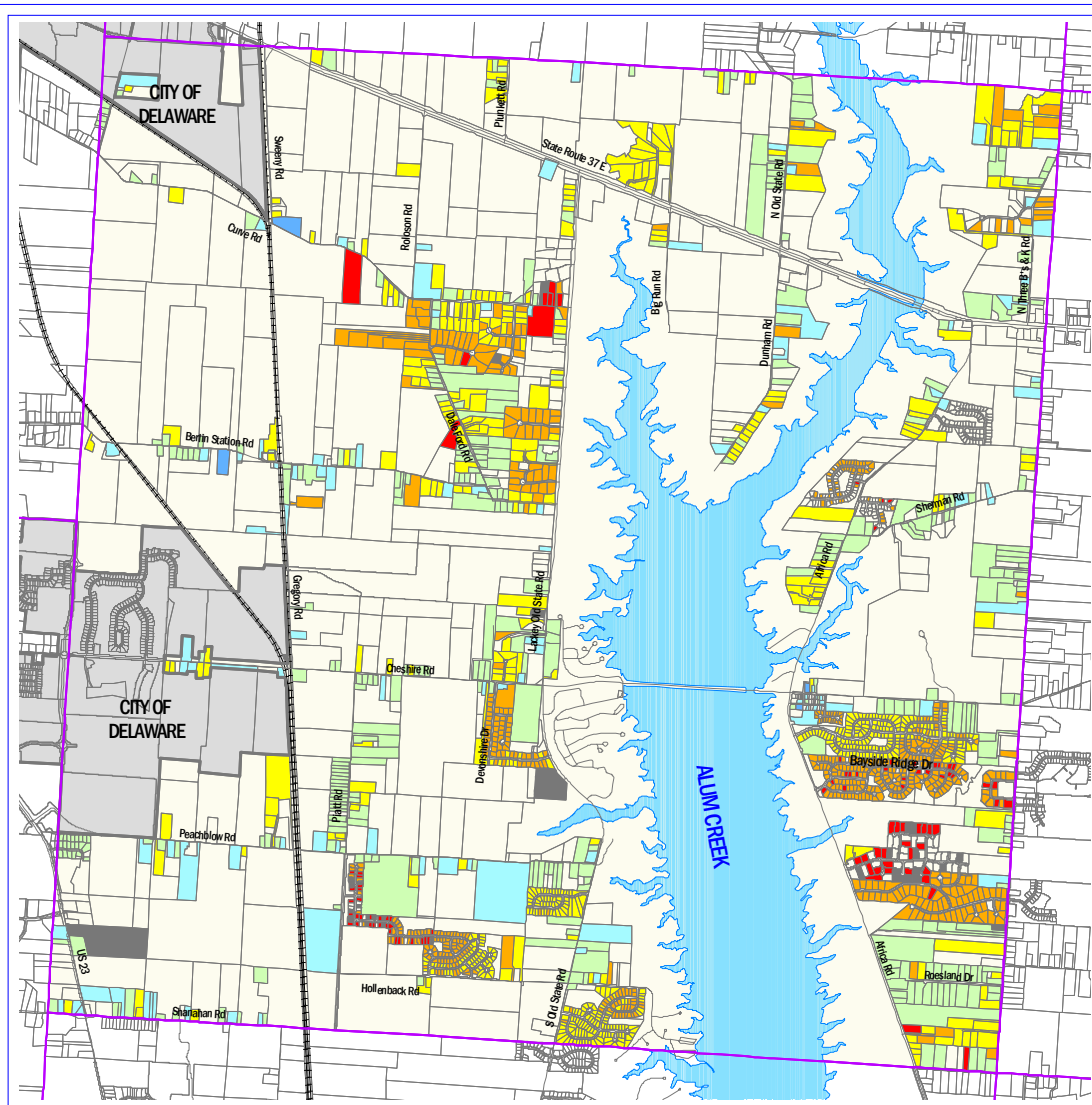
Delaware County continues to be the fastest growing county in Ohio by percentage of growth. It was the 21st fastest growing county in America from 2000-2008 (50%). The growth rate in Berlin Township has mirrored that of the county as centralized sewer service extended into the township. The transition from a rural farming community to a suburbanizing community has presented new challenges. Centralized sanitary sewer can lead to responsible growth and yield development

options that are less land consumptive. Future development within Berlin Township is largely dependent on the availability of sewer service and whether annexations by the city of Delaware will continue to consume land within the township. How well the township plans for the future growth in the next 5 to 10 years will be a critical factor in shaping the Berlin Township identity.

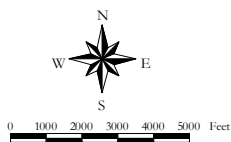
CHAPTER 3

Development and Change 2000-2008

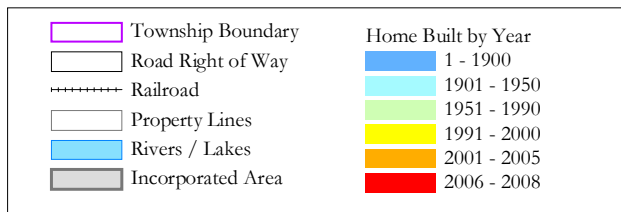
Before exploring the statistics surrounding development and change, it is important to note the time periods where that growth occurred. This map displays residential housing by “build date” in the Auditor’s data.



Home Built by Year - Berlin Township, Delaware County, Ohio



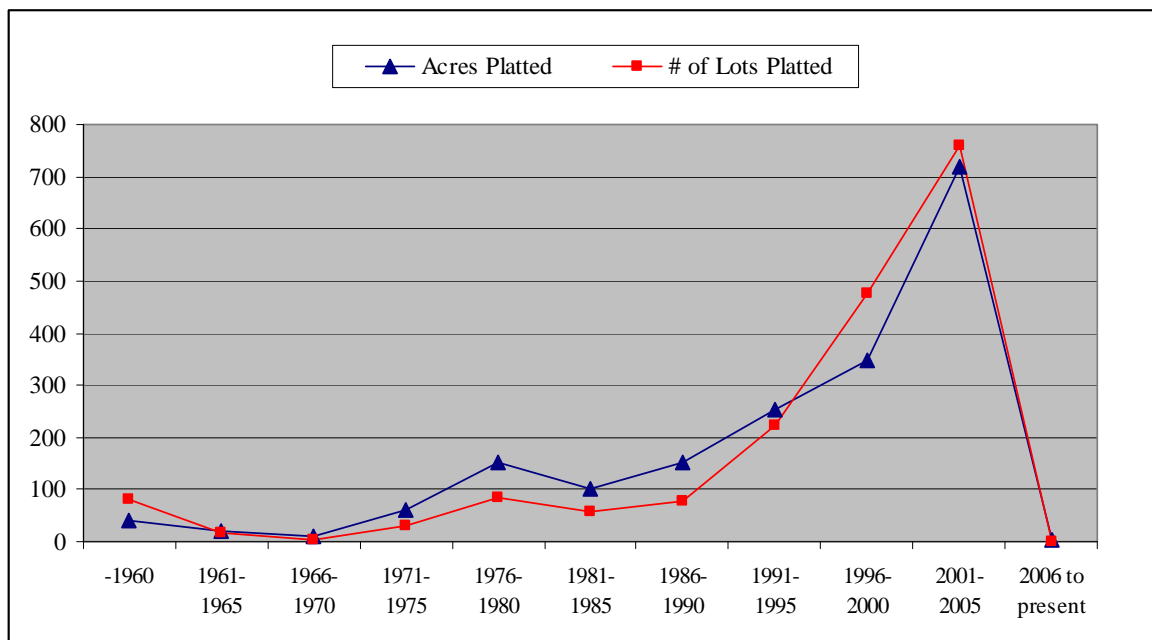
Prepared by the Delaware County Regional Planning Commission
GIS data provided by the Delaware County Auditor's DALLS Project
(Township Boundaries, Hydrology, ROW and Year Built)
(1/3/2011)



Township Development Activity

Platting activity for new subdivisions is a great indicator of future growth, as it precedes building permits. Historically, subdivisions in Berlin Township were typically 2 to 5 acre lots utilizing on site septic systems. Since sewer became available to the township in the mid 1990s, larger subdivisions have developed. Figure 3.1 illustrates amount of subdivision activity in Berlin Township over the past 50 years, by number of lots and acreage platted during five year periods. It is interesting to note that the average density reached 1 unit per acre about the time sewer became available to the township.

Figure 3.1 Platting History, by acreage, in Berlin Township



(Data Source: DALIS March, 2009)

The Delaware County Regional Planning Commission (DCRPC) approves platting for the county (exclusive of incorporated villages and cities). The county development trends over the past fifteen years demonstrate that growth initially occurred in the “southern tier” townships of Orange, Genoa, and Liberty. As these townships grew, development began leaping to the next tier, including Berlin and Concord. Berlin Township currently has limited centralized sewer, resulting in developments with low densities. Figure 3.2 lists each single-family development that has been platted in Berlin Township since 2000.

Figure 3.2 Recorded SF Subdivisions, by date recorded, in Berlin Township (All lots since 2000)

Date Recorded	Subdivision Name	Lots	Built	Acres	Density
1/26/2000	Piatt Meadows, Phase 2	21	21	12.58	1.67
3/31/2000	Cheshire Cove, Phase A	31	30	20.25	1.53
8/4/2000	Piatt Meadows, Section 2 Phase 1	23	23	10.03	2.29
10/25/2000	Harbor Pointe, Section 1	46	46	26.37	1.74
12/21/2000	Arbors at Cheshire	21	21	8.44	2.49
1/9/2001	Roesland No. 7	3	3	8.76	0.34
2/16/2001	Summerwood, Section 1	59	58	82.90	0.71
5/24/2001	Piatt Meadows, Section 2 Phase 2	28	28	11.16	2.51
5/24/2001	Piatt Meadows, Section 2 Phase 3	24	24	9.74	2.46
6/25/2001	Meadows at Cheshire, Section 3 Phase 3	30	30	16.27	1.84
8/15/2001	Whispering Creek	14	13	24.51	0.57
9/13/2001	Winding Creek Estates 3	15	15	34.12	0.44
9/27/2001	Harbor Pointe 2A	23	22	16.38	1.40
11/13/2001	Twin Hickory Farms	17	7	62.68	0.27
12/7/2001	Summerwood, Section 2	12	12	17.00	0.71
1/14/2002	Cheshire Cove, Section 2	37	37	23.99	1.54
3/13/2002	Hidden Meadows at Alum Creek	11	11	25.36	0.43
5/16/2002	Harbor Pointe, Section 2 Phase B	15	15	7.14	2.10
11/15/2002	Harbor Pointe, Section 3 Phase A	35	35	21.51	1.63
5/22/2003	Harbor Pointe, Section 3 Phase B	14	13	6.39	2.19
8/13/2003	Dewey	3	3	7.64	0.39
10/3/2003	Harbor Pointe, Section 4 Phase A	17	15	15.00	1.13
10/3/2003	Harbor Pointe, Section 4 Phase B	25	25	25.00	1.00
10/3/2003	Sherman Lakes, Section 2	82	40	42.81	1.92
10/29/2003	Winding Creek Estates, Section 4	10	8	15.49	0.65
8/11/2004	Harbor Pointe, Section 5	14	14	36.59	0.38
8/13/2004	Sherman Lakes Section 1	35	9	18.52	1.89
10/14/2004	Oldfield Estates	79	75	51.05	1.55
2/22/2005	The Ravines of Alum Creek	66	0	38.22	1.73
12/29/2005	Summerwood Extension	65	33	83.12	0.78
TOTAL		875	686	779.02	1.12 average

(Data Source: DALIS March, 2009)

Since 2000, 779.02 acres were developed into 875 single-family lots, an average density of 1.12 units per acre.

No-plat subdivisions or “lot splits” are another illustrator of development history. The Ohio Revised Code (ORC) permits a division of a parcel of land along a public street not involving the opening, widening or extension of any street or road, and involving no more than five lots after the original tract has been completely subdivided. An application for a lot split is approved by the RPC without a plat. The “lot split” procedure is required for lots 5 acres or less. A proposed lot split of more than 5 acres is exempt from subdivision review and is not tracked by the RPC. Figure 3.3 indicates no-plat subdivision activity in the entire county from 2001-2008. Berlin has averaged about 7 lots per year during that span, a relatively modest amount.

Figure 3.3 Delaware County No-Plat Lot Split Statistics, 2005-2008

Townships	2005			2006			2007			2008		
	Lots	Acr.	Vacant	Lots	Acr.	Vacant	Lots	Acr.	Vacant	Lots	Acr.	Vacant
Berkshire	5	13.94	4	2	6.04	1	0	0.00	0	1	2.66	0
Berlin	12	23.51	10	6	14.50	6	1	2.9	1	5	9.77	3
Brown	6	17.41	4	4	8.00	1	6	12.06	4	1	3.82	1
Concord	4	10.01	2	7	18.18	5	4	6.91	2	2	8.88	1
Delaware	5	7.94	4	4	9.17	1	4	12.16	2	0	0.00	0
Genoa	5	15.32	2	9	21.92	6	1	1.11	1	0	0.00	0
Harlem	11	28.27	8	7	15.74	7	7	15.81	5	2	4.65	1
Kingston	2	6.36	2	17	44.02	16	9	28.05	9	0	0.00	0
Liberty	4	6.81	4	2	3.61	1	7	14.14	5	4	5.02	1
Marlboro	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0
Orange	15	53.23	13	9	20.03	7	0	0.00	0	3	7.90	3
Oxford	0	0.00	0	0	0.00	0	0	0.00	0	1	3.03	1
Porter	1	2.02	0	4	16.41	4	0	0.00	0	0	0.00	0
Radnor	2	5.00	1	4	9.67	4	1	2.25	0	0	0.00	0
Scioto	3	10.84	3	3	7.25	1	1	5.00	1	9	17.98	7
Thompson	3	7.77	2	20	46.51	20	3	9.04	3	0	0.00	0
Trenton	2	6.00	2	4	13.96	3	0	0.00	0	1	2.65	0
Troy	4	11.93	4	0	0.00	0	0	0.00	0	2	4.96	1
Total	84	226.36	65	102	255.01	83	44	109.43	33	31	71.32	19

(Source: DCRPC, December 2008)

Another indicator of development and change in the township is rezoning activity. Figure 3.4 indicates the change in acreage as a result of rezoning requests approved by Berlin Township since 2000.

Figure 3.4 Approved Rezoning, 2000 to 2008, in Berlin Township

	To															From Totals
	FR-1	R-2	R-2 / PRD	R-3	R-4	PRD	NCD	TPUD	POD	PCD	OCPUD	I	PID	A-1	FPRD	
From	FR-1	51.31	311.47	0	0	209.1	0	0	0	166.14	0	0	14.18	0	0	752.20
	R-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	R-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	R-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NCD	0	0	0	0	0	0	0	0	11.28	0.56	0	0	0	0	11.84
	TPUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	POD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PCD	0	0	0	0	0	0	0	0	39.04	0	0	0	0	0	39.04
	OCPUD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	A-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	FPRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	To Totals	0	51.31	311.47	0	0	209.1	0	0	216.46	0.56	0	14.18	0	0	803.08

(Source: DCRPC, May 2008) Abbreviations relate to zoning categories. FR-1=Farm Residential; R-2, R-3, and R-4 are residential districts with differing densities and lot size standards; PRD=Planned Residential; NC=Neighborhood Commercial; TPUD=Transitional Planned Unit Development; POD=Planned Office District; PCD=Planned Commercial District; OCPUD=Old Cheshire Planned Unit District; I=Industrial; PID=Planned Industrial District; A-1=Agricultural; FPRD=Farm Planned Residential.

Berlin Township has rezoned 803.08 acres since 2000. Most of this land (752.2 acres or 93.6%) was converted from the Farm Residential (FR-1) district. The remaining 50.88 acres were originally zoned commercial. Of the FR-1 land rezoned, 586.06 acres was rezoned to another residential district (78%). Figure 3.5 shows all rezoning proposals since 2000.

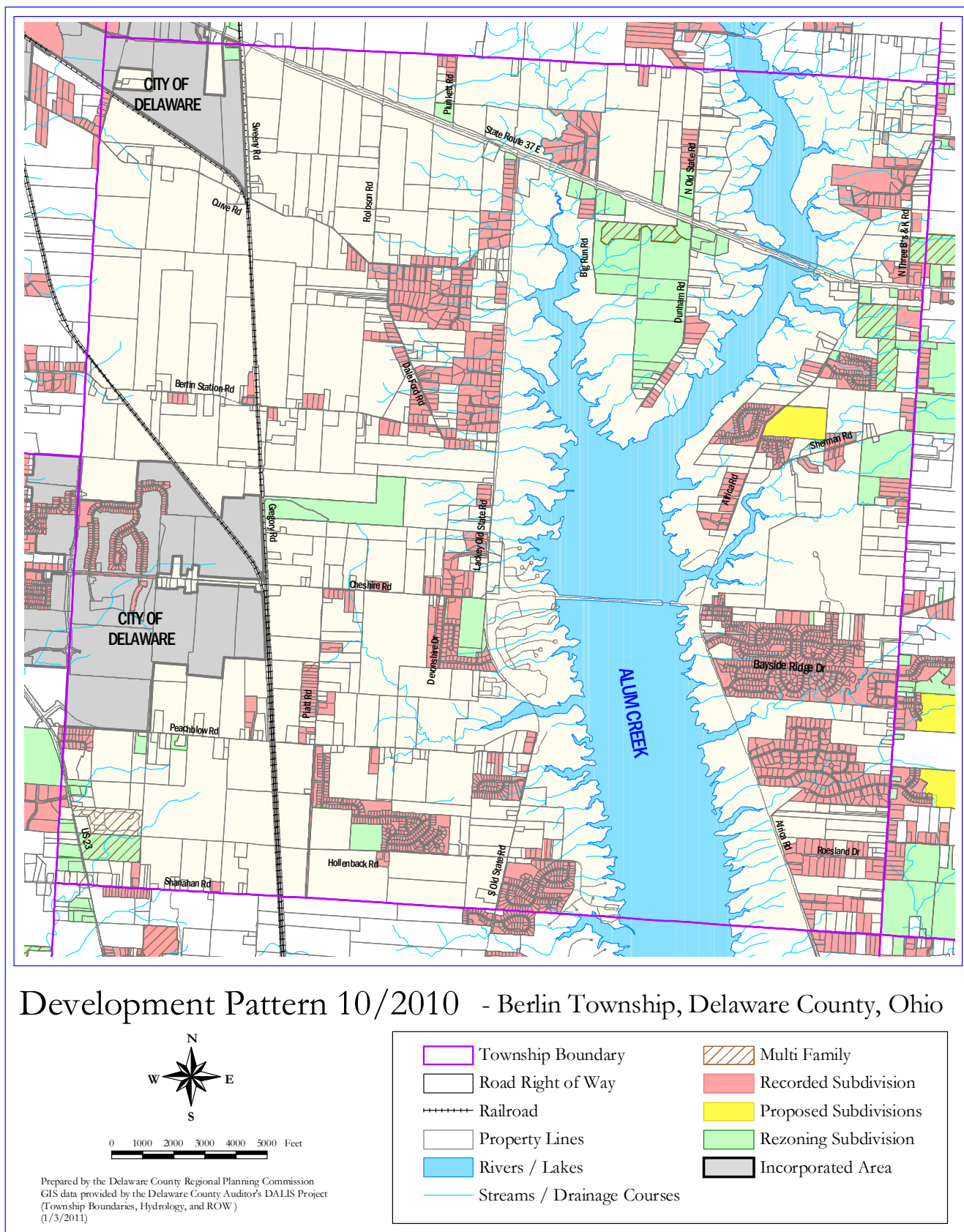
Figure 3.5 Rezoning Proposals in Berlin Township (All lots since 2000)

Date	Applicant	Type	Acreage	From	To	Single Family Lots	Multi-Family Units	Township Status
12/28/2000	Charles Day & Bradley Walker	C	8.22	FR-1	PCD			Approved
6/28/2001	JD Partnership T&R Properties	R	40.60	FR-1	PRD	68		Approved
6/28/2001	T&R Properties Ron Sabatino	R	61.36	FR-1	PRD	117		Approved
1/31/2002	Schumacher Homes	C	3.67	PCD	PCD			Approved
9/26/2002	Alum Creek Storage	C	19.07	PCD	PCD			Approved
12/19/2002	Humane Society of Delaware	C	6.43	NCD	PCD			Approved
3/27/2003	New Era Homes	C	1.13	PCD	PCD			Withdrawn
5/29/2003	M/I Shottenstein	R	51.31	FR-1	R-2	79		Approved
7/30/2003	Archie Foor Jr.	C	7.50	FR-1	PCD			Approved
4/29/2004	James Property/Ron Sabatino	R	40.71	FR-1	PRD	34		Approved
5/27/2004	Peter Hill	C	10.69	PCD	PCD			Approved
7/29/2004	Land Five Ltd	C	1.87	NCD	PCD			Approved
8/26/2004	The Keethler Company	R	66.43	FR-1	PRD	56		Approved
10/28/2004	American Heritage Homes	C	2.99	NCD	PCD			Approved
3/31/2005	Frank Biancone & Land Five Ltd.	MR	55.89	FR-1/NCD	PCD		188	Approved
4/28/2005	Fox Haven Farms Ltd.	C	21.66	FR-1/NCD	PCD			Approved
4/28/2005	Fox Haven Farms Ltd.	MR	26.86	FR-1	PCD		120	Approved
4/28/2005	Fox Haven Farms Ltd.	R	222.07	FR-1	R-2/PRD	245		Approved
10/27/2005	Delaware Route 23 Dev. LLC	C	3.17	FR-1	PID			Approved
11/17/2005	James Dietz, Trustee	C/MR	37.12	FR-1	PCD		80	Approved
2/23/2006	Crownover Farms Ltd.	SR	87.82	FR-1	R-2/PRD	94		Withdrawn
4/26/2006	Nancy Zaiser	C	0.56	NCD	OCPUD			Approved
4/26/2006	Wayne Homes	C	2.10	PCD	PCD			Approved
5/25/2006	Mark Joseph Ciminello	MR	9.49	FR-1	PCD		27	Approved
4/26/2007	Dominion Homes	SR	89.40	FR-1	R-2/PRD	65		Approved
2/28/2008	P&D Builders	C	3.51	PCD	PCD			Approved
5/29/2008	Byers Realty Inc.	C	5.64	FR-1/PCD	PID			Approved
5/29/2008	John Stambaugh	C	5.37	FR-1	PID			Approved
Totals						758	415	

(Source: DCRPC, May 2008) For Type, C=Commercial, R=Residential, MR=Multi-family Residential; Township Status reflects approval at the time of the original zoning change.

The Development Pattern Map on the following page (Figure 3.6) indicates zoning activity (green), active subdivision cases (yellow) and platted subdivisions (red). The color indicates the most recent activity as of the date of its printing. In other words, a rezoning case for which a preliminary subdivision or sketch plan has been filed appears in yellow. When that subdivision is platted, it appears in red.

Figure 3.6 Development Pattern Map



Regional Development Activity

To understand future growth pressures for Berlin Township, the recent development pressures of the region must also be considered.

Subdivision lots follow a process that includes an informal sketch plan review, preliminary plan review, final plat review and approval and finally, recording. Developers often pause in the platting process, based on market demand or development and engineering issues. The DCRPC continually tracks the progress of subdivisions. Figure 3.7 demonstrates the status of each lot reviewed by DCRPC.

Figure 3.7 Total Number of Available Lots and Multi-Family Units in Delaware County Townships Combined, end of 2008:

Cumulative Statistics of Rezoning and Subdivision Lots "In the Pipeline"

Active Proposals Approved by RPC and Townships

Total Number of Available Lots and Housing Units Not Yet Having Received Building Permits

TOWNSHIP	*TOTAL	SUBDIVISION PROPOSALS (1/87 - 12/08)								SINGLE FAMILY REZONING PROPOSALS (1/89 - 12/08)		*** Multi Family Housing Units without Building Permits	
		SUBDIVISION S-F LOTS								REZONING S-F LOTS			
		SUBTOTAL	RECORDED	FINAL	PREL.	OVERALL	SKETCH	EXPIRED					
				APP'D	APP'D								PREL.
												S-F LOTS	S-F LOTS
BERKSHIRE	1470	791	174	3	534	0	6	74	102		577		
BERLIN	1190	413	206	10	39	0	0	158	366		411		
BROWN	84	84	4	0	0	0	0	80	0				
CONCORD	562	493	358	0	29	0	0	106	1		68		
DELAWARE	110	110	39	0	0	0	0	71	0				
GENOA	648	444	217	4	124	0	23	76	1		203		
HARLEM	149	137	37	7	4	0	0	89	12				
KINGSTON	1030	314	6	0	243	0	0	65	716				
LIBERTY	1644	818	312	0	311	0	18	177	15		811		
MARLBORO	5	5	0	0	0	0	0	5	0				
ORANGE	2046	929	420	33	395	0	10	71	168		949		
OXFORD	29	29	1	0	0	0	0	28	0				
PORTER	20	20	3	0	0	0	8	9	0				
RADNOR	16	16	4	0	0	0	0	12	0				
SCIOTO	114	114	14	0	75	0	0	25	0				
THOMPSON	2	2	2	0	0	0	0	0	0				
TRENTON	267	262	34	6	135	0	6	81	5				
TROY	33	33	4	0	0	0	0	29	0				
TOTAL	9,419	5,014	1,835	63	1,889	-	71	1,156	1,386	-	3,019		
NOTE*: TOTAL AVAILABLE S-F LOTS AND M-F H-UNITS FOR SUBDIVISION AND REZONING PROPOSALS.													
NOTE**: TOTAL APPROVED REZONED LOT, NOT YET SUBDIVIDED													
NOTE***: FIGURES ONLY COUNT THE HOUSING UNITS WITHOUT BUILDING PERMITS FOR THE SUBDIVISIONS (RECORDED & PROPOSED) AND REZONING PROPOSALS.													

Totals are not the sum of all categories, since there can be zonings that are also expired subdivisions.

(Source: DCRPC, December 2008)

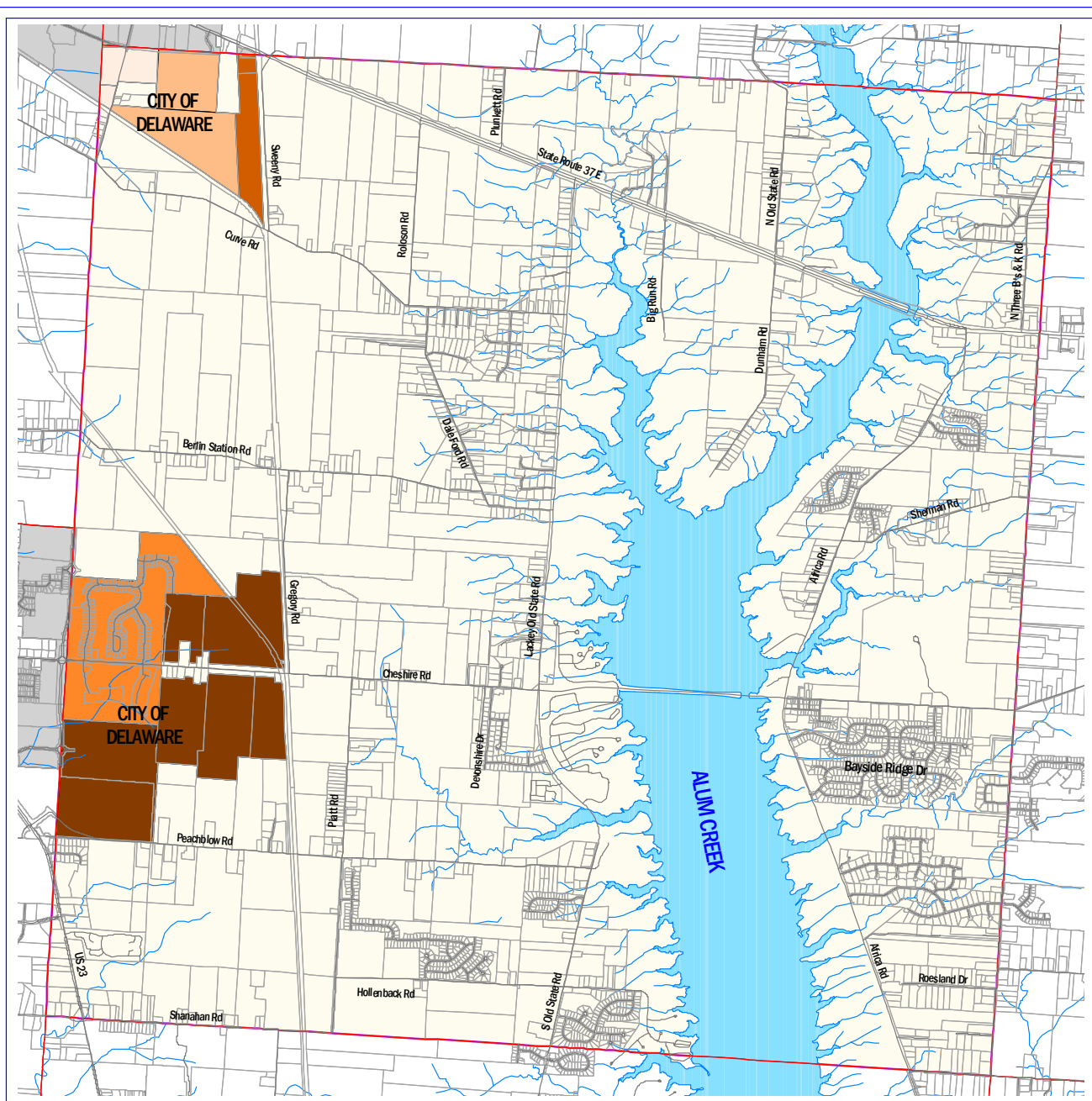
This table indicates that 9,419 lots were in the platting "pipeline" at the end of 2008. Berlin Township has 1,190 such lots. This means that these lots are somewhere in the development process and have a strong likelihood of being completed in the next few years. Based on the average number of building permits that have been issued in Delaware County over the past ten years (1,548/year) these lots in the "pipeline" represent 6 years of supply for development.

There are some observed trends that merit concern for the townships in Delaware County. Significant zoning and subdivision activity has led to a buildup of supply in subdivision lots available for development. A three-year supply is considered normal. Based on a ten-year average of 102 building permits per year, Berlin Township has an eleven-year supply. If the 158 expired lots are eliminated from consideration, there would be a 10.14 year supply. It's also important to keep in mind the true status of some of the projects in the "zoning" category such as the Keethler site, the Ciminello condos and the Fox Haven single- and multi-family developments. Those developments represent over 400 units that might not happen or might be reworked before subdivision and development actually occur. At any rate, however, the comprehensive plan needs to address how this growth can best be managed.

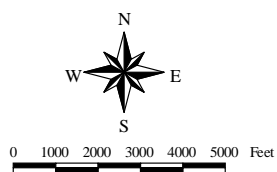
Annexation

Berlin Township exists as a legal entity of the state, without home rule authority. It has limited powers. Townships defend their territory from annexation if they can, but cannot be certain of their future township boundaries. Annexation usually occurs when a city can provide services that are not available in the township. However, in some cases the battle is over the proposed density of development. Figure 3.8 shows the areas of Berlin Township that have been annexed to the city of Delaware. Since 2000, the township has lost 941.82 acres to annexation.

Figure 3.8 Annexation Map



Annexation Map - Berlin Township, Delaware County, Ohio



Prepared by the Delaware County Regional Planning Commission
GIS data provided by the Delaware County Auditor's DALIS Project
(Township Boundaries, Hydrology, and ROW)
(1/3/2011)

 Township Boundary	Annexation by Year	 Incorporated Areas
 Road Right of Way	 1991 (42.79 acres)	
 Property Lines	 1996 (164.42 acres)	
 Rivers / Lakes	 2003 (309.66 acres)	
 Streams / Drainage Courses	 2004 (61.22 acres)	
	 2006 (570.94 acres)	

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CHAPTER 4

Community Vision and Priorities

To be reflective of the values and goals of a community, the comprehensive plan must be representative. On April 28, 1999, the residents and Zoning Commission noted that the essence of Berlin Township is:

1. Open spaces
2. Rural feel as characterized by:
 - Agriculture and preservation of agricultural buildings when agriculture is gone.
 - Green Space between developments.
 - Preserved ravines, jurisdictional wetlands, slopes greater than 20%, trees, and fence lines.
 - Access to Alum Creek State Park.
 - Large lots.
 - Mature trees on scenic roads; rough road edge, farm fences, split rail.
 - Large agricultural areas, retention of open space along roads to remind of the former agricultural land.
 - Wildlife corridors maintained.
 - Parks/green areas, established in neighborhoods to replace farms that disappear.
 - Greenbelts/bike paths which tie together neighborhoods, perhaps using drainage way or utility corridors.
3. Planned developments with a mix of land uses (residential, commercial, industrial, institutional) for a balanced tax base.
4. Low level lighting, downward cast for commercial uses.
5. Effective landscape buffers between commercial and residential uses.
6. Diverse housing types.
7. Ideally, to be less auto dependent, by designing connecting paths between developments.
8. Moderate traffic.



During the process that led to the 1999 plan, the Steering Committee formulated a set of “likes” or strengths and “dislikes” or weaknesses about the township. For the 2010 updated plan, the current Zoning Commission was asked to assign a ranking for each item based on whether the respondent thought that item was still relevant and to what extent. While not intended to be a scientific survey, the results are intended to generally honor the goals of the 1999 plan while updating them to meet the needs of today. A chart detailing the strengths/weaknesses identified by the commission can be found in Appendix B. The results, which are summarized below, are not intended to be all inclusive or ranked by relevance, but merely a summary of findings.

Strengths

- Open green areas and natural resources including Alum Creek Park with fresh air, wildlife, recreation, and a rural agricultural atmosphere lacking excessive development with a small town feeling.
- The ideal location allows for a non-transient, diverse community of low-density housing with appreciating property values, large lot sizes, good utilities, and commercial development in well-defined areas.
- Other attributes include the low crime rate and quality schools.

Weaknesses

- More industrial/commercial development is needed to stabilize the tax base and moderate the high taxes.
- Lack of central focus or town center as well as a lack of and little variety of shopping, entertainment, and jobs.
- Signs of rapid growth including growth of schools, undesirable development, and excessive land ownership by developers.
- Issues with utilities including not enough utilities where needed and overhead power lines as well as public safety concerns (traffic control, need for full-time fire department) and potential pollution concerns (noise and light pollution).

Vision Statement

When Berlin Township is built out, we would like to be a community with a rural feel and character. Rural roads would have a rough edge, with fencing that reminds us of the rural past, and mature landscaping to replace fence/tree rows that are removed. We would like areas with low-density, large lots, as well as areas with greater density and diversity of housing.

We would like planned, commercial and industrial uses, with attractive landscaping in commercial corridors and at entrances to neighborhoods. We would like useable green spaces throughout the community. We would like to retain historic and agricultural structures that give a sense of our heritage. We would like to preserve unique scenic views and our critical natural resources such as ravines, floodplains, wetlands, and forests.

We would like to see a center of the township, perhaps at Historic Village of Cheshire, where a traditional village with neighborhood shops would be an attractive destination. We would like to retain the small town feel in the human scale of structures, the use of natural materials and traditional structural colors. Roads should remain as narrow as possible, but safely carry the traffic.

Goals

Similar to the process used to evaluate the Strengths and Weaknesses as discussed above, the 2010 Zoning Commission ranked the 1999 Goals. A complete and detailed listing of the goals and assigned rankings may be referenced in Appendix B. Based on the results, which are summarized and combined below in no particular order, all previous goals appear to be applicable today.

- To preserve the rural, scenic character of Berlin Township through preservation of natural resources, open spaces, agriculture, and low density, single-family, diverse housing. This includes maintaining wildlife corridors, preserving rural look along township roads, and dense landscape buffering between incompatible uses.
- Create a heart of the township at Historic Village of Cheshire with mixed uses.
- Promote passive/active recreational activities including linking developments with green spaces and paths.
- To encourage commercial and light industrial development in planned districts to broaden jobs and tax base while limiting land use and density to suitability, utility availability, and carrying capacity of land infrastructure.
- Determine and implement an appropriate land use mix while discouraging overdevelopment or pre-mature development and maintaining services needed for predominantly rural/low density communities and management controls to limit key access points to minimize highway congestion.
- To implement and maintain the land use plan and enforce zoning regulations.

- To expand township services at a rate to ensure public health and safety.
- To acquire suitable land for the township and school future needs.

In addition to ranking the Goals above, members of the Zoning Commission were encouraged to name other ideas that could be discussed as new Goals. Those comments included:

- Create a Berlin Township Parks Board;
- Fair signage rules for the community;
- Trails to areas like adjoining township trails, Alum Creek, new Delaware shopping plaza, schools, recreation;
- Actively pursue the types of industry that would decrease the tax burden to residents;
- Township enforcement of zoning violation to ensure neighborhoods remain clutter free;
- Increase commercial areas especially on 36/37 (need sewer);
- Continue to work to preserve and protect township boundaries from annexation;
- Require developers to donate land for recreational areas (example: Mariner's Watch has a great deal of open space, and it's all passive and unused).

Finally, the township distributed surveys to all township residents. A total of 100 responses were received. The following is a summary of the **land use related** sentiments and is not intended to be all inclusive or exhaustive. The complete survey results are included in Appendix B.

- Zoning should be utilized to prevent annexation.
- Keep large lot sizes and preserve the right mix of housing density by utilizing zoning restrictions and controlling growth to minimize impact on schools.
- Develop more recreational opportunities such as a recreational center with a pool, library, paths/parks for family use, sports fields, playgrounds (perhaps in the Historic Village of Cheshire area to create a town center), bike trails. More green space is needed.
- Update the home occupation regulations and signage standards to promote businesses.
- Encourage retail centers and commercial use in appropriate areas as well as affordable housing.
- Ensure farmland preservation and maintenance of a local food source
- Work towards extension of sewer services
- Address high tax issues.

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CHAPTER 5

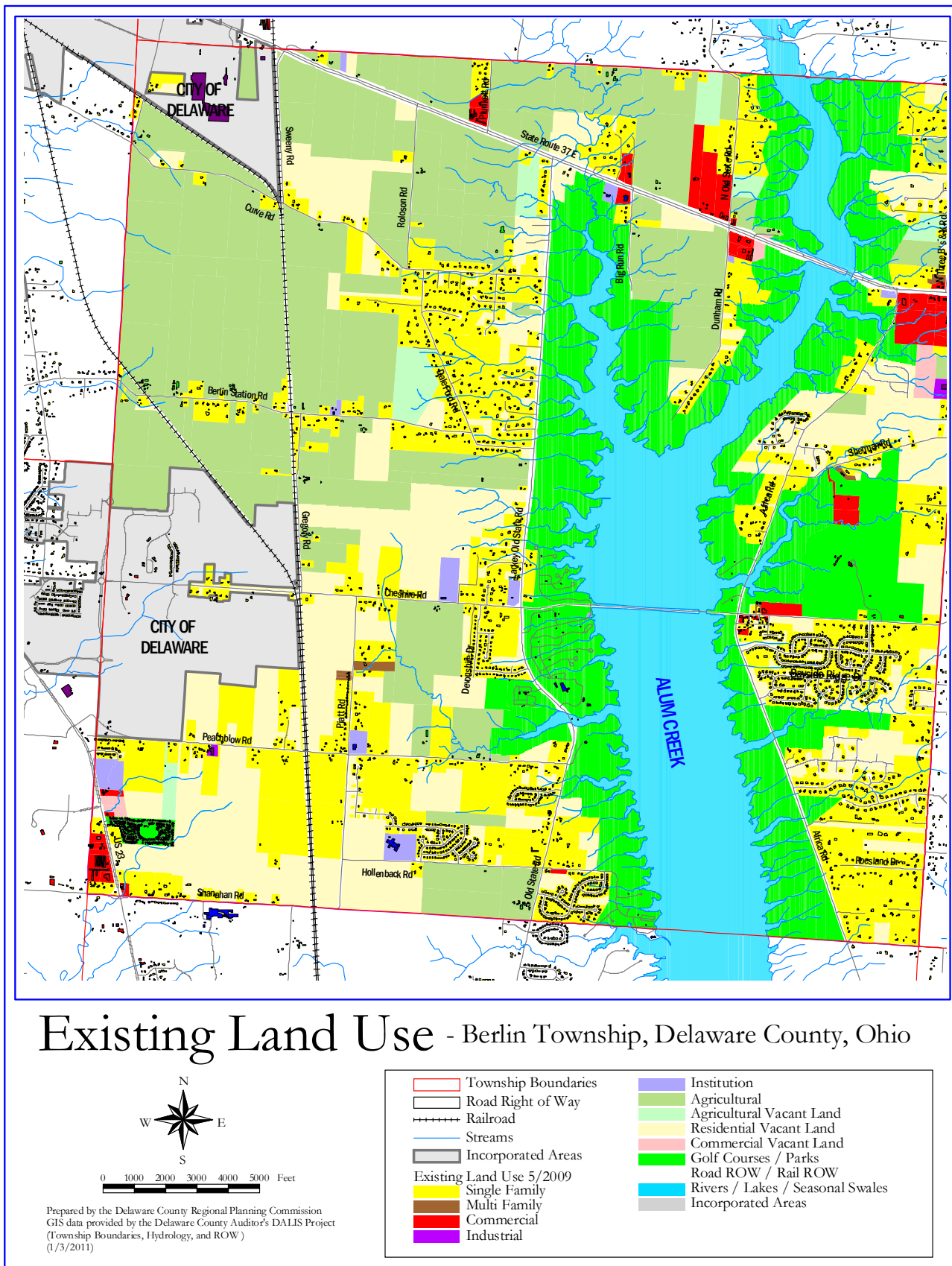
Existing Land Use

The County Auditor maintains an existing land use determination for each parcel, to be used for formulating the tax formula for each lot. Figure 5.1 uses the Auditor's land use classification and generates an overall acreage using the DALIS system. The same information was used to create the map in Figure 5.2. This map does not account for uses created after the last assessment, so it could be up to one year out of date. It also does not specify the type of commercial use, nor does it reflect the zoning classification that may be applied to a parcel.

Figure 5.1 Comparison of Existing Land Use Acreage 1999-2009

	1999		2009	
Land Use Type				
Agriculture	7,647.74	45.66%	3,756.25	22.43%
Total Residential	1,923.98	11.49%	3,276.57	19.56%
Single Family	1,885.85	11.26%	3,257.38	19.45%
Multi-family	38.12	.23%	19.18	.11%
Total Comm. & Industrial	210.19	1.25%	253.86	1.52%
Commercial	207.84	1.24%	242.13	1.45%
Industrial	2.35	.01%	11.73	.07%
Institution	97.14	.58%	121.55	.73%
Rivers/Lakes/Seasonal Swales	2,103.00	12.56%	2,099.00	12.53%
Highway/Rail/Right-of-Way	601.25	3.59%	685.40	4.09%
Golf/Parks	2,977.13	17.77%	2,801.90	16.73%
Agricultural Vacant Land	200.66	1.20%	156.73	.94%
Residential Vacant Land	731.20	4.37%	2,394.41	14.30%
Industrial Vacant Land	9.38	.06%	0	0
Commercial Vacant	41.83	.25%	54.92	.33%
Incorporated Areas	205.54	1.23%	1,148.45	6.86%
Total Acreage	16,749.04	100%	16,749.04	100%
(Total Township)	16,543.50		15,600.59	

Figure 5.2 Existing Land Use 2009, Berlin Twp., Delaware County, Ohio



Findings - The Existing Land Use Map, May, 2009

1. 1,353 acres of new residential acreage has been developed since 1999, with another 2,394.41 designated as “residential”, but not developed. Single family residential development on both large lots (1 acre or larger) and in subdivisions of new streets with lots of approximately one half acre are the predominant new uses.
2. Land in roads increased from 1999 to 2009 by 84 acres.
3. There are now 254 acres in commercial and industrial development.
4. Agriculture has dropped from almost 46% of the overall land use to less than 23%.
5. As reviewed in a previous chapter, annexed land grew by 943 acres since 1999.

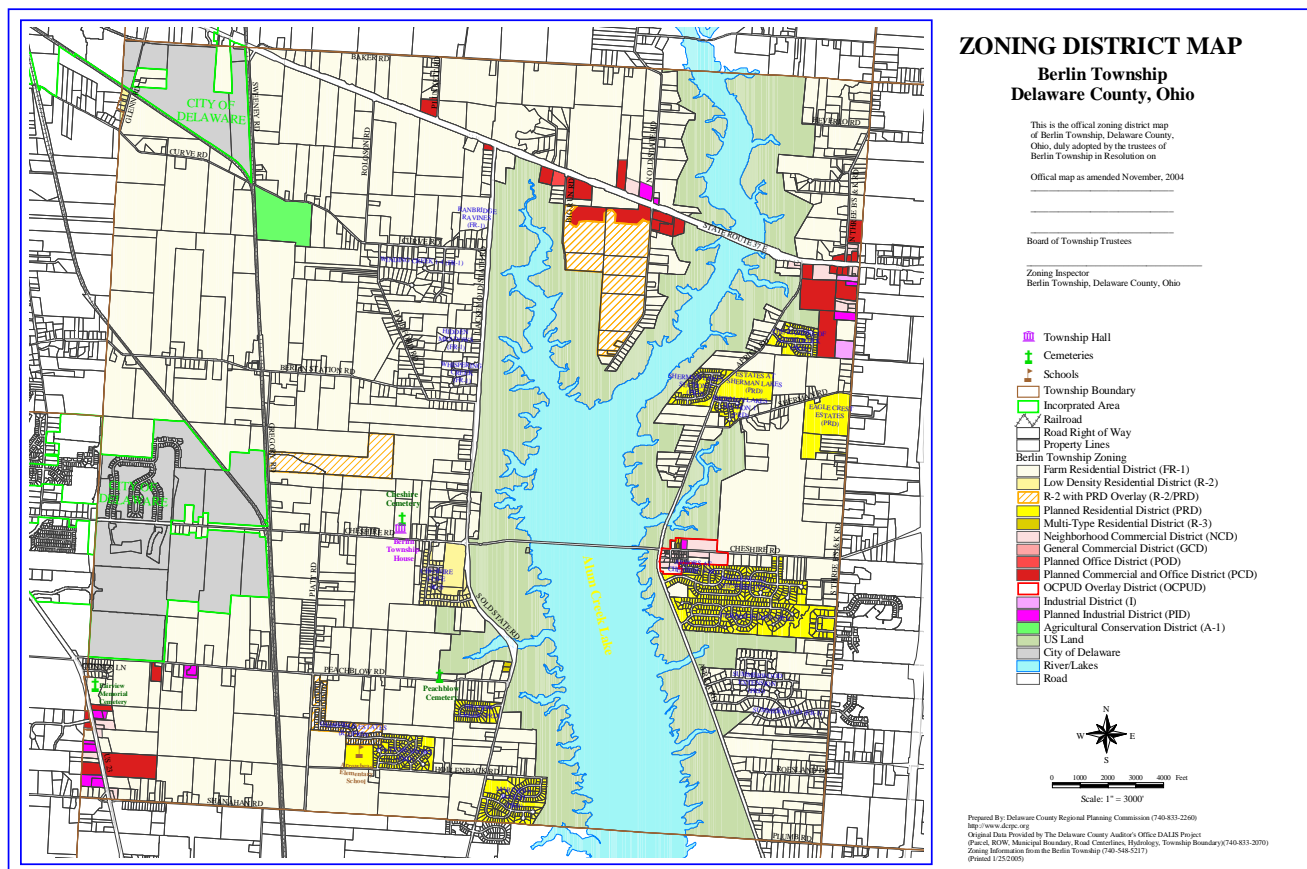
Zoning Map

Zoning represents the township’s codified and approved land use. When the zoning categories are calculated, it represents the total amount of land that has been approved for each use. The number may not correspond with how each property is currently used or taxed. Figure 5.3 shows the amount of acreage in each zoning district and Figure 5.4 shows the current zoning map (as of the date this chapter was originally presented).

Figure 5.3 Total Acreage within Each Zoning District

Zoning District	Acreage	% of Total
Farm Residential District (FR-1)	9,101.34	54.33%
Low Density Residential District (R-2)	74.81	.45%
R-2 with PRD overlay	348.77	2.08%
Planned Residential District (PRD)	589.67	3.52%
Multi-Type Residential District (R-3)	4.13	.02%
Neighborhood Commercial District (NCD)	75.78	.45%
Planned Office District (POD)	5.04	.03%
Planned Commercial and Office District (PCD)	233.00	1.39%
Industrial District (I)	13.27	.08%
Planned Industrial District (PID)	36.64	.22%
Agricultural Conservation District (A-1)	74.09	.44%
Alum Creek State Park (Zoning Not Applicable)	1,288.24	7.72%
City of Delaware (Zoning Not Applicable)	1,147.53	6.85%
Road ROW/Rail ROW (Zoning Not Applicable)	580.46	3.47%
Lakes/River (Zoning Not Applicable)	1,933.71	11.54%
Total Acreage	16,750.62	100%

Figure 5.4 Current Zoning Map



CHAPTER 6

Natural Resources and Conservation



Alum Creek Reservoir, just south of U.S. 36/SR 37

Berlin Township has rugged ravines, creeks, and Alum Creek. It has floodplains, wetlands, woods, and abundant wildlife. It has farmlands with good agricultural soils. These are principal reasons people have expressed why they moved to Berlin Township.

Berlin Township has natural beauty in its natural resources. If these resources are not conserved and protected, then the vision of the township to preserve its rural character and its natural resources will not be achieved and the principal attribute of the township will be destroyed. This chapter will identify the extent of the natural resources in Berlin Township.

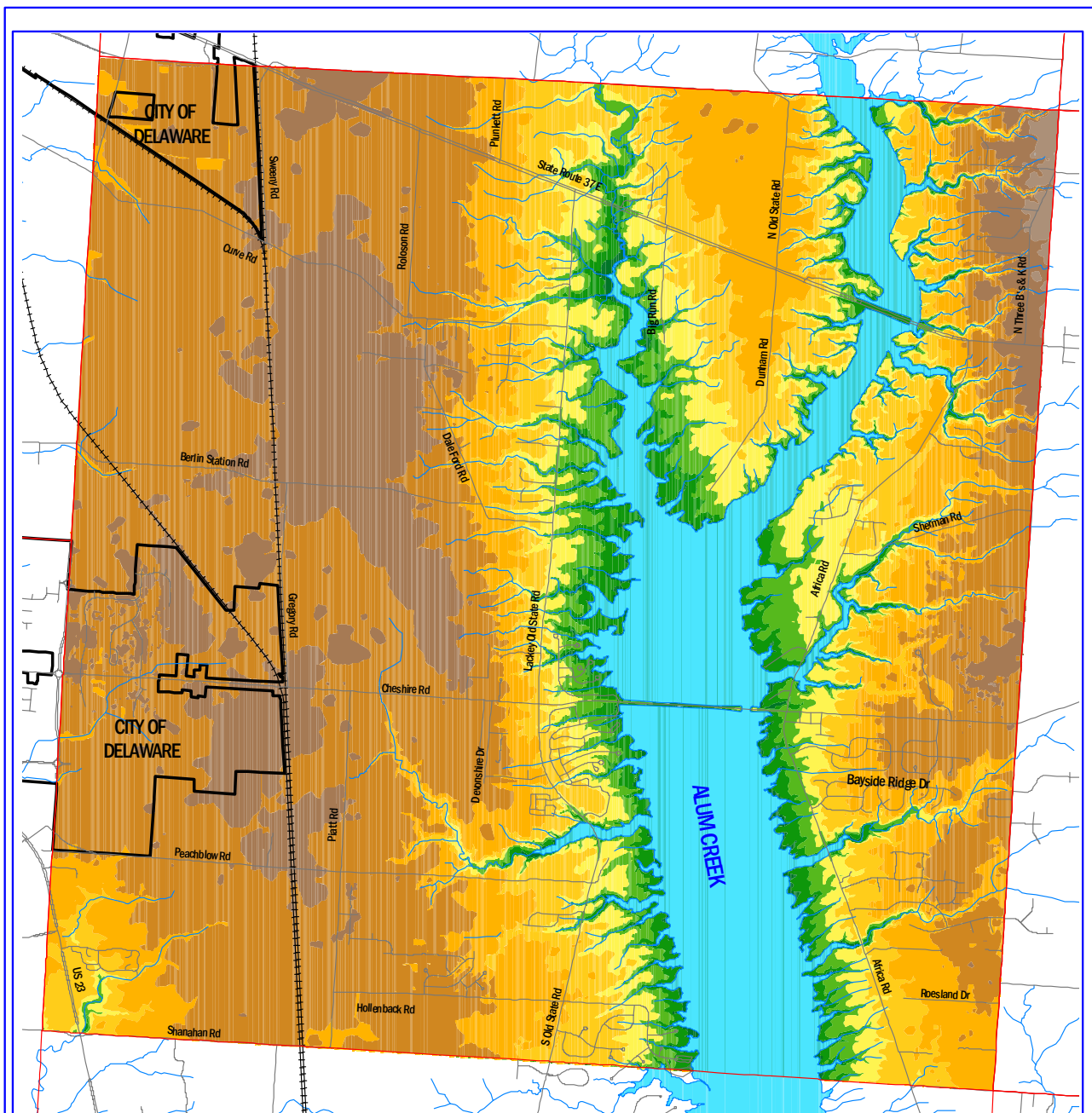
Elevation (Topography using DALIS contours)

Berlin Township has relatively mild differences in elevations and slopes. The elevation map indicates a 90-foot difference in elevation from the highest point off 3 B's & K Road north of Cheshire to Alum Creek Lake. See Figure 6.1 for the Elevation Map.

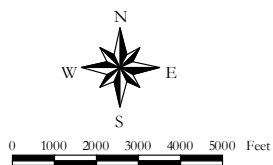
Slopes Greater than 20%

The township set a goal to preserve ravines, and slopes greater than 20% for open space when the township develops. The steep slope map indicates slopes over 20%. Generally, roads do not exceed 10% slope, and houses with walkout basements can typically be built on slopes up to 20%, or slightly greater. See Figure 6.2 for the Slopes Greater than 20% Map.

Figure 6.1 Elevation Map, Berlin Township, Delaware County, Ohio



Digital Elevation - Berlin Township, Delaware County, Ohio



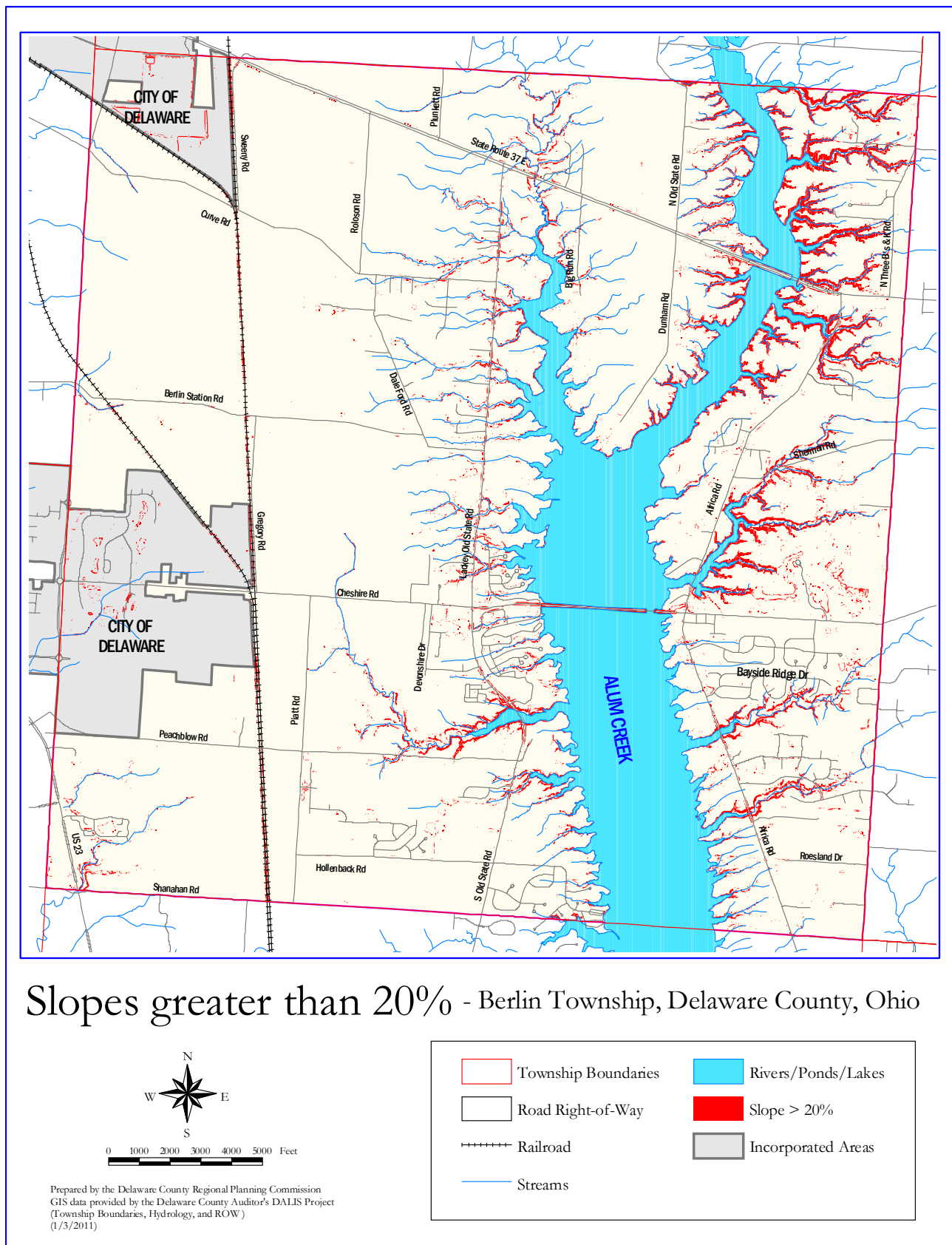
Prepared by the Delaware County Regional Planning Commission
GIS data provided by the Delaware County Auditor's DALIS Project
(Township Boundaries, Hydrology, and ROW)
(1/3/2011)

- Township Boundaries
- Road Centerlines
- Railroad
- Streams
- Rivers/Ponds/Lakes
- Incorporated Areas

Digital Elevation (by 10 ft)
 880 ft - 890 ft
 890 ft - 900 ft

- 900 ft - 910 ft
- 910 ft - 920 ft
- 920 ft - 930 ft
- 930 ft - 940 ft
- 940 ft - 950 ft
- 950 ft - 960 ft
- 960 ft - 970 ft
- 970 ft - 980 ft

Figure 6.2 Slope Map, Berlin Township, Delaware County, Ohio



Floodplains, Bodies of Water

Most of the floodplain in Berlin Township is on lands preserved by the United States around Alum Creek Lake. The National Flood Insurance Program discourages development in the 100-year floodplain and prohibits development in the 100-year floodway. These areas are mapped in fine detail by the U.S. Army Corps of Engineers for the Federal Emergency Management Agency (FEMA). For specific information see the FEMA maps at the Delaware County Code Compliance, 50 Channing Street, Delaware Ohio 43015, ph. (740-833-2200).

Floodplains perform many critical functions in their undisturbed state (adapted from *Protecting Floodplain Resources, A Guidebook for Communities*, Federal Interagency Floodplain Management Task Force and FEMA, June 1996):

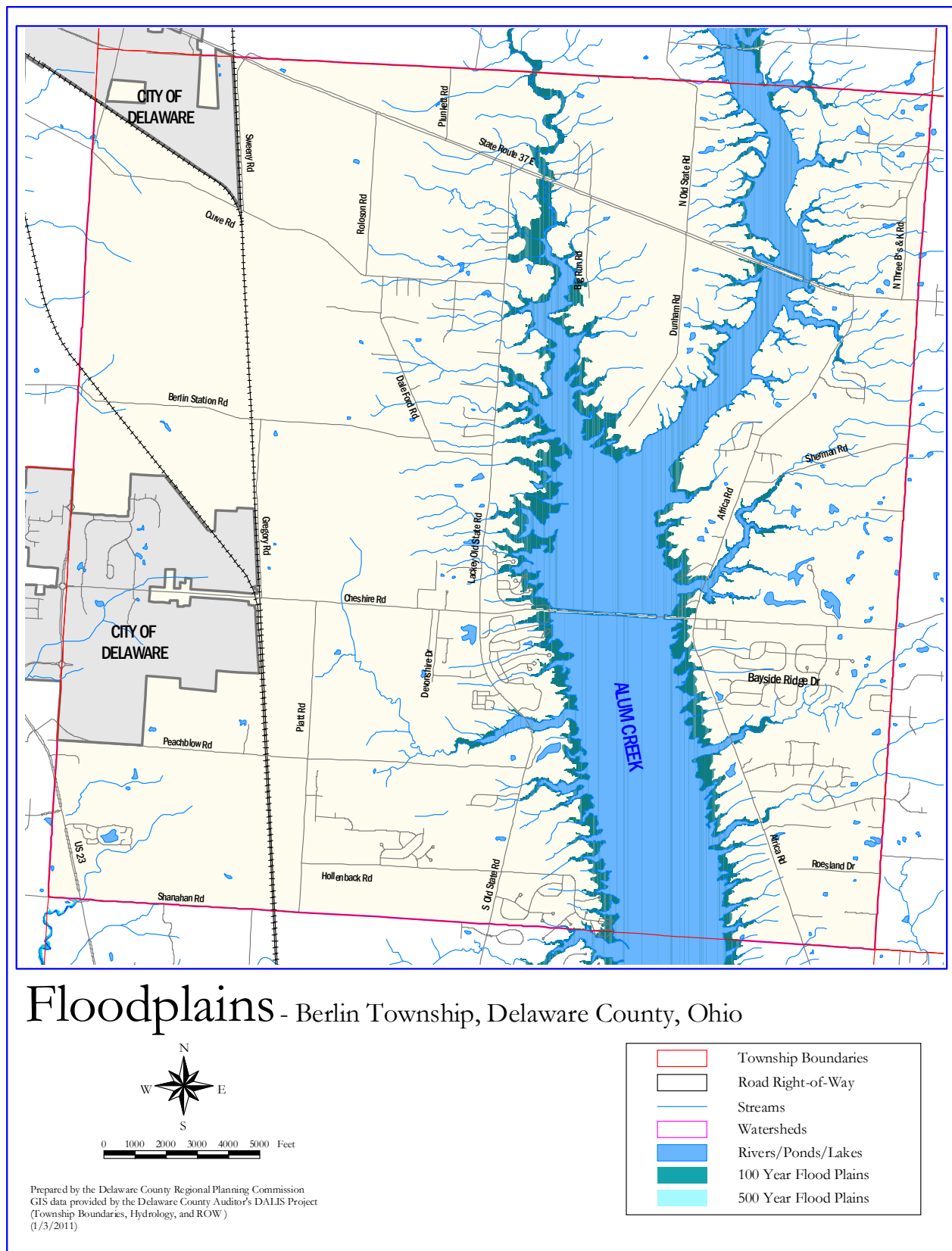
Water Resources	Biological Resources	Societal Resources
<ul style="list-style-type: none">• Natural flood and erosion control- Provide flood storage and conveyance; Reduce flood velocities; Reduce peak flows; and Reduce sedimentation;• Water Quality Maintenance - Filter nutrients and impurities from runoff; Process organic wastes; Moderate temperature fluctuations;• Groundwater Recharge; Reduce frequency and duration of low surface flows.	<ul style="list-style-type: none">• Biological Productivity - Rich, alluvial soils promote vegetative growth; Maintain bio-diversity; Maintain integrity of ecosystems;• Fish and Wildlife Habitats - Provide breeding and feeding grounds; Create and enhance waterfowl habitat; Protect habitats for rare and endangered species.	<ul style="list-style-type: none">• Harvest of Wild and Cultivated Products; Enhance agricultural lands; Provides sites for aquaculture; Restore and enhance forest lands;• Recreational Opportunities - Provide areas for passive and active uses; Provide open space; Provide aesthetic pleasure;• Areas for Scientific Study and Outdoor Education - Contain cultural resources (historic and archeological sites); Provide opportunities for environmental and other studies.

For all these reasons, the 100-year floodplain in Berlin Township should be protected. Some counties have large, meandering, flat floodplains comprising a great deal of the undeveloped land of the county. In an urban county, where such land is precious, it is understandable but not advisable that some conversion to urban uses based on fill or elevated pilings may occur. In Delaware County, floodplains are fairly narrow. They comprise a very small portion of the land area (less than 1%), and they occur on four major rivers, all of which are drinking water sources and recreational rivers and reservoirs.

FEMA revised the Delaware County floodplain maps in April, 2009. Floodplain elevations in some areas have risen for the 100-year flood as a result of suburban development. With floodplains rising as a result of development in Delaware County, it is inappropriate to permit residential development in the 100-year floodplain.

In Figure 6.3, Sub Watershed information has also been added. Watersheds represent the direction of flow from groundwater to stream. Developers are generally required to limit surface drainage alteration such that post-development drainage discharges into the same watershed as it did before the site was developed.

Figure 6.3 Floodplain Map with Watersheds, Berlin Township, Delaware County, Ohio



Wetlands

Wetlands are generally defined as soils that support a predominance of wetland (hydrophytic) vegetation, and/or are under water at least two weeks per year. The more specific definition to wetlands under the jurisdiction of the U.S. Army Corps of Engineers is found in the Corps of Engineers' *Wetlands Delineation Manual Technical Report Y-87-1*, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

Jurisdictional wetlands are regulated by the Clean Water Act of 1972, Section 404. They consist of:

- hydric soils,
- hydrophytic vegetation,
- wetland hydrology (this means they support more than 50% wetland vegetation, are poorly drained, and are periodically inundated or saturated).

Jurisdictional wetlands serve many of the same functions as floodplains, and deserve to be protected for the same reasons. Berlin Township's wetlands are mostly tilled agricultural fields which, if tilled before 1985, are exempt from regulation unless they revert back to their natural state. Wetlands can be enhanced to be an attractive and functional part of the storm water detention system in developments. They work better than man-made basins, since their wetland vegetation serves to trap, filter and break down surface runoff pollutants.

The Floodplains and Critical Resources maps show the location of potential wetlands from OCAP satellite imaging. These locations are raster data, meaning they have square edges in their computer images. They should not be too closely relied upon, but may indicate the locations of potential jurisdictional wetlands. A more detailed map of the National Wetlands Inventory, United States Department of the Interior, Classification of Wetlands and Deepwater Habitats of the United States (U.S. Fish and Wildlife Service, OBS, December 1979) is available at the Delaware County Soil and Water District. Wetlands can be seen on the Combined Critical Resource Map.

Prime Agricultural Soils

Soils suited to high agricultural yields are located in the center of the township. From an economic standpoint, the land value for development will continue to gradually exceed its potential for agriculture in Berlin Township. When that happens it is unlikely that large-scale agriculture will be sustained.

It is the agricultural flavor to the township that makes it so desirable. Therefore, if there are proposals to use creative zoning and development techniques to use agriculture as open space, those areas with the highest yield soils might be given the most favorable consideration.

The U.S. Department of Agriculture has a ranking system, Land Evaluation Site Assessment (LESA) for such lands. The LESA system should be considered as a tool to evaluate the potential for sustained agriculture in Berlin Township.

The township's vision to sustain agriculture should be reviewed every five years. No vision can clearly see farther than that horizon with regard to future utility extensions, or the farmer's ability to continue to farm.

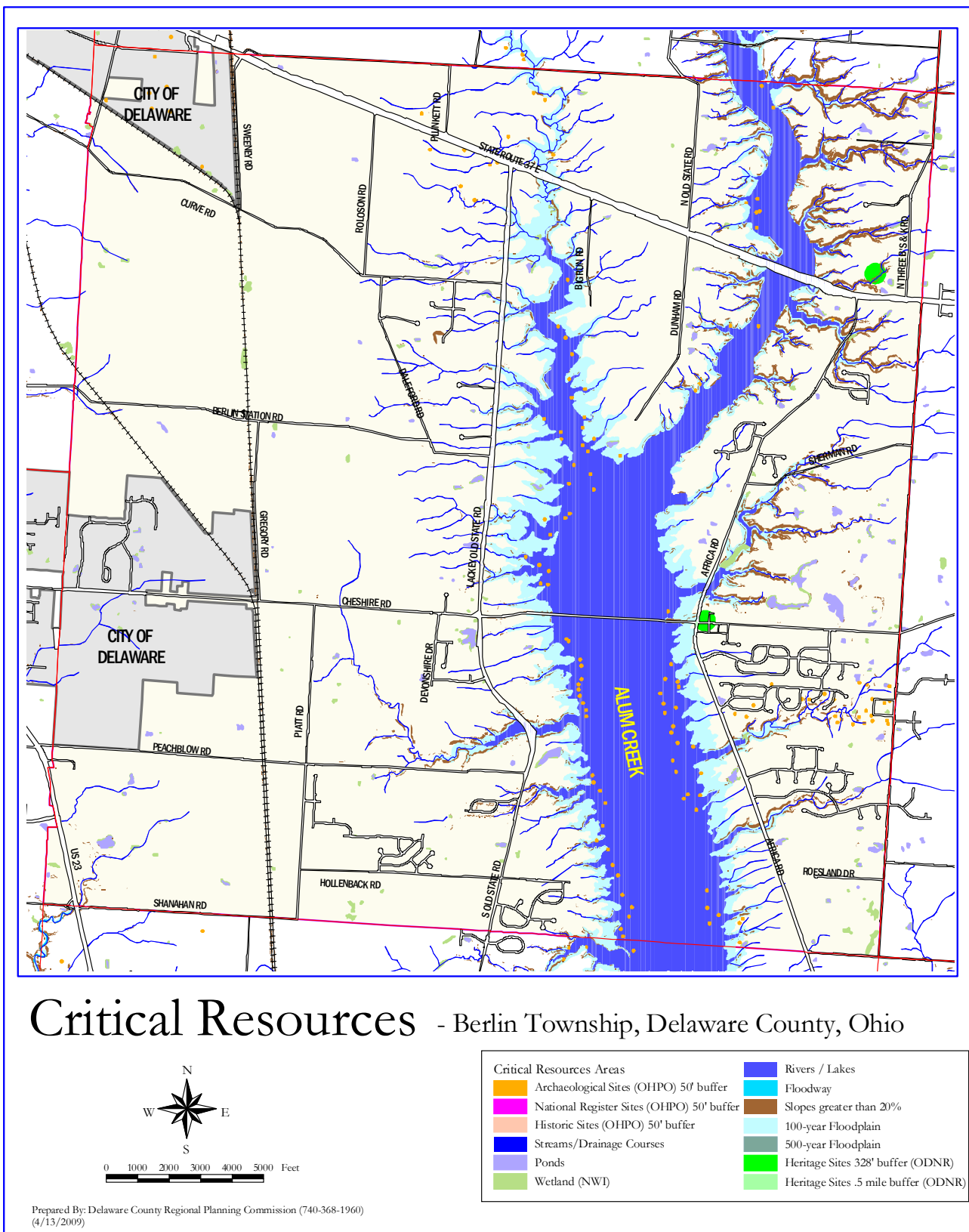
Soil suitability for septic systems

Very generally speaking, the soils that are the best for agriculture tend to be the worst for on-site, soil-based waste treatment options. County centralized sanitary sewer service is not immediately available to the entire township, but such service is planned for all but the northeastern corner of the township. Therefore, it is useful to evaluate the soil capability for septic systems. Land with very poor suitability for septic systems should await centralized sanitary sewer, or use alternative sewage disposal systems.

Combined Critical Resources

The combined Critical Resources map, Figure 6.4, displays generalized floodplains, water, wetlands, prime agricultural soils and 100 foot suggested setbacks from major watercourses. Since it is a goal to preserve the natural resources of the township, this map should be used as a generalized evaluation tool.

Figure 6.4 Combined Critical Resources, Berlin Township, Delaware County, Ohio



Development or Harvesting of Natural Resources

There are no known deposits of natural resources in Berlin Township that would be mined commercially (i.e. minerals, stone, gravel, oil, gas). 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.

The township should develop a policy that permits the development of valuable natural resources, either as specific zoning district, or as a conditional use if certain performance standards (noise prevention, dust control, buffering and screening, appropriate access, hours of operation, etc). Mining operations should not be permitted within the 100-year floodway, and should only be permitted within the 100-year floodplain with strict environmental controls to prevent water pollution, flotation of equipment and other related hazards.

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CHAPTER 7

Housing

Housing has been the primary index of growth in Berlin Township. The township is changing from a rural community with no central water or sewer, to a suburbanizing community with water service throughout, sanitary sewer service in expanding areas.



Providing a range of housing in a developing community is a complex task. The real estate market responds to what buyers want. In addition, the community zones land, which regulates the types of housing offered. Despite its overwhelming predominance of single family housing, Berlin Township has not practiced exclusionary zoning. The township's zoning provides for a variety of housing types (single-family detached, single-family attached, multi-family) without restrictive minimum house sizes. Minimum square footages for single family houses are only 1,000 square feet for one story, 800 square feet first floor for multi-story. Multi-family minimum square footages are 800, 900 and 1,000 square feet respectively for 1, 2, or 3 bedroom apartments.

As the Township updates its land use plan, consideration must be given to the appropriate timing and location of housing types.

Existing Housing Stock

A house-to-house windshield survey was conducted in June 1999. An exterior condition of each house was given based upon five criteria. At that time, it was found that 1,059 units were in either meticulous condition or in a condition that could easily be corrected by normal maintenance. This represented 92% of the housing stock at the time. Assuming most homes built in the last decade have been also well-maintained, it is unlikely that a new windshield survey would provide significantly different results. The Total Market Value of homes can also be an indicator of the quality of the township's housing stock. The map in Figure 7.1 and table in Figure 7.2 represent the value as defined by the County Auditor.

Figure 7.1 Housing Stock Coded by Total Market Value (land and building from Auditor's data)

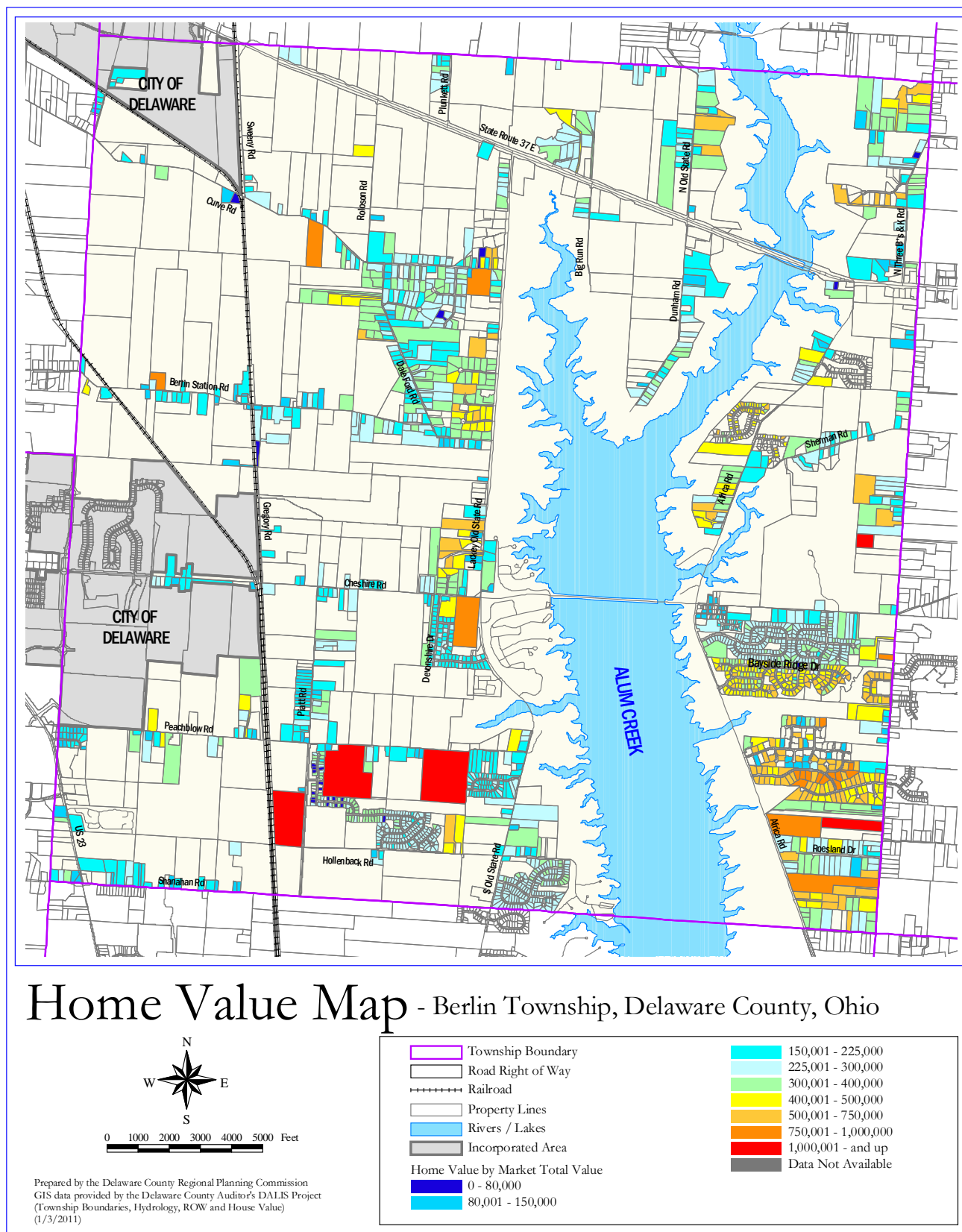


Figure 7.2 Berlin Township Single-Family Home Market Value Summary

Market Value	Units	% of total
\$0 - \$80,000	23	1.24%
\$80,001 - \$150,000	113	6.10%
\$150,001 - \$225,000	349	18.83%
\$225,001 - \$300,000	699	37.72%
\$300,001 - \$400,000	299	16.14%
\$400,001 - \$500,000	210	11.33%
\$500,001 - \$750,000	136	7.34%
\$750,001 - \$1,000,000	19	1.03%
\$1,000,001 and up	5	0.27%
TOTAL	1853	100%

Berlin Township does not have a housing condition problem. The township may someday wish to adopt a property maintenance code to assure the constant maintenance of its housing stock, so as to require a safe level of maintenance and retain property values and stable neighborhoods.

Housing Types

According to the DALIS building point data from June of 2009, the township had 1,853 single-family units and 244 multi-family units. In platted subdivisions zoned Planned Residential, there are 810 units located south of Cheshire Road. In the Sherman Road/Africa Road area, there are 183 lots recorded with 49 units built (bringing the total current PRD number to 859). There are 68 units zoned in R-2 subdivisions. In subdivisions that are zoned Farm Residential, there are 91 lots in a few small locations in the Dale-Ford Road area, 5 lots on N. 3 Bs and K Rd. and an additional 91 units in the Summerwood subdivision and its extension for a total of 187 lots. That leaves approximately 739 homes that are located along “original” township and county roads under FR-1 zoning. In short, homes in Planned Residential Neighborhoods outnumber traditional, road frontage lots. Of the multi-family units, 227 were located in the Worthington Arms manufactured home park. Other units included 10 duplexes, 6 triplexes, 2 campgrounds, 1 rental apartment and 1 other manufactured home. See Figure 7.3 for detail.

7.3 Housing Types (Existing Structures)

Housing Type	Units	% of Single-Family
FR-1 along traditional roads	739	40.0%
FR-1 Subdivisions	187	10.1%
R-2 Subdivisions	68	3.6%
PRD Subdivisions north of Cheshire	49	2.6%
PRD Subdivisions south of Cheshire	810	43.7%
TOTAL SINGLE FAMILY	1,853	100%
TOTAL MULTI-FAMILY	224	

FR-1 Subdivisions include Winding Creek Estates, Whispering Acres, Whispering Creek, Candlelight Acres, Twin Hickory Farms, Summerwood and Summerwood Extension. PRDs include Ravines at Alum Creek, Sherman Lakes, Arbors at Cheshire, Meadows at Cheshire, Harbor Pointe, Oldefield Estates, Piatt Meadows, Mariner's Watch and Shadow Creek. R-2 includes Cheshire Cove.

Housing Needs

Berlin Township has been the fifth-largest provider of new housing stock in the non-municipal areas of the county for the years 1987 to 2008, ranked by building permit issuance. The township has provided 7% of the total new housing in unincorporated Delaware County in the last 21 years. By contrast, the four leading townships have provided 83% of the housing in the same period. For reference, the top three municipalities have been included in the table below.

Figure 7.4 Top Housing Providers in Delaware County, By Reported Building Permits 1987-2008

Rank, Name of Community	# building permits 1987-2008	% county permits issued 1987-2008
Orange Township	6,426	29%
Genoa Township	5,992	27%
Liberty Township	3,650	17%
Concord Township	2,214	10%
Berlin Township	1,519	7%
Berkshire Township	960	4%
Total Unincorporated Delaware County 1980-1998	22,082	
City of Delaware	5,742	
City of Columbus	3,233	
City of Powell	3,217	

Land Application Developments

The top townships might have been expected to continue as the primary housing providers because of their access to centralized county sewer. In 1996 the Ohio EPA amended their anti-degradation rules, making it more difficult to discharge treated effluents from sewage treatment plants to running streams. In order to facilitate centralized sewer systems that cannot discharge to running streams, the Ohio EPA now allows alternative centralized sewage treatment systems with appropriate design, and maintenance. The most popular alternative in Delaware County, with four approved systems, is the standard tertiary treatment plant using the treated effluents to be spray irrigated onto an acceptable vegetated area, normally a golf course. These golf course communities, with on site centralized sewer facilities, may shift more housing starts to previously rural, non-sewer service areas. This could redistribute the housing geography in Delaware County.

Figure 7.5 Developments Proposed with Alternative Centralized Sanitary Sewage Disposal

Development	Location	Township	Acres	# Units Approved	Density	Dev. Status
Tartan Fields	Concord Rd.	Concord	302	449	1.49/ac	Built
Dornoch	US 23	Liberty/Delaware	282	393	1.39/ac	85% Built
Scioto Reserve	Home Road, Riverside Drive	Concord	695	1250	1.8/ac	Built
Scioto Reserve Expansion	North of Scioto Reserve/Hyatts Rd.	Concord	238	300	1.26/ac	Under Construction
North Star	N. Galena Road	Kingston/Berkshire	965	1,370	1.55/ac	Under Construction
Totals			2,482	3,762		

Future Housing Needs

In order to make future housing projections, a community might anticipate what services they can provide, anticipate their share of the future population of the area and allocate the distribution of housing types. Few communities attempt such an analysis, leaving the housing mix up to the market, and the traditional power of zoning, which is seldom so analytical. In a high-growth area such as Delaware County, where all recent population projections have been low, it is impossible to anticipate what the county's share of the state's population will be and to distribute that amount among the townships, village and cities. Furthermore, this is not a centralized economy, but a free market economy.

Housing distribution is also affected by annexations. Ohio annexation law favors the cities. If landowners wish to annex and are contiguous to a city annexation is generally approved. Zoning battles in Ohio sometimes occur along the edges of cities over the issue of housing density.

Berlin Township exists as a legal entity of the state, without home rule authority. It has limited powers. Townships defend their territory from annexation if they can, but cannot be certain of their future township boundaries. For that reason, it is impossible to assess fair share allocations of housing to be provided when a city may take some of that land and provide that housing at a higher density. Furthermore suburbanizing townships have to rely on automobile transportation. The cities have public transportation to accommodate higher density and multi-family housing.

A pragmatic approach to housing distribution in Delaware County is to:

- Determine what the community wants to look like when it is all built out (vision);
- What services it can reasonably provide;
- What its reasonable and fair share of the mix of population would be;
- Determine how to zone for its fair share of housing.

Housing Policies

Berlin Township established goals of maintaining a diversity of housing types. The township should continually evaluate its housing mix as new developments are proposed. Housing density is limited by sewer capacity, the services the township can legally and economically provide, and the township's desire to maintain a sense of rural character.

However, Berlin Township's share of the Delaware county housing starts is likely to increase. As developing communities begin sharing the leadership in county housing share, they must also share the diversity of housing types offered, and this means all townships.

Columbus is the multi-family powerhouse in the central Ohio housing market. The city provides services the townships cannot. The city can offer higher densities in areas annexed than the townships. Multi-family housing is seen as requiring more urban services such as public transportation, which are not available in the townships. Similarly, the City of Delaware has a high-density apartment district that could compete with Columbus for land yield (approximately 15 units per acre). Recently, 400 units of apartments have been proposed on land adjacent to Peachblow Road and the new hospital site. The townships cannot compete in the range of urban services with the three cities in Delaware County (Delaware, Columbus and Westerville).

For this reason, the townships should not be expected to show large percentages of their future land use mix in multi-family housing. In those areas where there is access to major road networks and centralized sanitary sewer and water, in transition to commercial uses, or as part of large planned developments, multi-family housing can occur in the townships. Berlin Township will likely receive multi-family housing requests as part of larger planned developments. Delaware, Columbus and Westerville are building higher density multi-family; therefore they will have the economic and service clout to provide the larger share of the multi-family market.

CHAPTER 8

General Economic Conditions

Land development and the fulfillment of the Comprehensive Plan depend on a strong local economy. Within the national economy there are regional economies moving forward or slumping due to local conditions. Delaware is one of Ohio's most affluent counties, with one of the lowest unemployment rates. The central Ohio economy (especially Franklin, Union, Licking and Delaware Counties) impact Berlin Township's economy.



New P&D Builders Headquarters at the Park at Greif.

In March 2001, the United States economy slipped into a national recession, ending the long period of expansion since 1991. The effects of the September 11, 2001 terrorist attacks on the United States deepened the economic downturn. Through the decade, productivity trended upward at a 2.6% annual rate over the next seven years. Over the last year and a half, the credit crunch and housing crisis have led to a state, national and global downturn. (*Department of Commerce website and other sources*).

This Comprehensive Plan does not seek to present a full economic analysis of Delaware County or Berlin Township as trends are changing almost weekly and are covered daily in the media. It does seek to present some general data from a variety of sources.

Global Economy

In 2001, the Comprehensive Plan quoted a *Columbus Dispatch* article from 1999 stating the global economy as facing “serious challenges from a 20-month-old global currency crisis.” Such challenges have certainly played out during the last decade and especially within the last year. Sectors of the local economy that depend on foreign export have faced short-term retrenchment. This could have wider implications if it affects the U.S. national economy because of the loss of foreign trading partners. Adding to this problem has been the rising cost of fuel which peaked in the summer of 2008 before falling when the slowing economy resulted in less demand.

The United States Economy in General

Although the news has been filled with bleak economic news locally, state-wide and nationally, there are some indicators that represent improvement in some areas.

- Ohio was named first in the nation for major business expansions for 2008 by *Site Selection* magazine. In its March issue, the publication tallied the number of projects that each state recorded in the previous year, both in new

developments and expansions of existing operation. Ohio's 503 projects bested Texas' 497 and Michigan's 296. This is the third year in a row the state has taken the top spot.

- Forbes.com and Moodys.com predicted that Columbus will boast the nation's 8th fastest home sales rate in 2008, and that home prices here will increase 3.49%.
- In early March 2009 Forbes.com named Columbus the "Number 1 Up-and-Coming Tech City."
- In a recent Stress Test report from the Associated Press, Delaware County ranked third best in the state. Holmes County and Geauga County came in only slightly better. The study used the figures of unemployment at 6.4% (up from 3.9% in October 2007), foreclosures at 1.52% (up from 1.45% in October 2007) and bankruptcy at .91% (up from .63% in 10/2007) to create the ranking. Scores were created where zero is perfect and one hundred is the worst possible. All three counties scored between 8 and 9.
- Columbus is the nation's 3rd most stable housing market, according to Forbes and Moody's. Researchers considered the strength of the economy, plans for construction, low foreclosure rates, local credit markets, home sales rates, and the affordability and availability of housing.
- Median Household Income for the Columbus MSA is \$44,782, 57th nationally (San Francisco was 1st at \$63,027; Per Capita Income for Columbus \$23,020, 38th nationally (Naples, FL was 1st at \$31,195) *Source: Census Bureau, February 2009.*
- Median income in Delaware County is the state's highest at \$88,645. Fairfield is at \$58,019, Licking is \$52,148 and Franklin is \$51,246. *Source: 2008 data from the Columbus Chamber.*

The Local Economy

While several economic indicators are worse than any time in recent history, the local economy has fared well.

Employment

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, which are largely single-industry driven (auto manufacturing, agriculture, etc.) Delaware County has a healthy mix of many diverse employment sectors as shown in Figure 8.1.

Figure 8.1 Establishments, Employment and Wages by Sector, Delaware County, 2006 (Source: Ohio Dev. Dept.)

Industrial Sector	Number of Establishments	Ave. Annual Employment	Total Wages
Private Sector	3,723	57,877	\$2,527,521,560
Goods-Producing	623	9,190	\$438,893,507
<i>Natural Resources</i>	20	346	\$11,479,427
<i>Construction</i>	447	3,125	\$134,614,888
<i>Manufacturing</i>	156	5,719	\$292,799,192
Service-Producing	3,100	48,687	\$2,088,628,053
<i>Trade, Transportation and Utilities</i>	881	14,185	\$441,567,455
<i>Information</i>	68	1,116	\$65,574,595
<i>Financial Services</i>	424	5,361	\$367,814,128
<i>Professional and Business Services</i>	762	11,247	\$837,370,926
<i>Education and Health Services</i>	293	5,324	\$192,414,087
<i>Leisure and Hospitality</i>	374	9,622	\$140,439,172
<i>Other Services</i>	287	1,806	\$42,948,511
<i>Unclassified</i>	13	26	\$499,179
Federal Government		255	\$12,139,379
State Government		1,269	\$55,972,036
Local Government		6,456	\$242,974,673

The Ohio Department of Development showed that during the period 2001-2006, all sectors except mining saw an increase both in the number of establishments and the number of employees. The areas with the greatest increases were Information (405% employment, 75% establishment), Business Services (154% employment, 79% establishment), and Leisure and Hospitality (117% employment, 75% establishment). Generally, the Service sector saw a 93% employee growth, the Goods sector saw a 13% growth and the Local Government sector saw a 62% growth in employees.

Figure 8.2 Top 20 Major Employers, Delaware County (Delaware County Auditor 2009)

Employer	Employment Sector	# Employees
JP Morgan Chase	Finance & Insurance	7,601
Olentangy Schools	K-12 School System	1,564
Delaware County	Government	1,082
Central Ohio Primary Care	Medical Group	935
Kroger's	Retail/Food	829
Kroger Great Lakes	Distribution Center	791
American Showa	Manufacturing	709
Ohio Wesleyan	Private Liberal Arts University	612
Wal-Mart	Food & Retail	595
Ohio Health-Grady Hospital	Medical	577
Delaware City School	K-12 School System	538
Liebert	Power Supply	493
AHP	Diaper Manufacturer	460
Meijers	Food & Retail	445
Liebert-Emerson Network	Emerson Network	429
Advance Auto Parts	Auto Parts	404
CIGNA	Medical/Dental Insurance	400
Accel, Inc.	Distribution/Assembly	386
PPG Industries, Inc.	Manufacturing	338
Worthington Cylinder	Manufacturing	320

Unemployment rate

Delaware County continues to maintain the lowest unemployment rate in Ohio. The April 2009 Ranking from the Ohio Department of Job and Family Services listed the county at 6.6%, which was the lowest in the state. The comparable rate for Ohio was 10.2%. Only four counties had unemployment rates below 8% in April. These included Delaware, Geauga, Lawrence and Holmes Counties.

Poverty Rate

Delaware County's poverty rate was 4.5% in 2007, while Franklin County's was 16%. *Source: Census American Community Survey 2007*

Educational Attainment Rate

Delaware County has the highest educational attainment rate of any central Ohio county. Of the population over 25 years of age, 95.8% are high school graduates, 17% have a Graduate or professional degree and 49.2% have a Bachelor's degree (these numbers are all higher than they were in 2001). By comparison, Bachelor's degree attainment in other counties is: Franklin 35.3%; Fairfield 22.6%; Licking 23%. *Source: Census American Community Survey 2007*

Columbus Metropolitan Statistical Area (MSA) Housing Market

The Columbus MSA (includes Delaware, Fairfield, Franklin, Licking, Madison, Morrow, Pickaway and Union Counties) is typically used to describe statistics in Central Ohio. Compared to the Midwest region, the Central Ohio housing market continues to be relatively healthy. Housing sales continue to slump and new housing starts are slow, but a report by the BIA showed that the number of sold listings in April of 2009 rose 10% over March numbers. Average price was the “best since October 2008” and up 4% over March.

Berlin Township Economy

Berlin Township has the possibility for a balance of residential, commercial and industrial tax and job base in its local economy. Although the township is currently mostly residential, there are lands along U.S. 23, and U.S. 36 that represent future commercial and industrial development corridors.

Polaris Area

The initial 1200-acre Polaris annexation to Columbus occurred in January 1991. After the new Polaris I-71 interchange and Polaris Parkway were built, there was a significant influx of jobs into Delaware County. The Fashion Place mall, Polaris Centers of Commerce office park and Polaris Town Center strip development are within the City of Columbus, but have a strong impact on surrounding townships. As land at Polaris becomes more scarce and expensive, the U.S. 36 and I-71 interchange in Berkshire and Berlin Townships becomes a more viable business location.

- Polaris Towne Center opened in the fall of 1998 with 115,000 square feet of retail development;
- Polaris Fashion Place features over 150 specialty stores, six anchors, several full-service restaurants and 8 food hall eateries;
- Through the end of 2008 and early 2009, portions of the new Lifestyle Center began to open. A former anchor was redeveloped to feature an open-air “main street” style atmosphere with outdoor dining and shopping, competing with Easton Town Center;
- J.P. Morgan-Chase (formerly Bank One) occupies 2 million square feet of Class A office space;
- A full service Hilton hotel and conference center opened in 2008;
- Smaller office, medical and office warehouse projects account for another 132,000 square feet of space;
- Polaris and the Polaris Parkway have spawned spin-off economic development on the east-side of Alum Creek in Westerville (Liebert, Meijer Store, and Kroger.);

- The key to the early development of the greater Polaris area (Orange and Genoa Townships, the cities of Westerville and Columbus) was the I-71 interchange and road construction linking east-west and north-south traffic;
- The Polaris Amphitheater operated for several years before closing after the 2007 season. The future of the property remains unclear.

Rates of Taxation and Revenues

The County Auditor tracks real estate and personal property values in the county. Berlin Township's residential property as of Tax Year 2008 is valued at \$205,015,750, fifth behind Genoa, Orange, Liberty and Concord. Genoa Township's was \$897,640,110. Berlin Township's commercial, industrial, and utility is valued at \$14,067,000, also fifth, with Orange Township far ahead of all other Delaware County townships at \$176 million. Adding farm uses, utilities and personal tangible value, the total for Berlin Township is \$227,326,613. This represents 5.4% of the township total \$4,237,917,691.

The County Treasurer maintains a list of all mills levied on each dollar of property within the county. Individual taxes are based on the rate multiplied by the property valuation of each property. Ohio law limits the amount of taxation without a vote of the people to what is known as the "10 mill limit" (\$10 per thousand of assessed valuation). Any additional real estate taxes for any purpose must be voted by residents. With Berlin Township completely within the Olentangy district, the tax rate is the same throughout the unincorporated township. The Township's tax rate includes .04 mills for the library, 6.30 for the county, 5.78 for the township, 70.72 for schools, and 3.20 for DACC for a total of 86.04, or an effective rate of 58.34 for residential and 58.16 for commercial and industrial. *Source: Delaware County Treasurer 2008 Rates of Taxation.*

Townships receive a portion of the commercial and industrial taxes collected by the county. Tax rates within townships are different based on the school district boundaries. As an example, the portion of Concord Township that falls within the Olentangy School District receives 21.3% of commercial/industrial taxes. Orange Township receives 22% and the portion of Genoa Township which is in the Westerville District receives 21.3%. To apply this to one commercial example, the Meijer on U.S. 23 paid a total of \$196,373.00 in real estate taxes for 2002, of which Orange Township received roughly \$43,200. *Source: Delaware County Auditor.*

Economic Development Tools and the Township

Economic Development, or the process of actively seeking businesses to locate to the county, is typically performed on the county or municipal level. Townships are often reactionary to development pressures, or work with the county on specific development projects. The following is a list of economic tools and development-related issues that the township should be aware of, although township representatives may not be specifically involved.

Enterprise Zones

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-used in the State of Ohio. A three-member negotiation team reviews the project and negotiates a package specific to each project. Delaware County has three active zones in the City of Delaware, the Village of Sunbury, and in Orange Township. Orange Township's zone begins at the southern border of the county at Lazelle Road, and runs north along U.S. 23 to Shanahan Road. The eastern border is the rail line and the western border is approximately one-quarter mile from Route 23. Tax abatement levels are allowed up to 60% abated for 10 years in unincorporated areas. This program also has a requirement of job creation associated with the project. This has proven to be an engine of growth.

Broadband Fiber

Several efforts are underway to achieve a higher level of fiber infrastructure. In addition to an effort by the City of Delaware to connect businesses within the city (Delaware Area Super Highway - DASH) there is also a regional effort to connect entities such as Dublin, Westerville, Delaware, Delaware County, and businesses and governmental agencies within each (Central Ohio Broadband – COBB). Additionally, Connect Ohio is a state-wide effort aimed at determining where service is either non-existent or ineffective and what sorts of projects can be initiated to improve service. All efforts are aimed at increasing the economic viability of the area.

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 port 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, engage in activities on behalf of other political subdivisions, among many 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 5 years. In short, the Port Authority can accomplish much more in the way of economic development in a competitive fashion than a government entity which is limited by disclosure requirements.

Community Reinvestment Areas

Community Reinvestment Areas (CRAs) 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 industrial businesses. Job creation is an additional requirement for participation in the Community Reinvestment Area program.

Only one CRA exists in Delaware County. It is located in the City of Delaware, and has 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.

Tax Increment Financing

Tax Increment Financing (TIF) is a program to finance public infrastructure by redirecting new real 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, and that fund can be used to retire the debt on a public infrastructure improvement tied to the project. The value of the property tax exempted will be paid as



Development within the Olentangy Crossings TIF.

a Service Payment-in-Lieu of Taxes (equal to the amount of exempted value), due at the same time property taxes are due, and will go into a special fund. This special fund, set up by the County Auditor, will be used to retire the debt incurred from the public infrastructure improvements associated with the project.

A county negotiating committee will meet with the potential business and discuss if the TIF program can be utilized with the proposed project. If so, the committee will work with the business to reach an agreed exemption level. The Delaware County Economic Development Office will work with both the business and negotiating committee to facilitate the process. The closest TIF to Berlin Township is The Park at Greif, representing \$16 million in taxable value. A TIF also exists at the (largely undeveloped) U.S. 23/Lewis Center Road subdivision Olentangy Crossings, representing \$1.7 million in property value in 2008.

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 Job Creation Tax Credit is a direct credit against a business' corporate franchise tax. The basis of the credit lies in the state income tax withholding per new employee. The tax credit will be figured from the state income tax withheld for the new employees. A percentage of the withheld tax will be credited against the business' corporate franchise tax each year for the term of the agreement. This percentage rate can be up to 75% with a term of up to ten years.

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

Effect on Growth and the Community Vision

To summarize, Delaware County's unemployment rate is comparatively low. Its poverty rate is low. It has a varied economy, which has been growing. Of all the economic factors reviewed, there is only one that may be of concern related to business recruitment, and that has been the low unemployment rate. When the local labor force is tapped out, business expansion goes elsewhere. When business bypasses a geographic area, this can be a precursor of a declining real estate (housing) demand.

- A. When **too much housing** is created in advance of a softening demand curve and very low unemployment rate, a glut of housing product can build up and cause real estate price deflation. In the last twenty years, such American "boom-bust" real estate cycles have occurred in many places, such as California, the Northwest (Seattle, Washington), and New England. Although the county has experienced a cycle in new housing activity, real estate price fluctuations have not been referred to as "boom-bust" in Central Ohio.
- B. The previously-reviewed **housing pipeline** numbers suggests that a glut of supply existed when the economy and credit issues became problematic. It is very difficult to interpret this trend, or to call the moment when oversupply occurs. As discussed in Chapter 3, looking at the five-year average lot absorption rate for the Townships in Delaware County, the 9,419 residential units in the development pipeline as of the end of 2008 represent a nine-year supply. In a more typical economy, a three-year supply is considered healthy. The largest production builders use a five-year planning horizon.
- C. The Delaware County **housing market** remains stronger than the central Ohio housing market. To understand this phenomenon, we looked at recently released census figures, which show the story in another light. Recent census information shows that the United States, Ohio and Central Ohio continue to grow slightly, while Delaware County has grown significantly. Delaware County is growing by population shift away from Franklin County. Therefore, market demand is increasing.
- D. The **vision** for Berlin Township's Comprehensive Plan appears to be economically attainable in the long term, assuming the local, state and national economies continue to improve.
- E. **Phasing** of large projects should be encouraged as it helps the incremental absorption of the land costs to the developer and avoids oversupply of product.

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CHAPTER 9

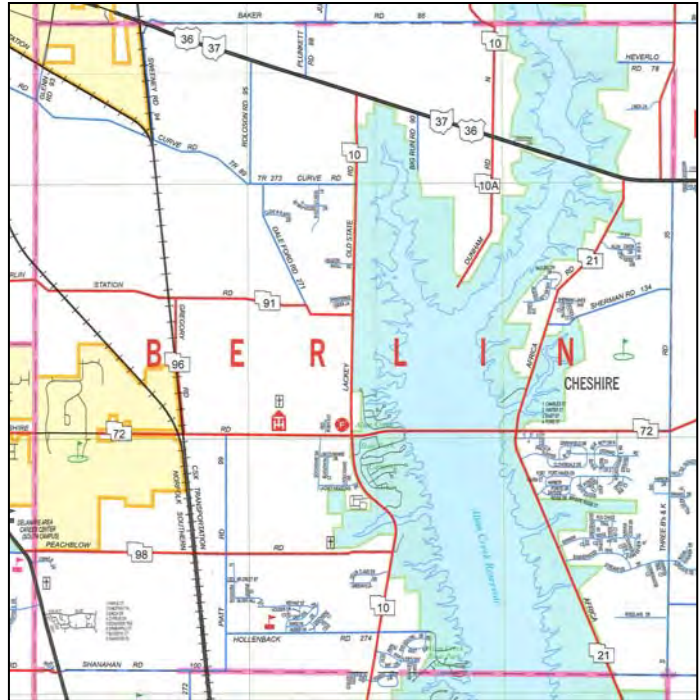
Roads and Transportation

Introduction

Automobiles are the primary means of transportation in Berlin Township. The township is crisscrossed with county and township roads, which were laid out for farm-to-market usage. These roads are changing function as the area develops from a rural to a suburbanizing community. There will be needed roadway improvements. For the moment, the roads are not overtaxed and traffic flow is good everywhere within the township.

Federal and State Roads

- a.) **U.S. 23-** Berlin Township has approximately 4000 feet of U.S 23 passing through its extreme southwest corner. This is a four-lane divided highway with limited access. The Ohio Department of Transportation purchased access rights in the 1950s, limiting land use changes. Most of the driveways established at the time of access rights purchase were single family homes or farmlands. It is possible to upgrade to commercial use, but commercial access rights must be purchased from ODOT based upon the commercial market value of the property.



U.S. 23 is the major north-south federal and state highway from Detroit/ Toledo to Columbus and Portsmouth, Ohio. This road is heavily traveled with trucks carrying interstate commerce and passenger vehicles. Commercial development along U.S. 23 is beginning to adversely affect its ability to carry interstate traffic.

The U.S. 23 corridor offers an important commercial tax base to Berlin Township. Any transition of frontage lots to commercial or industrial use should be subservient to the needs for U.S. 23 to carry through traffic. If commercial development is desirable, it must be a part of a planned network of limited access points, signals placed no more frequently than one half mile spacing, and with parallel access road to control left turns across traffic a mandatory feature. This has been successful at Owenfield Drive and Gooding Blvd in Orange Township to the south.

When The Park at Grief was zoned in 1998, along with the current Byers Kia site, both entities had to reserve easements for a future parallel access road across their lands for linkage of commercial properties on the west side

of U.S. 23. A Memorandum of Understanding has been signed between the township and landowners on the east side of U.S. 23 to establish these corridors and access points. Access management practices should continue to be used along all of U.S. 23 due to the future traffic loads anticipated.

- b.) **U.S. 36/37-** Berlin Township contains 4.3 miles of U.S. 36/State Route 37, from Delaware on the west to the interchange area of I-71. This is a four-lane divided highway, with mostly agricultural land use. Commercial uses exist near the I-71 interchange. This road is well traveled by northbound interstate trucks connecting from U.S. 23 to I-71. U.S. 36 is also the northern gateway to Alum Creek State Park. Traffic flow is currently smooth, with a level of service that is probably A or B. Pavement condition is very good; with left turn storage lanes for cross turning movements.

Strip commercial development with multiple unlimited access points would inhibit this highway's ability to function. Proper access management practices should be used to preserve the function of this road as a main federal highway.

- c.) **I-71-**Although I-71 does not enter Berlin Township, its location ½ mile east of the Township boundary along U.S. 36 has an impact on traffic within the township and future traffic generation and land use. The I-71 interchange area extends into Berlin Township. Future commercial development will occur in the township to service the interchange.

County roads

The Delaware County Engineer maintains nine county roads in Berlin Township. There is a great deal of information available from the Delaware County Engineer and ODOT on road inventory, conditions, and so forth (see Figure 9.1). With regard to land use, the carrying capacity of a road is determined in large part by the width of the paved surface and the number of lanes.

Future development will lower the level of service of local farm to market roads. Under current Ohio law, upgrades cannot be required of a land developer for roads that do not abut his or her particular development. The community, state, or county is responsible for off-site impact costs. If large-impact development proposals do not offer to reasonably mitigate their adjacent traffic impacts, the Township may consider the rezoning premature.

Figure 9.1 County Roads and Conditions in Berlin Township, 2009

#	Road Name	Surface Width	Road Width	Surface Type
10	Lackey Old State/S. Old State	18, 24	26	Mixed asphalt over 7"
10	N Old State	20	26	Mixed asphalt over 7"
10A	Dunham	18	26	Mixed asphalt over 7"
21	Africa	20, 24	24,40	Concrete sheet asphalt
35	North 3 B's & K	17	21	Bituminous combined over 7"
72	Cheshire	18-24	24-40	Concrete sheet asphalt
91	Berlin Station	18	24	Bituminous combined over 7"
96	Gregory	16	24	Bituminous combined over 7"
98	Peachblow	17	21	Mixed asphalt over 7"

Township Roads

The Township maintains collector roads plus public subdivision streets. Collector roads include Curve, Sweeney, Roloson, Piatt and Dale Ford and can vary in width from 16 feet to 26 feet. More modern subdivision streets, such as West Bay Circle, Park Point, and Parkshore are 32 feet in width.

Road Maintenance

Berlin Township roads are maintained by various authorities:

- Federal and state roads are maintained by District 6, Ohio Department of Transportation.
- The Delaware County Engineer maintains county roads.
- The Township maintains township collector roads and public subdivision streets.
- Homeowner associations maintain private subdivision roads.
- Common Access Driveways (CADs) are private roads serving 2-5 lots, maintained by the lot owners.

Road carrying capacity is determined by the width of the paved surface and the number of lanes. The speed of the road is generally determined by such factors as road width, pavement conditions, curve radii, topography, number of driveways and cross traffic movements.

Future land development will lower the level of service (LOS) of county roads. Upgrades will be needed to keep pace with the increased traffic counts. The DCRPC has estimated future population per square mile in Figure 9.2.

Figure 9.2 Dwelling Unit Density Per Acre and the Equivalent Population per Square Mile

# Units/acre multiplied by	#Persons/unit multiplied by	% Developable/ac multiplied by	Acres/ Square Mile equals	Population per Square Mile
.2 (5 acres lots)	2.7	95 %	640	328
.5 (2 acre lots)	2.7	90 %	640	778
1	2.7	90 %	640	1555
1.25	2.7	85 %	640	1836
1.5	2.7	85 %	640	2203
2	2.7	85 %	640	2938

Engineers anticipate the size of road needed to serve a calculated density of population. A generalized table for road size versus population density at full build-out was generated for the 2001 Delaware County Thoroughfare Plan. Such projections resulted in a listing of recommended road improvements and new road construction. When densities remain less than 1 dwelling unit per acre, two-lane arterial roads with 38 feet of pavement (2 twelve-foot lanes and 2 seven-foot paved breakdown lanes) can handle traffic at level of service Level C or better. When average densities reach three dwelling units per acre, four-lane arterial roads are needed to maintain Level of Service C.

Functional classifications

The Delaware County Engineer's Design Standards label each road with a "functional classification". The 2001 Delaware County Thoroughfare Plan identifies Major and Minor Arterials and Major and Minor Collector streets. The following figure depicts these classifications and also includes new roads as recommended by the Thoroughfare Plan and the 2001 Comprehensive Plan, edited to reflect current alignments.

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.

Major Arterial roads in Berlin Township: U.S. Route 36/State Route 37, U.S. Route 23, S. 3 Bs and K and Cheshire Road.

Minor Arterial roads in Berlin Township: Lackey Old State Road, S. Old State Road, and Africa Road.

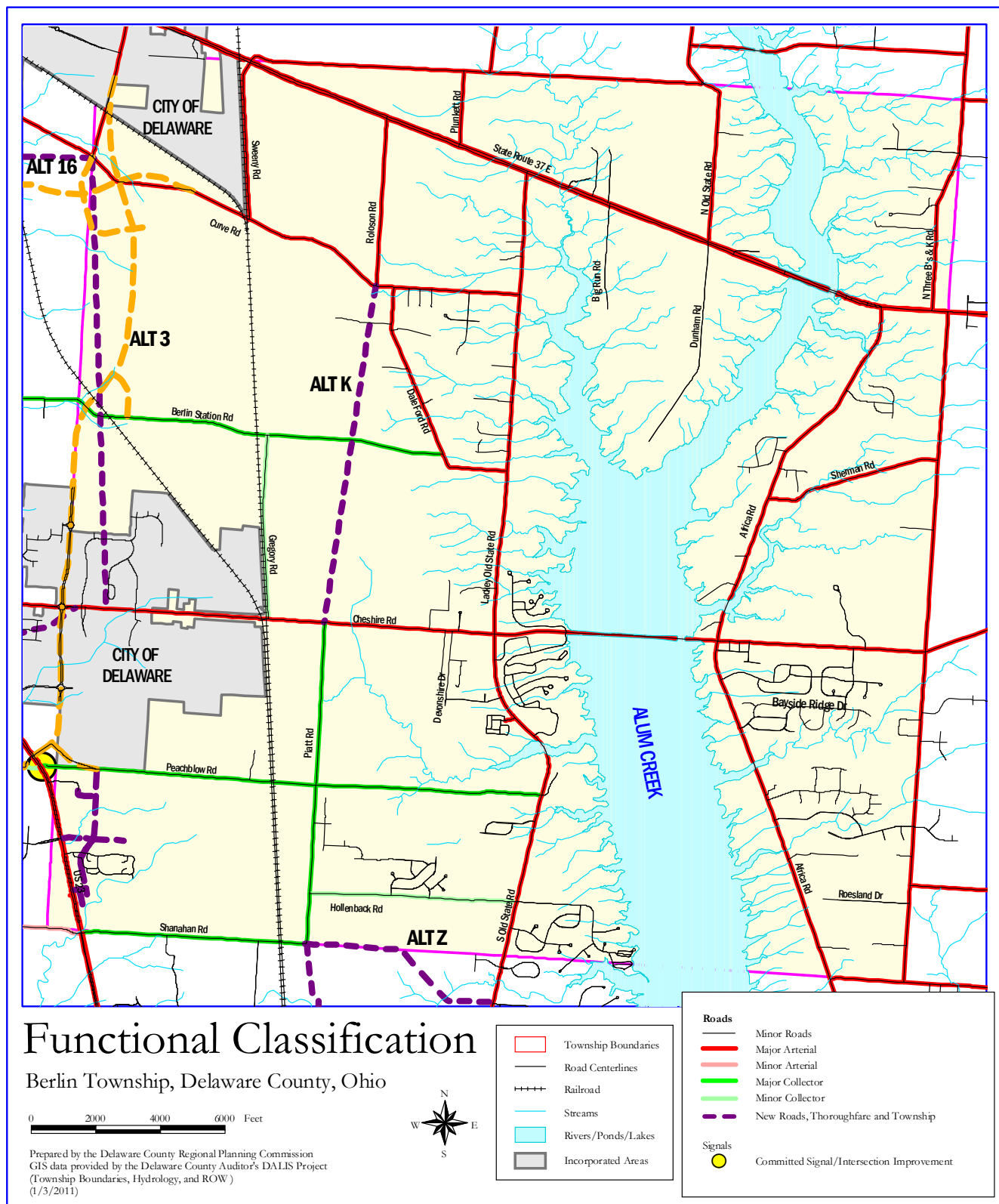
Collector roads have the primary purpose of intercepting traffic from intersecting local streets and handling this movement to the nearest major collector or arterial street. Average Daily Traffic typically ranges from 1,500 to 3,500 vehicles, with AM peak hour traffic about 7-8% and PM peak hour of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

Major Collector roads in Berlin Township: Berlin Station Road, Curve Road, N. Old State Road, N. 3 Bs and K Road, Peachblow Road, Piatt Road, Roloson Road, Shanahan Road and Sweeney Road.

Minor Collector roads in Berlin Township: Dale-Ford Road, Dunham Road, Gregory Road, Hollenback Road, Plunkett Road and Sherman Road.

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.

Figure 9.3 Functional Classifications of Roads with Planned Road

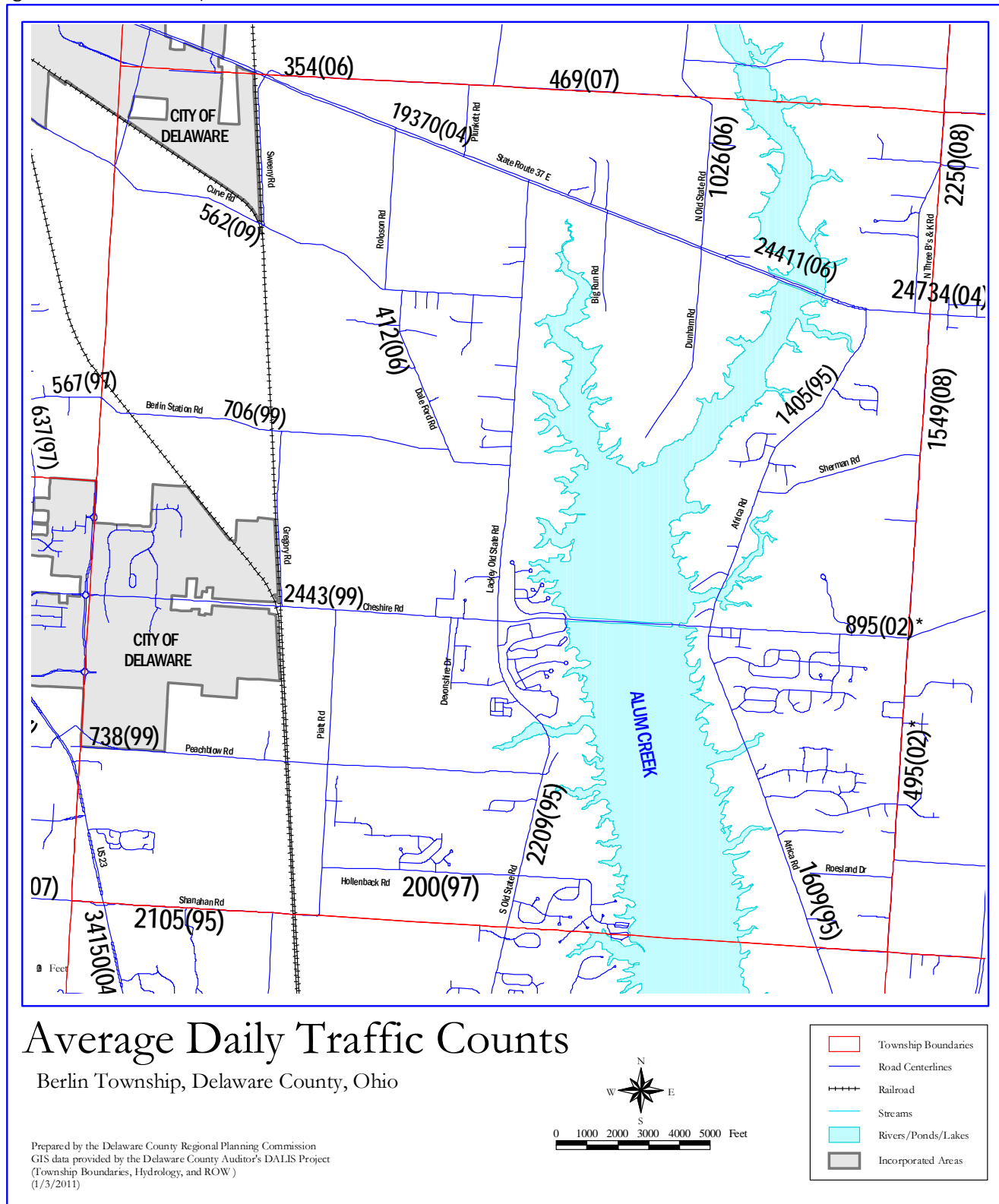


Traffic Counts

Traffic counts indicate the Average Daily Traffic (ADT) in both directions on a road. These counts can be used to determine if the Level of Service (LOS) is acceptable or unacceptable. Level of Service A is considered ideal, Level 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 is the Metropolitan Planning Organization (MPO) for central Ohio. It acts on behalf of Delaware County in certain a transportation planning functions and is a funnel for federal funds. MORPC maintains traffic counts for the central Ohio region. In Figure 9.4, additional counts have been added with information from the Delaware County Engineer's Office.

Figure 9.4 Berlin Township area Traffic Counts



Access Management

An access management study was completed for U.S. 23 shortly before the Thoroughfare Plan was complete. ODOT has recently begun a similar process for the U.S. 36/S.R. 37 corridor. ODOT has found the following access impacts:

- 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:

- 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, driveway angle.
- Provide turn lanes to separate conflict points for acceleration, deceleration, & storage lanes.
- Prohibit some turns in critical areas; relocate that activity to a less conflicted point.
- Restrict driveways to fewer than 30 per mile (every 350 lineal feet maximum).
- Use feeder roads to relocate critical movements and to handle short trips parallel to the main road and as rear access roads connecting commercial uses.
- Locate driveways away from intersections to reduce conflicts (corner clearance).
- Use right in, right out drives to prevent unwanted left turns across traffic.
- Use zoning with access management to develop good site plans.
- Connect parking lots; share driveways.
- Connect frontage roads to collector streets at properly spaced intersections.
- Avoid individual, closely spaced curb cuts to “bowling alley” lots.
- Avoid disconnected street systems.
- Encourage internal access to out-parcels.
- 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

The U.S. 23 and 36/37 corridors offer potential commercial tax base to Berlin Township. When new sites are zoned for commercial use, coordination with ODOT to implement the Access Management Principles is imperative.

Future Roads - The Thoroughfare Plan

“Original” farm-to-market county and township roads are often narrower than new subdivision streets, and sometimes built to a lighter load bearing standard. The cost of upgrading “original” county and township roads to collector or arterial standards can be factors in land use decisions, although excess traffic by itself is not considered grounds in Ohio to deny a zoning change.

A Thoroughfare Plan is a powerful tool for counties and townships to plan for future land use and traffic conditions. The Thoroughfare Plan is enabled by Ohio Revised Code Section 711.10:

“Whenever a regional planning commission adopts a plan for the major streets or highways of the county or region, then no plat of a subdivision of land within the county or region, other than land within a municipal corporation”... “shall be recorded until it is approved by the regional planning commission.”

The Delaware County Thoroughfare Plan was adopted in 2001. The Thoroughfare Plan recommends several improvements in Berlin Township:

Piatt Road to Roloson Road Connection (Network Alternative K)

This is a proposed road that forms a north/south connection between Roloson, Berlin Station, and Piatt Road. The Berlin Station Road to Piatt connection has become more vital with the addition of two future school sites that will be accessed via this road. Also, the southern terminus of Piatt is planned for extension south through Orange Township to Lewis Center Road.

Shanahan Road Extension (Network Alternative Z)

This project extends Shanahan from its terminus at Piatt Road to the east until it intersects with South Old State Road. This road will be incorporated into subdivision projects and will be developer-driven.

Glenn Road Extension (City Network Alternative 3)

This is a major planned connection between U.S. 23 and U.S. 36/S.R. 37. The alignment has been refined by the City of Delaware staff and portions of this connection (between Ohio Health Boulevard and extending 3,700 feet north of Cheshire Road) are in place. The intersection improvements at Peachblow Road, U.S. 23 and Winter Road will form the Glenn Road southern terminus and is currently being studied for imminent construction.

Veterans Parkway (City Network Alternative 16)

This is a major project that would extend an arterial road from U.S. 23 from its intersection with U.S. 42 to the east through Delaware Township to Glenn Road at the edge of Berlin Township. The city is currently studying alignments for this project and is considering alignments that extend the road to 36/37.

The Thoroughfare Plan also recommended several “build-out” modification recommendations:

Cheshire Road, upgrade to 3-lane, U.S. 23 to Piatt Road;
Cheshire Road, upgrade to 4-lane, Piatt to Africa;
South Old State Road upgrade to 3-lane, Lewis Center to Cheshire;
Africa Road upgrade to 3-lane, Lewis Center to Cheshire;

Road Improvements – County Engineer Capital Improvement Plan

The County Engineer maintains a list of future county-managed road improvement projects, most of which are funded solely by Delaware County, although some include additional funding. The South Old State and Lewis Center Intersection, currently scheduled for construction throughout the summer and early fall, is directly to the south in Orange Township, but will impact traffic in Berlin Township. The other projects listed as “Priority C” projects and scheduled for construction no sooner than 2013 include intersection improvements at Berlin Station and Curve Roads, Cheshire and Africa Roads, and Africa Road at Sherman Lakes.

Transit

The Delaware Area Transit Agency (DATA) is the public transit system for Delaware County, Ohio. DATA’s services are available to anyone wishing to use them. DATA is owned, operated, and governed by the citizens of Delaware County through the Delaware County Transit Board.

DATA offers an on-demand service for residents of Delaware 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 pick-up time and 15 minutes after the scheduled pickup time. Demand response service is limited.

DATA provides weekday service from downtown Delaware to the Crosswoods development at U.S. 23 and Interstate 270. The service makes numerous stops throughout the day (current information available at www.ridedata.com).

Stop 5 – Kroger (Delaware)

Southbound 5:38am, 6:38am, 12:11pm
Northbound 1:17pm, 5:47pm, 6:56pm

Stop 6 – Dooley’s Orchard

Southbound 12:25pm
Northbound 1:03pm

Stop 7 – Super Walmart (Lewis Center)

Southbound 5:51am, 6:51am, 12:29pm, 4:45p, 6:20pm
Northbound 6:16am, 7:17am, 12:59pm, 5:27pm, 6:45pm

Stop 8 – Macy’s (Polaris Mall)

Southbound 12:38pm
Northbound 5:19pm

Stop 9 – Crosswoods Park-n-Ride

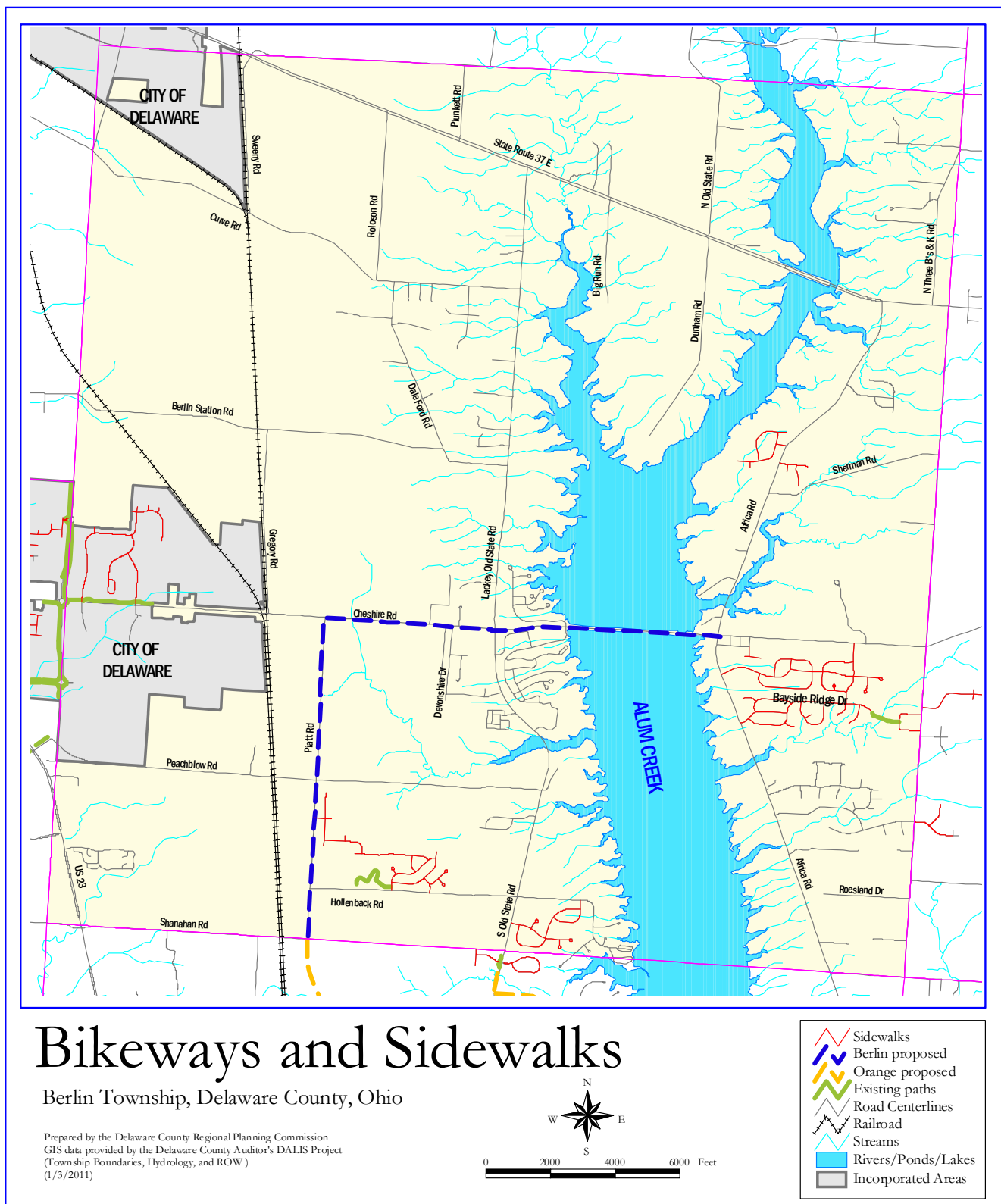
Arrive 6:02am, 7:02am, 12:46pm, 4:55pm, 6:30pm
Depart 6:05am, 7:06am, 12:50pm, 5:08pm, 6:33pm

DATA is currently looking for a new location for its offices and a transfer station. Based on the large population south of the City of Delaware, it is considering sites on the southern edge of the city. The organization is also looking to upgrade and expand its routes to reach a growing ridership base. Ridership peaked at slightly above 4,500 trips per month in October of 2008 and is currently running an average of 3000 trips per month. One trip represents a single passenger riding one way from beginning to end. Customers include the general public, contract service, fixed routes and free/aide rides.

Bikeways

No bikeway network exists in the township although the 1999 Land Use Plan indicates that paths should be created along Piatt Road and along Cheshire Road from Piatt to Africa. Sidewalks exist in limited locations in several subdivisions. As the township grows, new transportation options such as bikeways and sidewalks in suburban neighborhoods should be considered. Priority should be given to connecting to existing or planned trails in neighboring jurisdictions. As an example of how fast a network can start to take shape, in only 10 years Orange Township has constructed 6.5 miles of trails with another 12.5 miles planned. Figure 9.5 indicates the planned Berlin Township paths, planned Orange Township paths, and existing paths and sidewalks in the townships and municipalities.

Figure 9.5 Sidewalks, Bikeways and Proposed Trails



Other Transportation Issues

An 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 (one 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 one unit per acre a mix of local convenience commercial uses and a network of sidewalks, trails and bike paths can reduce auto trips. Consideration may be given to neo-traditional development patterns for planned developments with densities greater than one unit per acre. These may occur near existing village centers or as greenfield development. A combination of a grid street core, with curvilinear edges may 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.

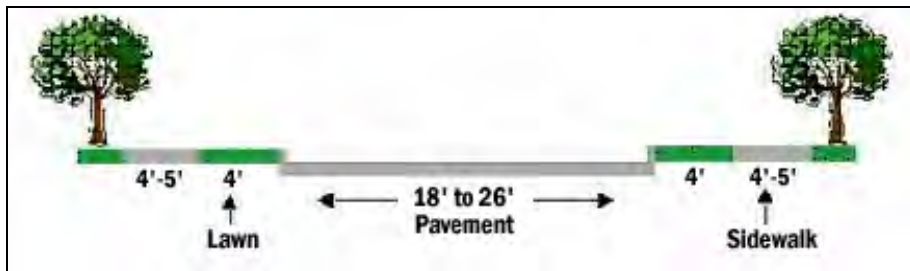
Traffic Impact – New development proposals should be assessed for their trip generation. As a general rule, if the trip generation is more than 1,000 vehicles per day, a traffic study should be performed to determine the impact and mitigation measures needed. Current level of service (LOS) and post-development LOS should be compared. If LOS is predicted to drop below level C, remediation should be part of the development project with the cost shared on a “fair share” basis.

Impact Fees for Traffic Impact and Offsite 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. If large impact development proposals do not reasonably offer to mitigate their significant off-site impacts, they may impose an undue burden on the township. In such cases the rezoning may be premature.

Passenger Rail – A proposed light rail extension from Franklin County north to the City of Delaware would provide an opportunity to reduce traffic. To the south, Orange Township has located a potential light rail station on its Comprehensive Plan. The site is located on the east of the existing tracks on the north side of Lewis Center Road. Additionally, the Ohio Rail Development Commission is reviewing routes for a Cleveland-Columbus-Cincinnati high-speed line.

Streetscapes – Streets are a strong part of the look of a community. Every community needs a streetscape standard. For suburban streets with lot widths less than 100 feet, the following is a desirable streetscape cross section. Street pavement widths may range from 18-26 feet depending on the need to provide on-street parking. See Figure 9.6 for an example.

Figure 9.6 Streetscape example



The Roundabout, an Alternative Street Design – Intersections typically require stop signs and traffic signals when traffic counts warrant. However, another alternative is useful under certain conditions. Modern, low-speed (11 mph) roundabouts (Figure 9.7) can reduce crashes, flow more traffic than traffic signals, cost less in required pavement than signalized intersections as well as eliminate the costs associated with the installation and maintenance of those signals. Pedestrian crosswalks are located behind the pause line for traffic. The British have constructed 11,000 of them to increase safety, save money and improve traffic flow. Not all intersections are candidates, but the roundabout is a viable traffic management tool.

Figure 9.7 Modern, low-speed roundabout (DLZ Engineers)



“Complete Streets” – (A term coined by the America Bikes Board) 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 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 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. When a street exceeds 1,500 vehicle trips per day it should be classified as a minor collector, and the township should budget for the construction of a pedestrian path or bikeway along at least one side of the street. 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.

CHAPTER 10

Utilities

Del-Co Water

The Del-Co Water Company, a cooperatively owned private water company with a total combined capacity of 33.2 million gallons per day, serves Berlin Township with potable water. Del-Co began providing water to rural and suburban residential users in the southern part of Delaware County in 1973. As the county grew, Del-Co expanded its service area to the north and east and increased its levels of service to provide larger diameter water lines for fire protection.



Del-Co Water Headquarters and Up-Ground Reservoirs on State Route 315, Liberty Township. The newest addition is the 1-billion-gallon reservoir at the bottom of the photo. Source: BBC&ME Engineering.

Water Supply

Del-Co draws surface water from the Olentangy River and from the Alum Creek reservoir. The water is pumped to up-ground reservoirs on South Old State Road and State Route 315 prior to treatment. The Alum Creek Reservoir covers about 3,400 surface acres. Del-Co also has a groundwater supply from four wells rated at 1,300 gallons per minute each. An average of 38 inches of rainfall and snowmelt annually refills the watershed.

The original plant on S.R. 315 was constructed in 1973 and is home to the Del-Co administrative offices. With a capacity of 19.2 million gallons per day, it serves the southwestern and south central parts of Delaware County. The raw water source for this plant is the Olentangy River. Named after one of the founders and first board president, the Ralph E. Scott Treatment Plant has a capacity of 6 million gallons per day and is located below the dam embankment to the Alum Creek Reservoir, which serves as the water source for the plant. This plant serves the south central and eastern side of Delaware County.

Also named after a founder, the Timothy F. McNamara Plant was constructed to meet the high summer peak demands in southern Delaware County. Its all-steel above-ground construction limits its use to summer months. The raw water source for this plant is Alum Creek just below the Alum Creek Reservoir. It has a capacity of 4 million gallons per day and is accessed from S. Old State Road. The Thomas Steward Plant is located in Knox County and serves the northeastern portions of Delaware County with a capacity of 4 million gallons.

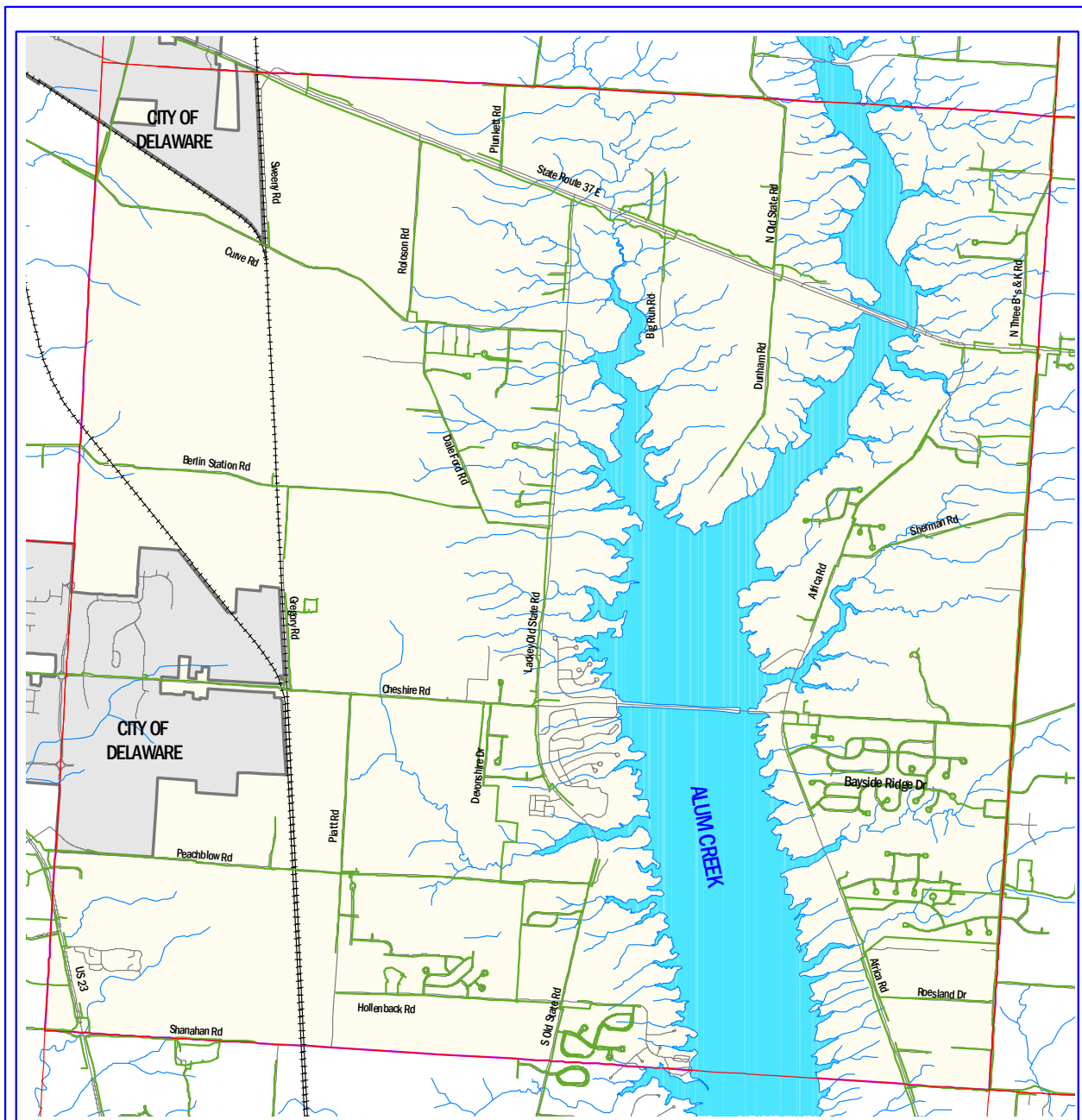
A new billion-gallon up-ground reservoir has been constructed along Liberty Road to bring total storage capacity to 1,660,000,000 gallons. The rapid growth of Delaware County strains water treatment capabilities during summer months. Del-Co regularly issues sprinkling regulations during dry summer periods. Certain addresses may water only every other day and there is typically not watering on Mondays.

With these new facilities, a total of 38 million gallons per day (mgd) is the long-term pumping and treatment capacity of Del-Co. While they have planned for future growth, they do not have unlimited supply options, since they compete with, or share their source supply with the cities of Westerville, Columbus, and Delaware. Unlike Cleveland, which simply pumps more off-shore Lake Erie water to its treatment plants upon increased demand, long-term solutions to water needs in Delaware County will require careful land use planning so that water needs do not outstrip ability to serve.

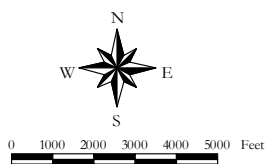
Water Lines

The Del-Co Water Lines map (Figure 10.1) for Berlin Township shows the location and diameters of water lines in the Township. In general, those streets that have water line of less than 6 inches in diameter will not offer fire hydrants. Fire hydrants are normally a requirement of development densities greater than one unit per acre.

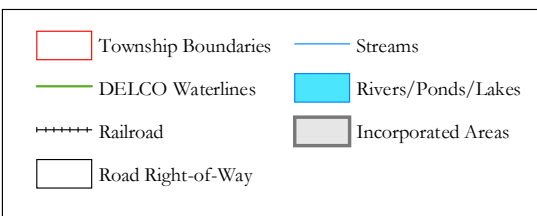
Map 10.1 Water Lines, Berlin Township



Water Lines - Berlin Township, Delaware County, Ohio



Prepared by the Delaware County Regional Planning Commission
GIS data provided by the Delaware County Auditor's DALIS Project
(Township Boundaries, Hydrology, and ROW)
(1/3/2011)



Sanitary Sewer Service Area

A large portion of Berlin Township is located within the current Region 1-A sanitary service area. This means that sanitary sewer service is available; however sanitary sewers may not be readily accessible at all locations. The Region 1-A service area can be further divided into the service areas shown on the following map. Currently, Berlin Township has sanitary sewer service in the five sewer service areas A, B, C, D, and M shown on the sewer service area map (Figure 10.2).



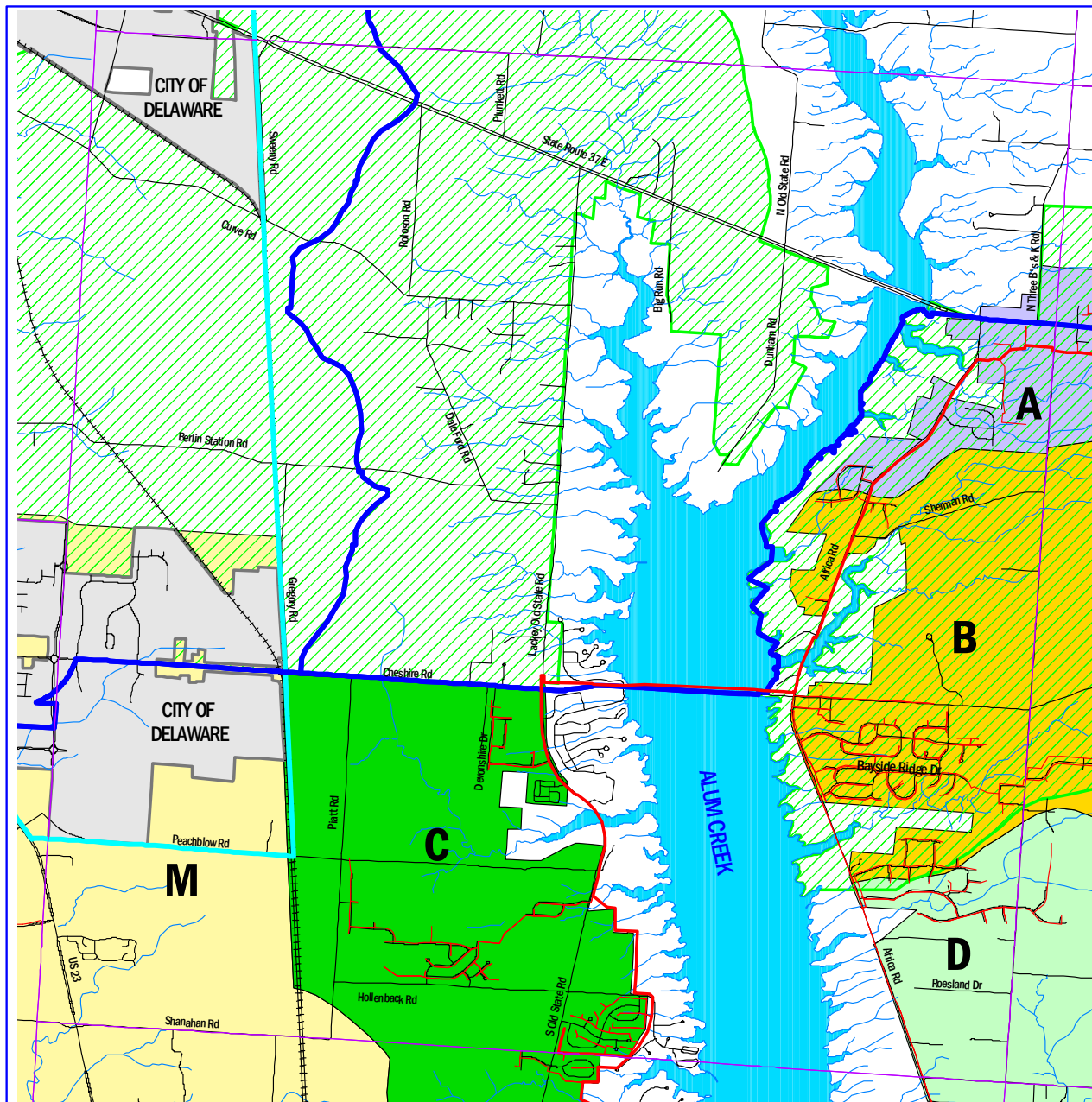
The Delaware County Regional Sewer District, a division of the County Commissioners, provides sanitary sewer service in non-incorporated areas of the county, as well as some municipalities by agreement. The Olentangy Environmental Control Center (OECC), located on the west bank of the Olentangy River at the Franklin County line, has a design capacity of 6 million gallons per day (mgd). A second plant, the Alum Creek Wastewater Reclamation Facility (ACWRF) located along Walker Woods Blvd., opened in 2001 for the east central portion of the southern half of the county. Its design capacity is 10 mgd. A third plant, Lower Scioto Wastewater Reclamation Facility (LSWRF), will soon be complete in Concord Township. The first phase has a design capacity of 1.4 mgd, with an ultimate design capacity of 2.8 mgd. Six other smaller plants are managed by the county.

Both the OECC and ACWRF plants serve Berlin Township. The dividing line between the east and west watershed or drainage areas generally follows the Conrail railroad tracks. Areas west of the Conrail tracks drain to the Olentangy plant, while areas east generally drain to the Alum Creek plant.

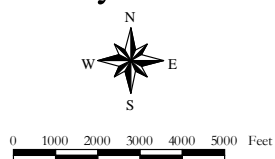
Currently, the Olentangy plant is running at approximately 55% of design capacity. The Alum Creek plant is running at approximately 43% of the design capacity. In 2005, the county updated its Sewer Master Plan, which anticipates additional sewer service areas. Much of the remaining areas of the township are located within the Central Alum Creek Service Area. This area is denoted with the green hatching on the Sewer Service map. This area is under review for service lines that will expand the system by initially serving the school on Gregory Road and planning for growth in the larger service area.

In an effort to resolve potential future disputes over sanitary service areas between the City of Delaware and the county created a service area agreement. The agreement will reduce the potential for duplicate infrastructure, optimize the use of gravity sewer service and better the use of existing and future financial resources. Under the terms of the agreement, the City will serve areas north of Peachblow Road and west of the Conrail tracks, and annexation will be required. The County will serve the areas outside of that area. The area generally follows the prior agreement between the City and Del-Co for water provision.

Figure 10.2 Sanitary Sewer Service Area, Berlin Township



Sanitary Sewer Service Areas - Berlin Township, Delaware County, Ohio



Prepared by the Delaware County Regional Planning Commission
GIS data provided by the Delaware County Auditor's DALIS Project
(Township Boundaries, Hydrology, and ROW)
(1/3/2011)

- Township Boundaries
- Major Sewer Lines
- Minor Sewer Lines
- Drainage Areas
- Delaware City Water Service Area
- Road Centerlines
- Railroad
- Streams
- Rivers/Ponds/Lakes
- Incorporated Areas

- Sewer Service Areas
- ZONE A - EAST ALUM CREEK
- ZONE B - CHESHIRE
- ZONE C - PEACHBLOW
- ZONE D - ALUM CREEK
- ZONE M - POTENTIAL
- Future Sewer Service Areas
- Lower Scioto Service Area
- Central Alum Creek Service Area
- Central Olentangy Service Area
- Big Walnut Service Area

When sewage must flow through a pump station, the capacity of the pump station can generally be upgraded to serve additional areas or additional density up to the capacity of the gravity sewer that empties the pump station.

Pump Stations Serving Berlin Township
1. Alum Creek Pump Station
2. Cheshire Road Pump Station
3. Peachblow Pump Station
4. Summerwood Pump Station
5. East Alum Creek Pump Station

Commercial users are assigned equivalent housing capacities. For example, the Meijer located on U.S. 23 is equivalent to 48.28 houses, which means its flow is calculated at 14,001 gallons per day, while the Delaware County Bank and Trust headquarters is rated at 7.48 houses or 2,169 gallons per day.

Density by plant capacity - Using the capacity of the ACWRF and subtracting the maximum contractual flows to Columbus and Westerville, the result is the residual capacity of the plant. Using the county's GIS software, the proposed densities in the undeveloped area of each treatment plant can be calculated to determine if the build-out population of the service area can be served by the plant. The Sanitary Engineer's office regularly reviews land use plan changes to ensure that infrastructure is being appropriately planned for the ultimate capacity needed. Each of the sewer service areas has an ultimate capacity based upon gravity flow in the pipe that takes the sewage to the treatment plant, and the capacity of the treatment



East Alum Creek Pump Station on Africa Road near U.S. 36/S.R. 37.

plant itself. If the Zoning Commission and BZA choose to propose changes to the densities and non-residential land uses in the plan, the sanitary office will be consulted to ensure such changes can be served.

Land Use Assumptions for Sewer Capacity and Land Use Density

For the purposes of allocating land use density based upon sewer capacity alone, the following assumptions were made:

- Pump stations capacities can be upgraded.
- The pipe that discharges the pump station is expensive to be increased and is not expected to be upgraded.
- The ultimate capacity limitation is the treatment plant (design) capacity, which currently is 10 mgd at the Alum Creek plant and 6 mgd at the Olentangy Plant.
- Zoning must regulate the approximate densities of land.

Policy Implications for Land Use - County Sewer

The County Commissioners sewer user policy is “first come, first served”. The county Sanitary Engineer cannot, and does not, police the densities of land uses using the sewer. It is up to the township to determine the density of population by zoning. If the township wishes to exceed the average density for a parcel of land, they either must reduce another parcel’s land use for sewer, or there will be “holes” in the sewer service area without sewer capacity.

There will come a time when there are more subdivisions approved on paper than there is treatment plant capacity. Since not all subdivisions get built, new subdivisions will continue to be accepted for approval until the full 16 mgd of treatment plant capacity has been purchased in tap fees. Those who obtain subdivision approval, but do not record their plats and pay their fees may be closed out of access to county sewer by others who are more aggressive in paying for their taps as they receive subdivision approval.

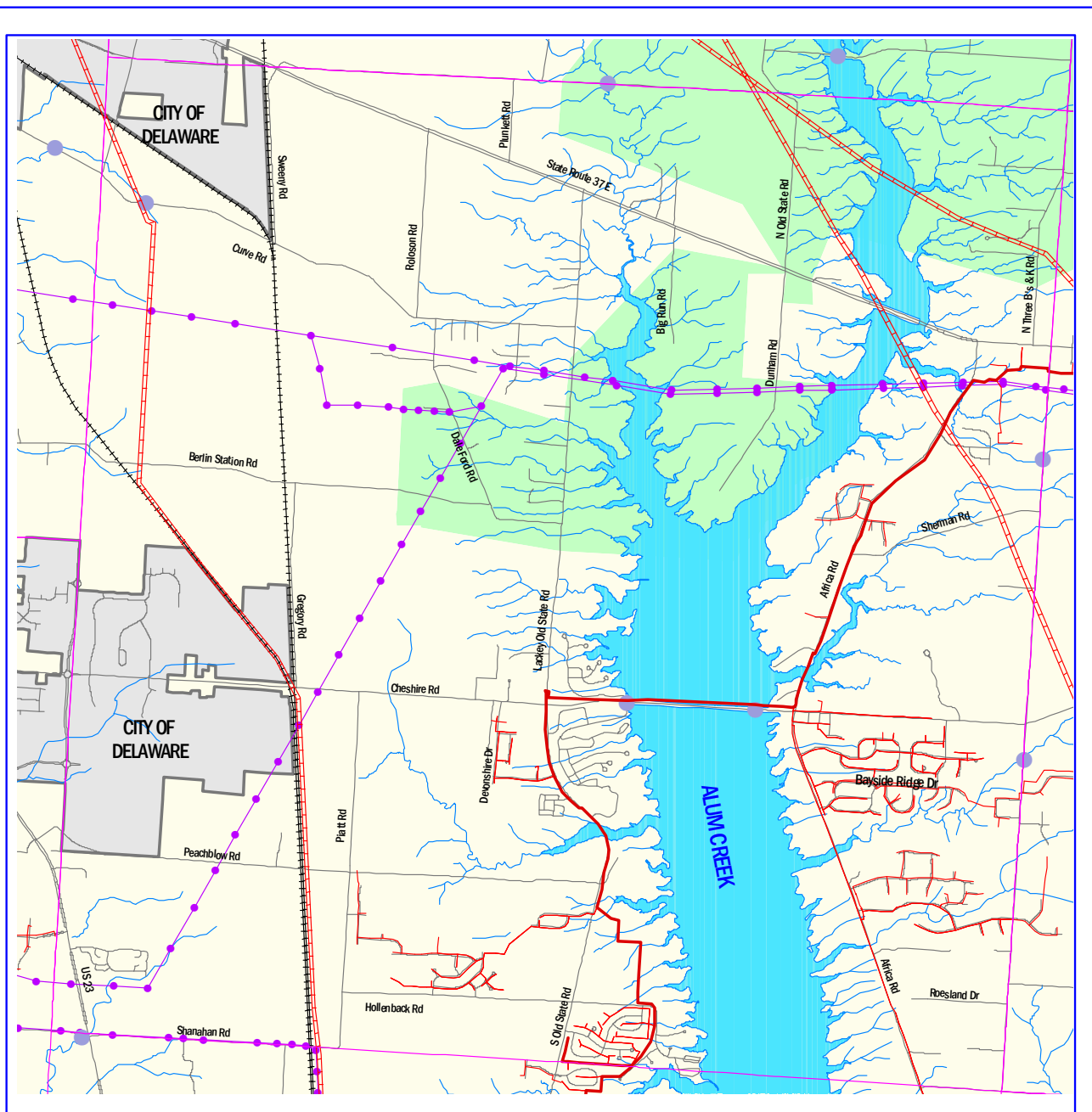
Electric

Electric service is provided to most of Berlin Township by American Electric Power and to limited areas in the northeast corner of the township by Consolidated Electric. The Utilities Map shows the service area. Major electric transmission lines also cross Berlin Township. No structures are permitted within the rights of way and recorded easements for these transmission lines. The locations of these lines are shown on the recommended Land Use Plan.

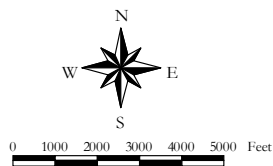
There is presumed to be no limitation to growth of the Township because of shortage of electric power. Since 2001, AEP constructed a \$38 million substation in Orange Township to supply the service area with all the power it needs. This substation is located immediately to the east of the Orange Point Industrial Park. See Figure 10.3.

Wind turbines – Although there are no modern, power-producing wind turbines in the county, current interest in alternative energy sources suggests that some could be introduced to the area in the near future. The Ohio Legislation recently protected Wind Farm Projects that produce more than 5 megawatts (MW) from local regulatory control. Any significant wind farms would be treated like a public utility and be regulated by the state. Several central Ohio townships are considering specific language in their zoning codes that would regulate the placement of “Small Wind Projects”, or those that produce less than 5 MW.

Figure 10.3 Utilities Map, Berlin Township



Utilities - Berlin Township, Delaware County, Ohio



Prepared by the Delaware County Regional Planning Commission
GIS data provided by the Delaware County Auditor's DALIS Project
(Township Boundaries, Hydrology, and ROW)
(1/3/2011)

Township Boundaries	Incorporated Areas
Major Sewer Lines	Electric Power Service District Boundary
Sewer Lines	American Electric Power
Gas Lines	Consolidated Electric Co.
Bridges location	Dayton Power & Light
Power Poles	Licking E. C.
Power Lines	Morrow E. C.
Railroad	Ohio Edison
Road Right-of-Way	Ohio Power
Streams	Union E. C.
Rivers/Ponds/Lakes	

Natural Gas

Berlin Township is served by Suburban Natural Gas of Lewis Center, and Columbia Gas. There is no shortage of natural gas that would restrict the development of the Township. An upgraded Columbia Gas trunk line was installed to bring additional service to the southern part of the county. The line begins in Harlem Township and traverses the southern townships, roughly following the high-tension lines through Orange Township before terminating in Liberty Township. See Figure 10.3.

Telecommunications/cellular

Under current state and federal laws, telecommunications towers are permitted in any non-residentially zoned districts. Under Ohio law, townships can regulate telecommunications in residential districts if objections are filed by abutting property owners or Township Trustees.

Storm water management

Storm water management is reviewed by the Delaware County Engineer's Office for new subdivisions, and road construction. The Delaware Soil & Water District maintains ditches and reviews storm water plans by agreement with the County Engineer's ditch maintenance program. As of January, 2009 there were 26 projects on county ditch maintenance. See Figure 10.4.

Figure 10.4 Drainage Structures on Maintenance in Berlin Township (Source DCSWCD, 01/09)

Number of Projects	26
Miles of Open Ditch	1.47
Miles of Storm Tile	12.73
Retention/Detention Basins	26
Total value of improvements	\$3,425,213

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CHAPTER 11

Community Facilities

Schools

All of Berlin Township is within the 110 square mile Olentangy School District (see Figure 11.2). The district also includes all of Orange, most of Liberty, and portions of Concord, Genoa, Berkshire and Delaware Townships, as well as Delaware City.

Enrollment Growth

The rapid population growth in the Olentangy School District has provided its greatest challenge. When the last Berlin Township plan was discussed, Olentangy enrollment was 4,937 students for 1998-99. The district projected a 160% increase to 12,497 by 2008-09. If the 2009-10 projection is correct, the district will have experienced growth of almost 1000 students per year over the last decade to 14,920.



Olentangy Orange High School.

The school district has been playing catch up with the area’s unprecedented housing growth. The District has anticipated its growth to continue, despite the lagging numbers in new housing. In 2006, DeJong-Healy updated its enrollment projections and build-out scenarios for the District. Using building permits, housing yields and survival ratios (the percentages of children who end up actually attending the district), the report found the following (Figure 11.1):

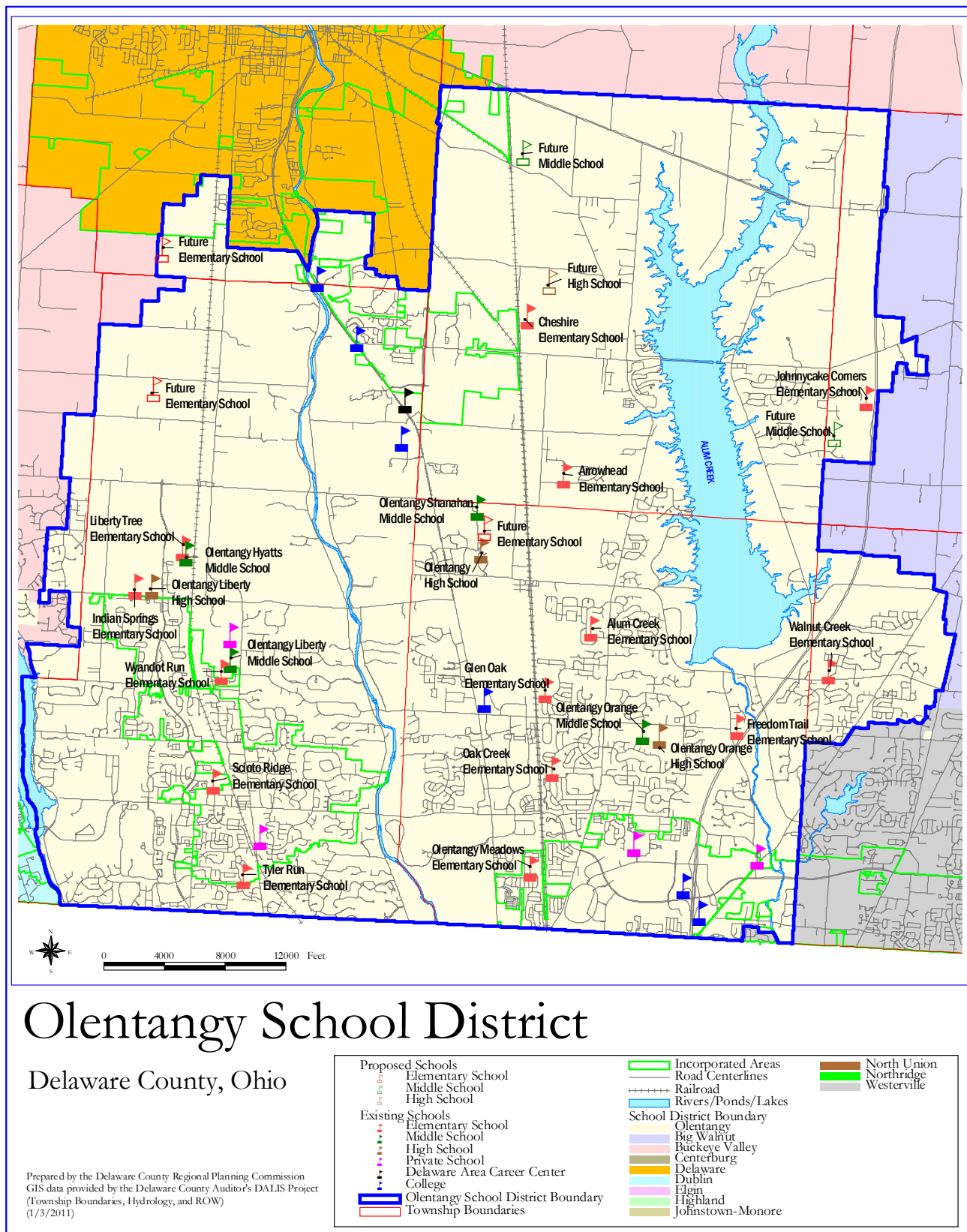
Figure 11.1 Olentangy District Projected Enrollments

Grade	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
K-5 Total	8,138	8,670	9,076	9,423	9,708	9,807	9,874	9,908
6-8 Total	3,150	3,362	3,642	3,904	4,206	4,529	4,820	5,080
9-12 Total	3,632	3,797	4,026	4,278	4,471	4,860	5,221	5,561
Total	14,920	15,829	16,744	17,605	18,385	19,196	19,915	20,549

Source: Enrollment Projections Update by DeJong-Healy.

The enrollment for 2009-10 school year was 14,920 students (without preschool). The DeJong-Healy projections show that in seven years, enrollment will have grown 37% to 20,549. Previous projections from 1998 were underestimated by 2,500 students fewer than the actual number enrolled in 2009.

Figure 11.2 Olentangy School District



Current Facilities

There are currently three high schools. Each is designed for a capacity of 1400-1600 students:

Olentangy High School was completed in June 1990 at 675 Lewis Center Road. A 149,000 square foot addition was completed in early 1997. A project during the summer of 2009 added a new 22,973 square foot theater and converted the old auditorium into additional classrooms. Its 2008-09 enrollment was **1,154**.

Olentangy Liberty High School, 3584 Home Road, opened in 2003. Its 2008-09 enrollment was **1,413**.

Olentangy Orange High School, 2840 E. Orange Road, was completed in 2008. Its first year enrollment (grades 9, 10, and 11) was **817**.

Total High School enrollment in three facilities was 3,384.

There are four middle schools. Each is designed for a capacity of 900 students:

Olentangy Shanahan Middle School is located at 814 Shanahan Road. Its 2008-09 enrollment was **781**.

Olentangy Liberty Middle School on Liberty Road was completed in 2001-02. Its 2008-09 enrollment was **729**.

Olentangy Hyatts Middle School on Sawmill Parkway opened in 2007-08. Its 2008-09 enrollment was **601**.

Olentangy Orange Middle School on Orange Road opened in 2007-08. Its 2008-09 enrollment was **932**.

Total Middle School enrollment was 3,043.

There are twelve elementary schools. Each is designed for a capacity of 650 students:

Wyandot Run opened for the 1993-94 school year. Its 2008-09 enrollment was **604**.

Alum Creek opened for the 1996-97 school year. Its 2008-09 enrollment was **658**.

Arrowhead opened for the 1998-99 school year. Its 2008-09 enrollment was **571**.

Scioto Ridge opened for the 1998-99 school year. Its 2008-09 enrollment was **705**.

Oak Creek opened for the 2000-2001 school year. Its 2008-09 enrollment was **691**.

Tyler Run opened for the 2001-2002 school year. Its 2008-09 enrollment was **672**.

Indian Springs opened for the 2007-08 school year. Its 2008-09 enrollment was **684**.

Walnut Creek opened for the 2003-2004 school year. Its 2008-09 enrollment was **694**.

Glen Oak opened for the 2005-2006 school year. Its 2008-09 enrollment was **685**.

Olentangy Meadows opened for the 2006-2007 school year. Its 2008-09 enrollment was **677**.

Liberty Tree opened for the 2007-2008 school year. Its 2008-09 enrollment was **637**.

Johnnycake Corners opened for the 2007-08 school year. Its 2008-09 enrollment was **483**.

Freedom Trail Elementary has a projected initial enrollment of **597**.

Total Elementary enrollment was 7,761 (including 217 preschool students).

Olentangy Future Facility Needs

Based on a student yield per current building configuration and DeJong-Healy grade level projected enrollments at 2014-15, the district confirms that there will be a need for four high schools (one more than anticipated in 1999), seven middle schools (three more than anticipated in 1999) and 20 elementary schools (eight more than anticipated in 1999). Based on September, 2007 enrollments and projections, bond and building patterns are expected to be as follows:

High School #4	Bond Spring of 2011	Open 2014-15
Middle School #5	Bond Spring of 2009	Open 2011-12
Middle School #6	Bond Spring of 2013	Open 2015-16
Elementary School #13	Bond Spring of 2008	Open 2009-10
Elementary School #14	Bond Spring of 2009	Open 2010-11
Elementary School #15	Bond Spring of 2010	Open 2011-12
Elementary School #16	Bond Spring of 2012	Open 2013-14
Elementary School #17	Bond Spring of 2016	Open 2017-18

Funding for Schools

The cost of educating a student in the Olentangy District in 2008 was \$9,187. This compares favorably with other districts in the county including Big Walnut at \$9,615, Delaware City at \$9,464 and Buckeye Valley at \$9,457. In fact, the average state-wide is \$9,019. The Ohio Department of Education separates expenditures out into a number of categories including Instructional, Building Support, Administration, Pupil Support and Staff Support. Information for all such categories is presented per district and per pupil at www.ode.state.oh.us.

According to the DeJong-Healy Enrollment Projections Report, in 2006 a typical \$300,000 single-family home in the district would pay approximately \$3,713.57 in taxes to the schools, based on the effective residential school-only tax rate at the time of 35.367. (Market Value is multiplied by 35% before the tax is calculated.) That rate included a 27.46734 operating millage and a 7.9 mill bond.

The DeJong-Healy report noted that \$10,465 was needed per student in Operating and Bond Funds as a result of recent growth and the need for new facilities. The report also estimated that for growth to truly “pay for itself,” each new single-family home would need to be valued at \$659,426 and each condominium would need to be valued at \$169,083. This is based on the assumption that the typical single-family home generates, on average, .78 students per permit and the typical condominium generated between .13 and .20 students per unit.

Sources of additional revenue to make up this shortfall are commercial real estate taxes which are figured at 36.091446, or slightly higher than the residential rate. Other sources are personal inventory tax and state and federal aid. The ODE website reports that in 2008, the district received \$7,060 per pupil from local revenue, \$1,291 per pupil in state revenue, and \$242 per pupil in federal revenue for a grand total of \$8,705 per student.

As previously noted, the Olentangy district is a fairly wealthy district in terms of revenue sources and real estate valuation. The median household income for the District was \$96,469 in 2007 while Ohio's is \$46,296. The rapid pace of growth challenges the school district to fund and open new schools in a timely manner. (*Source: American Community Survey, 2007*)

Effect of Land Use Planning on School Planning

The pace of growth continues to be the challenge for the school district. Ohio law does not provide for building moratoriums in townships (*see Meck and Pearlman, Ohio Planning and Zoning Law, 1999 Edition, The West Group, Section 11.27-11.28*). Federal case law comes from a series of 1970s cases regarding growth rate limitations, the most famous of which is *Golden v. Ramapo* (409 U.S. 1003, 93 S. Ct. 440 34 L. Ed. 2d 294 (1972)). The philosophy of growth management permits new infrastructure to be built at a reasonable, attainable rate. What constitutes a reasonable attainable rate has been the subject of much litigation. The courts said that the community can only create a moratorium that is temporary and based on a critical shortage of a basic community service. The community must work to provide that service, at which time the moratorium must be removed.

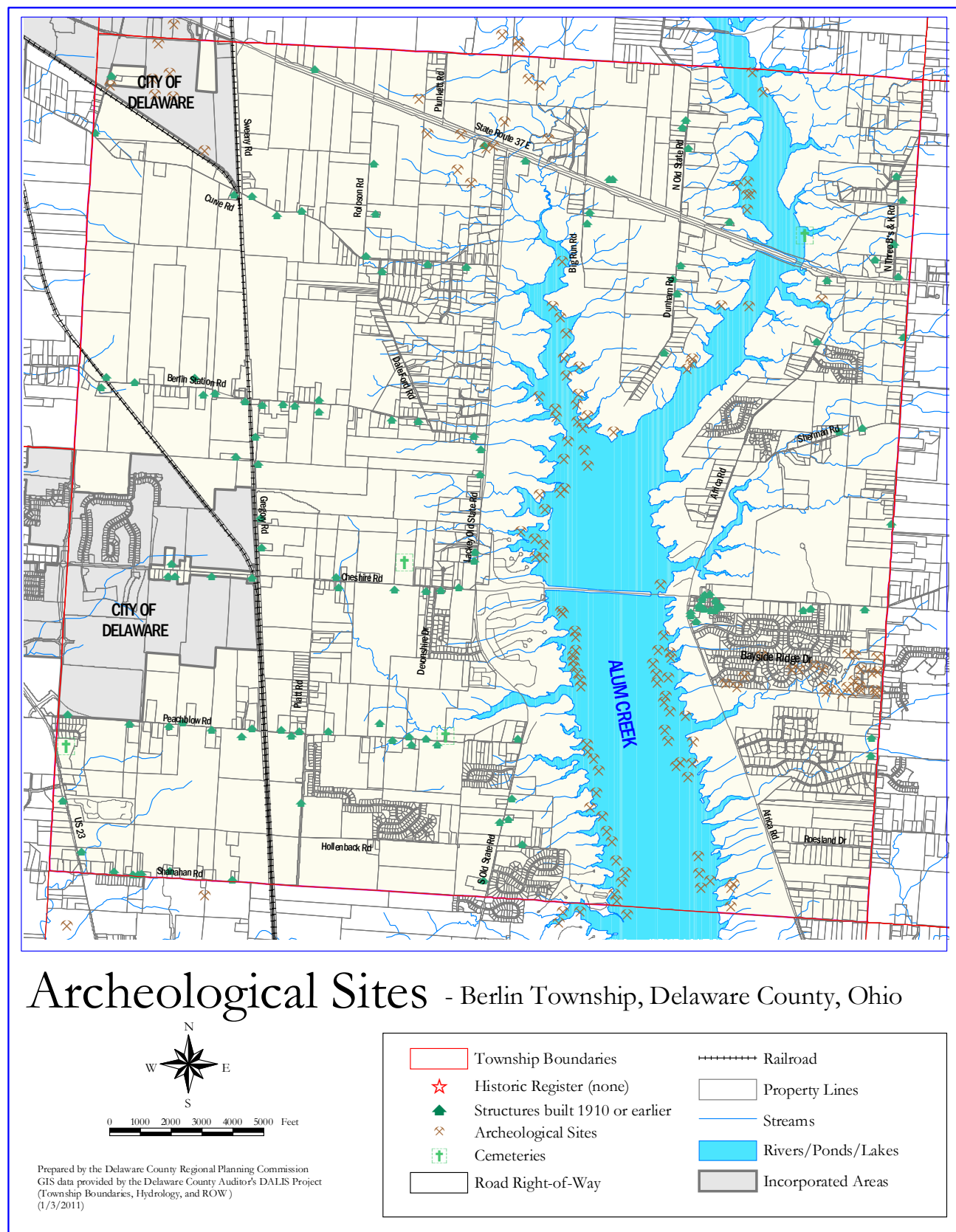
Cities and villages in Ohio have home rule authority which “provides the flexibility to experiment with different types of planning programs to respond to the issues of rapid growth” (*Meck and Pearlman, ibid., p. 507*)

Townships do not have the same home rule authority in Ohio as villages and cities. Currently, Ohio townships do not have the authority to impose impact fees. Their only recourse to overly rapid growth is to control the timing of zoning. For example, if the community is over-zoned for residential use (more house lots subdivided than the market can absorb in the foreseeable future), and if there are severe shortages of critical community facilities (i.e. water, sewer, schools, roads), then approval of additional residential zonings may be inappropriate until such shortages are relieved. The Olentangy School District has solved its short term funding problem with its most recent levy. Berlin Township may use the schools as one additional indicator of critical facilities that need to be monitored in making zoning decisions.

Archeology, Cemeteries and Historic Sites

The Ohio Historical Society maintains a listing of cultural resources across the state. The Archeological Sites Map indicates possible archeological sites, historical sites and cemetery locations. These sites are mapped by the State of Ohio OCAP data available from the Ohio Division of Natural Resources. The DCRPC has no information regarding any materials found at any of these sites.

Figure 11.3 Archeological Sites, Cemeteries and Historic Sites, Berlin Township



Historic Sites

The data in Figure 11.3 indicates that there are no Berlin Township sites on the National Register of Historic Places. However, that does not indicate that there are no historic places in the township. The map indicates a number of structures which, based on the Auditor’s data, were built in 1910 or earlier.

The unincorporated village of Cheshire was platted in 1858. It has a collection of older structures, some of which may be appropriate for preservation and restoration. Changes could also be made to the existing Old Cheshire PUD overlay to ensure that any redevelopment meets a number of architectural goals and standards.

There are several other scattered sites throughout the township where individual structures are of an age and quality that might qualify for historical designation, if not on a state level, perhaps at a local level.



Redevelopment in the Village of Cheshire.

Several “ghost towns” have been “located” in the township, based on research by Larry Durica. Alum Creek was a town which is mostly underwater. A former church can be seen on the east side of the reservoir at 36/37. Berlin Station was a railroad town at the Conrail tracks with a grocery store, sawmill, wagon-maker’s shop, church and a schoolhouse. The grocery was in business until 1940. Berlin was a “paper” town that was never developed on 36/37 near Baker Road and Sweeney Road. Gregory was a railroad town at Cheshire and the tracks. Jacktown was located at Africa Road south of Cheshire but is probably now under the reservoir. Other crossroads communities include Jones, Rust Corners, Saunder’s Corners and Stewards Corners.

Cemeteries

A small number of cemeteries exists in the township. The size, ownership and type vary:

Figure 11.4 Cemeteries

Site	Location	Detail
Fairview Memorial Park	U.S. 23, south of Peachblow Road	
Berlin Township Cemetery	3271 Cheshire Road	Owned by Township Trustees
Peachblow Church Cemetery	3247 Peachblow Road	Township Trustees (Historic)
Myers Cemetery	West of 225 N. 3 Bs and K Road	Historic

Source: Ohio Historical Society GIS data

Libraries

The Delaware County District Library (DCDL) will soon begin construction on a 34,000 square foot community branch at the north end of Gooding Boulevard between Gooding and U.S. 23 in Orange Township. The facility will house over 105,000 items, specializing in popular books, movies, and magazines, and will have large children’s and teen collections.

The library is designed to be a community gathering place, providing public meeting rooms, conference rooms, and study/tutoring space, all with high-speed, free wireless Internet access. The planned date of completion is 2011. Although a levy which would have assisted in the construction of a facility was approved by voters, recent changes in the State's budget outlook have delayed activity on the site.

The branch library will be part of the Delaware County system, which also includes a main downtown library at 84 East Winter Street, Delaware, and branch libraries in Powell and Ostrander. When the new branch opens, the Delaware County District Library will employ 60 people or 47 full time equivalents. Its annual budget is approximately \$6.2 million, which is used for staff salaries and materials, capital projects, maintenance, and operating expenses. Seventy-five percent of the budget comes from a 1-mill, 10-year property tax levy passed by voters in 2009.

The state's Public Library Fund provides about 24% of the Library's revenue, and the remaining 1% is generated by interest on investments, donations, and overdue fines.

In 2009, there were 131,000 residents in the DCDL service area and 43,000 registered borrowers (borrowers can be outside of the district). School districts that are in the service area include Olentangy, Delaware City, Buckeye Valley, and the Delaware County portions of Elgin Local, Dublin, and Union County. Currently, the District has 225,000 volumes.

Hospitals

There are no hospitals located within Berlin Township. Grady Memorial Hospital, the only hospital in Delaware County, is located on Central Avenue in the City of Delaware and is part of the OhioHealth system. Grady Hospital provides 125 beds for general surgery, women's health including the Grady Family Birthplace, cardiology and orthopedics as well as urology and ophthalmology and emergency care. Cardiac surgery and neurosurgery are referred to tertiary medical centers.

Grady was recently accredited as a Chest Pain Center, a designation held by fewer than 10% of all hospitals nationwide and has constructed the Delaware Health Center off of Route 23 on OhioHealth Boulevard. This will be the first building in the new Delaware Health Village, the future site of a new hospital and other health facilities planned to meet the growing needs of Delaware County residents.

Emergency hospital service to Berlin Township is most frequently distributed among Grady, Riverside Methodist Hospital, Olentangy River Road in Columbus, and St. Ann's Hospital in Westerville.

Two outpatient facilities serve southern Delaware County. Grady at Wedgewood and Mt. Carmel OutPatient, both on Sawmill Parkway in Liberty Twp serve Liberty Township, Powell, and northern Franklin County. Both centers provide medical services that do not require an overnight stay. A new Ohio State University Medical Center including a number of

medical offices and services is planned in the Olentangy Crossings center to the south in Orange Township. Numerous other health facilities are available in the Polaris area and along Cleveland Avenue in Westerville.

Fire Protection

The Berlin Township Fire Department operates from a new facility located at 2708 Lackey Old State Road at the intersection of Cheshire Road. The Fire Department includes one full-time chief, one full-time firefighter, one part-time assistant chief, one part-time fire prevention officer and 21 part-time firefighters. Firefighters are trained in a variety of areas including Fire, EMS, Hazmat, Fire Inspection and Fire Investigation.



The Fire Station – corner of Lackey Old State and Cheshire Roads.

Delaware County EMS Medic 10 is housed in the Berlin Township Fire Station 390 and began 24-hour EMS coverage in 2006.

The Department's apparatus includes one Tanker/Pumper, one Engine/Rescue, one Grass/Utility Truck and a Rescue Boat. More specifically, the Fire Department has the following equipment for emergency responses:

- Command Vehicle – 2011 Ford Excursion with 9-1-1 complaint communication equipment
- Engine 391 – 2005 E-One Fire Engine
- Engine/Tanker 392 – 1995 E-One
- Grassfighter 391 – 2003 F-350 4x4 250 gpm. 150-gallon water tank
- Boat 391 – Zodiac
- Boat 392 – 2008 Carolina Skiff
- Utility 391 – 2003 Dodge Durango
- Delaware County EMS Medic 10 – 1999 F-350 Horton Ambulance



Boat 392, a 2008 Carolina Skiff.

The Department has a number of goals pertaining to future development. Many goals have to do with improvements in water pressure and delivery, such as installation of new water mains, increasing fire hydrants, looping existing lines, additional water towers and pumping stations and encouraging dry hydrants in areas where there is not an adequate supply of water. Other goals include requiring sprinklers in multi-family buildings and encouraging sprinklers in single-family dwellings. Staff goals include increasing the staffing level to provide on-duty firefighters 24 hours a day, seven days a week. Finally, the chief would like to see the Zoning Code include regulations that are not in the Ohio Fire Code but are allowed to be instituted by the authority having jurisdiction.

Police

Berlin Township is policed by the Delaware County Sheriff's Office (DCSO), which is headquartered in Delaware on S.R. 42. The Sheriff's office currently has 92 deputies including command staff and approximately 60 cars. Fourteen deputies are on duty per shift. Each vehicle covers an average of 390 miles per day, or 130 miles per shift. See Figure 11.6 for a table of recent Sheriff's Complaints

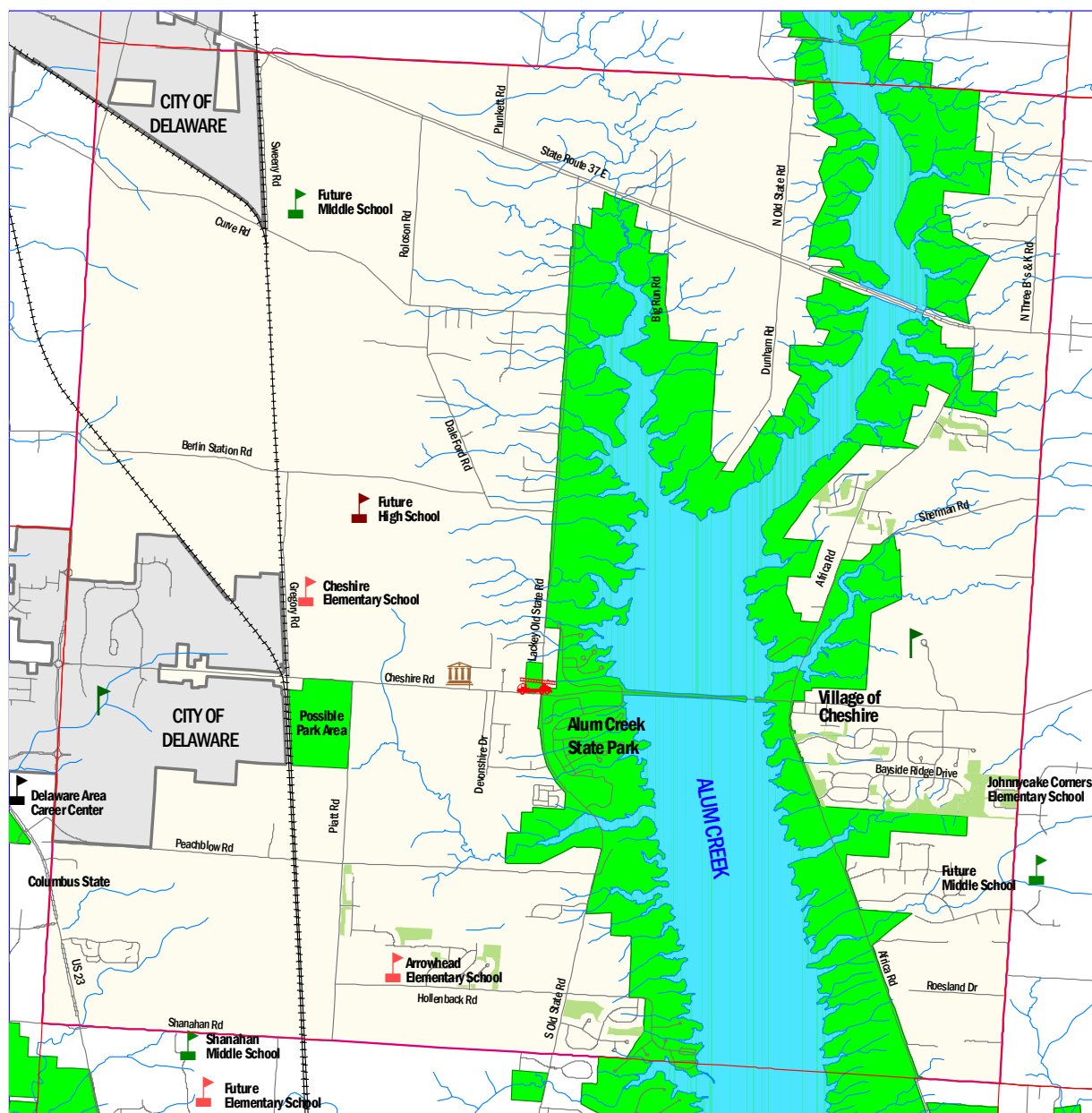
Figure 11.6 Sheriff's Complaints

Sheriff's Complaints for 2008 by Geographic Code			
Orange Township	8546	Radnor Township	296
Liberty Township	4838	Thompson Township	137
Concord Township	2568	Marlboro township	215
Berkshire Township	1738	Genoa Township	704
Berlin Township	2135	Sunbury	332
Harlem Township	1224	Ashley	242
Troy Township	1074	Delaware	2670
Delaware Township	727	Shawnee Hills	121
Brown Township	488	Galena	53
Scioto Township	566	Ostrander	133
Trenton Township	537	Dublin	97
Kingston Township	545	Powell	393
Porter Township	325	Columbus	566
Oxford Township	240	Westerville	164

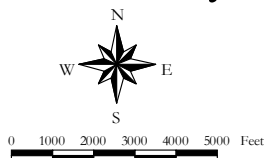
Township Facilities

The Township Hall is located at 3271 Cheshire Road and, until recently, shared the building with the Township Fire Department. The building includes several offices and a sufficient public meeting area. With the growth of the township the facilities will eventually need to be expanded. See Figure 11.5 for a map that combines Township Facilities along with the Fire Station and Schools.

Figure 11.5 Community Facilities, Berlin Township



Community Facilities- Berlin Township, Delaware County, Ohio



Prepared by the Delaware County Regional Planning Commission
GIS data provided by the Delaware County Auditor's DALIS Project
(Township Boundaries, Hydrology, and ROW)
(1/3/2011)

	Township Boundaries		Roads
	Township Hall		Streams
	Schools		Rivers/Ponds/Lakes
	Golf Courses		Parks
	Railroad		Common open space
			Incorporated Areas

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CHAPTER 12

Open Space and Recreation

Introduction

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 economic benefits of open space cannot be understated. Undeveloped land demands fewer community services and requires less infrastructure than suburban-style development. There is



One of several picnic areas at Alum Creek Park

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*, Trust for Public Land, 1999.)

Convenient access to parks improves the quality of life for residents. Numerous studies have shown the benefits of green space and active parks. 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.”

Open Space Standards

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

- Preserves ecologically important natural environments
- Provides attractive views and visual relief from developed areas
- Provides sunlight and air
- Buffers other land uses and controls densities
- Functions as a drainage detention area
- Serves as a wildlife preserve
- Provides opportunities for recreational activities
- Increases project amenities
- Helps create quality developments with lasting value

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.”



Alum Creek Reservoir and State Park.

“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 Required

The National Recreation and Park Association (NRPA) has developed a set of standards for local developed open space. Recreational needs vary from community to community, and desires for recreation vary also. Listokin notes that:

“Ideally the 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. The uniqueness of every community, due to differing geographical, cultural, climatic, and socioeconomic characteristics, makes it imperative that every community develop its own standards for recreation, parks, and open space.”

Location of Parcels

Listokin notes:

“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.”



Open space in Sherman Lakes.

Regional Parks

Berlin Township is blessed with a large park that provides passive (undeveloped) open space and active (developed) open space through the center of the township. It does not, however, provide recreational fields for organized sports.

Alum Creek State Park

Alum Creek State Park comprises 8,874 acres principally within Orange, Berlin, and Brown Townships. Smaller portions of the park are located in Kingston and Genoa Townships. The park is located in the northeast corner of Orange Township on Africa and Lewis Center Roads. The Corps of Engineers leases the land to the state of Ohio for use as a state park.

That portion of Alum Creek State Park within Berlin Township comprises an area of 2,532 acres, of which 1,933 acres is lake. The lake was

created by impoundment of Alum Creek behind an earthen levy and concrete flood control dam built by the U.S. Army Corps of Engineers from 1970-73. The dam is 93 feet high and 10,500 feet long between the levies. The minimum outflow of the dam is 60 gallons per second, with a maximum outflow of 12,216 gallons per second. The lake ranges from 65-78 feet deep.

Today, Alum Creek Lake serves five purposes: flood control, water supply (40 million gallons per day), fish and wildlife enhancement, water quality and recreation. See Figure 12.1 for a facilities map.

Recreational opportunities at Alum Creek are shown on the U.S. Corps of Engineers Map, and may be itemized as follows:

Land (entire park) – 4,630 acres

286 electric campsites with 3 full-service campsites;

8 “Getaway” cabin rentals;

4-acre Dog Park;

Hiking Trails – 9.5 miles;

Mountain Bike Trails – 14 miles;

Bridle Trails – 38 miles;

Hunting – 20 duck blind sites and 8 day-use blinds;



Alum Creek Reservoir Dam.

Alum Creek – 4,244 acres

4 Boat Launching Ramps;

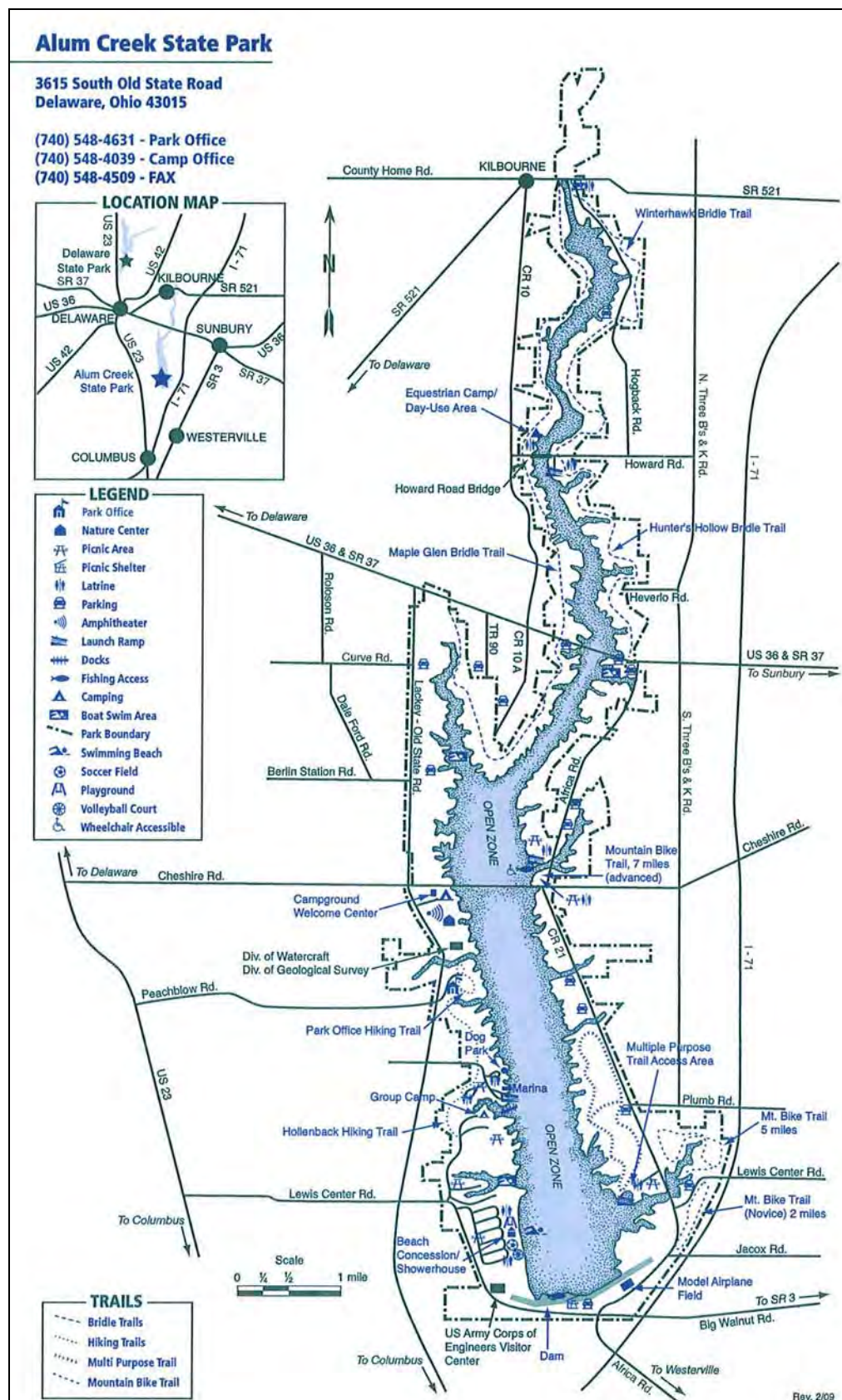
South of U.S. 36/S.R. 37 allows unlimited horsepower for boats, north has a no-wake speed limitation;

Swimming Beach – 3,000 feet (largest inland beach in Ohio’s state park system);

Shower house, concessions, sand volleyball;

Picnic areas – 8 scenic areas with tables, grills, restrooms and drinking water and two shelter houses.

Figure 12.1 Alum Creek Lake Opportunities



Future Recreational Needs

As Berlin Township grows it may wish to use the NRPA model, “which surveys the service area population to determine demand for different activities. Demand is then converted to facilities needs and then to land requirements.”

Undeveloped Open Space – Regional and Township Level

The large amounts of undeveloped open space at Alum Creek State Park should fulfill the complete need for undeveloped (passive) open space and a portion of developed (active) open space on a township-wide basis. They do not replace the need for neighborhood parks and township-wide parks with athletic fields for organized sports.

Undeveloped and Minimally Developed Open Space – Neighborhood Level

The open space requirement for new Planned Residential Developments should be used to provide centrally-located, undeveloped and developed open space within residential neighborhoods of suburban densities (generally greater than 1 unit/acre). Higher density neighborhoods and large-scale developments need to have active open space, based on a

percentage of overall open space, built as development occurs. To date, approximately 134 acres of common open space has been platted within seven subdivision projects. Such open spaces can include active facilities for the residents of the individual neighborhood or they can be designed to serve a larger population. These would be either mini parks of one acre or less within a ¼ mile radius of all portions of such neighborhoods, or 15-acre joint neighborhood parks that provide athletic fields for neighborhoods within ½ mile radius.



Young families often seek recreation outlets for small children.

Developed Open Space – Township-wide

The township should provide active recreational areas for its ultimate population. By using the NRPA Standards as a guide and giving credit for Alum Creek State Park, the following are general recommendations:

Recommendations at Build-Out

- Overall active recreational area required - NRPA recommends 6.25/1000 population, based on the availability of Alum Creek and Highbanks Metro Park.
- The current site of the Fire Station includes approximately 4 acres of undeveloped area. This area could be developed with a small baseball field and two soccer fields, concessions and parking area.
- Within higher density (2 unit/acre) neighborhoods (land could be dedicated as part of the PRD zoning):
 1. Establish mini-parks of one acre or less serving the population within ¼ mile;

2. Establish neighborhood parks of 15 acres, with field games, play ground apparatus, serving the population within $\frac{1}{4}$ to $\frac{1}{2}$ mile radius.
- Establish a community park of 25-50 acres, with an athletic complex, swimming pool, and recreational fields. Consider the need for the following facilities (some of which can be provided by area schools)
 - tennis courts
 - basketball courts
 - volleyball courts
 - baseball/softball fields
 - football/field hockey fields
 - soccer fields (this number may rise according to the popularity of soccer versus baseball)
 - $\frac{1}{4}$ mile running track
 - Swimming Pool (Alum Creek beach may be considered a substitute)

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. Greenways may be nothing more than a buffer of natural grass or vegetation thoughtfully placed to connect some areas or camouflage others. Leisure trails can be incorporated into greenways to give cyclists and walkers a safe and attractive path. Such greenway trails can connect with a bikeway system that following major roads and connects schools, parks and other public amenities.

Greenways can connect disjointed areas of the township and in so doing unify the community. Greenways can be used in both commercial and residential areas to create an aesthetic transition from one area to another. Sewer easements, high-tension powerline easements and other utility easements lend themselves to such uses because they are often part of land that can't be developed, or have common ownership/oversight across multiple developments.



Greenway/Bike Path near the Orange Township Hall

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CHAPTER 13

Development Patterns and Design Features

Community Choices

One of Berlin Township's goals is to preserve its rural character. This rural character is expressed as the preservation of open space and natural lands such as a stream valley, ravines, farms, wetlands area or patch of woods.

Part of what makes the township desirable is the vision that there will always be some permanent, interconnected open space and natural lands throughout. When agriculture and undeveloped natural areas convert to other land uses, this rural character will be lost unless conservation areas are preserved by future development patterns.

In 2009, roughly 36% of Berlin Township was still open lands, in agriculture or woods, in undeveloped residential areas, and areas of the township still have a rural "feel". Much agricultural land has converted to developed uses. Retaining rural character depends primarily on a community's ability to retain significant open space through new development, landscaping, the use of good design, and development patterns that encourage open space as a central feature or community amenity. There are numerous options landowners and developers consider when approaching the development of their land.

Rural Large-Lot Development

Prior to the extension of sanitary sewer to an area, residential development generally occurs along existing township roads (right).

Lots larger than 5 acres can be created without any review while splits smaller than 5 acres use a process known as the "no plat" or "minor" subdivision. This large-lot development, as long as it is surrounded by open space, is sometimes accepted as preserving open space, although no protections are typically put in place to prevent

further development of the land or to guarantee the conservation of that open space. For Berlin Township, large-lot splits along township roads continue to be used, especially where sewer service is not expected in the near future. It will continue to be a viable alternative so long as state law permits such "no plat" subdivisions



Conventional Subdivisions

As road frontage is used up by no plat lot splits, new access has to be created. This can be done with a Common Access Driveway (CAD) which is private or a road which can be either private or public.

CAD subdivisions follow the same procedure as any other “major” subdivision, including a Sketch Plan, Preliminary Plan and Final Plat. Standards are defined by the Regional Planning Commission and include a maximum of 5 lots, maximum grade of 10%, passing areas every 350 feet, tree and shrub removal specifications, and an easement width of 60 feet along the CAD. Additional standards may be applied by the local fire department, based on the access requirements of local emergency equipment. A private maintenance agreement must be recorded with the county and referenced on the plat.

In addition to CADs, 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 (right). Such larger scale subdivisions follow the “major subdivision” process of sketch plan, preliminary plan and final plat. The developer or consulting engineer takes each project through an approval process with the RPC staff as well as an engineering process with the oversight of the County Engineering staff.

In several locations, conventional subdivisions have been created which result in lots and streets. In such subdivisions, there are typically no nice places to walk to, no central green or woods, no riverbank or lakeshore for community use because all the land has been parceled out to individual landowners. Conventional subdivisions do not create permanent, interconnected open space, nor do they preserve critical natural areas. If all land is divided into conventional subdivisions, rural character is eventually lost. (It should be noted that conventional subdivisions can provide for easements and no-build/no-disturb areas across a number of individual residential lots, but these can be problematic over the course of time and often do not achieve preservation goals that they seek.)



Cluster Subdivisions

For forty years, cluster subdivisions, or “Planned Residential Developments” have been touted as an improved alternative to the conventional subdivision. In PRDs, greater design flexibility is obtained by reducing lot size and width (right). The absence of comprehensive standards for quantity, quality and configuration of open space has permitted many uninspired designs, which are in effect just reduced-scale conventional subdivisions. While PRDs typically require a percentage of the gross acreage be set aside as common open space, increased requirements for utilities and rising standards in stormwater management have required much of this open space to be used for utilitarian purposes and not treated as an amenity.



Initially, typical Delaware County PRDs resulted in developments that did not fulfill community expectations for:

- **Open Space** – minimal required open space calculated from the gross area. It is not specified how much unusable or environmentally sensitive area (wetlands, steep slopes, floodplains, storm water detention basins and utility easements) counts toward the required open space. As a result, cluster PRD subdivisions with small (7,200-10,000 square feet) lots have been created without any useable open space.

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



- **Architectural Standards** - in order to make higher density cluster subdivisions work, considerable thought needs to be given to the architecture, materials, facades, detailing, colors and landscape features that will bind the neighborhood into a cohesive unit. Although such criteria are often generally required, seldom does a land developer, who intends to sell the subdivision to a builder or builders, bother to provide significant criteria. The result is either a hodge-podge of different builder's 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.

An exception to the typical PRD is the “golf course” development. The success of golf course developments underscores the desire to live near permanent open space. Golf course developments typically do not provide public open space. The open space is a visual amenity to those whose lots are adjacent to it, but the golf course itself is not available to non-golfers and neighborhood children.

Over the past few years, several townships have adopted a “net” density calculation within their PRD standards, resulting in a hybrid model that does not require the typical 50% open space of a Conservation Subdivision (see next paragraph) but results in open space of a higher quality.

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 images showing different outcomes based on whether conservation standards were used or not.



Site before development.



Typical layout with acreage lots.



Identifying conservation areas.



End result, same number of houses.

Based on the fact that most of Berlin Township currently has the potential of gaining access to sewer and that it is well-served by access to U.S. 23, Interstate 71 and U.S. 36/S.R. 37 as a network of busy local streets, it is unlikely that a development with low densities and 50% open space would be attempted. However, there are lessons to be learned from

the Conservation Subdivision concept, one of which is the importance of open space as a quality feature and a preservation tool rather than a mathematic requirement. All residential zoning codes should ensure that open space is useable, while also encouraging resource conservation and natural feature preservation.

New Urbanism - Traditional Neighborhood Development (TND)

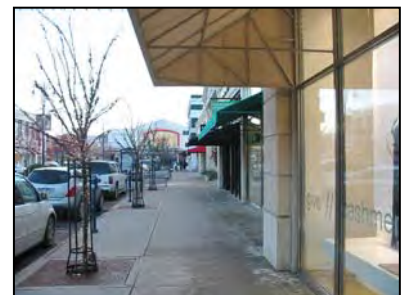
Traditional Neighborhood Development is a trend that is a reaction to conventional suburban “sprawl”. Andres Duany, Elizabeth Plater-Zyberk, Peter Calthorpe and others are part of a school of architects and planners (*The New Urbanism, Toward an Architecture of Community*, Peter Katz, 1994, McGraw Hill) who advocate a return to TND. These leaders, and a growing group of other architects, planners, and developers 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 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 and improved land-consumption.



Clark's Grove, a TND with a mixture of lot sizes, surrounding a school and park site.

The heart of the New Urbanism can be defined by 13 elements, according to town planners Andres Duany and Elizabeth Plater-Zyberk, two of the founders of the Congress for the New Urbanism. An authentic neighborhood contains most of these elements:

- The neighborhood has a discernible center. This is often a square or a green and sometimes a busy or memorable street 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.
- 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 small ancillary building is permitted within the backyard of each house. It may be used as a rental unit or place to work (e.g., office or craft workshop).
- An elementary school is close enough so that most children can walk from their home.



Streetscape at Easton.

- 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 bicycles.
- 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.
- The neighborhood is organized to be self-governing. A formal association debates and decides matters of maintenance, security, and physical change. Taxation is the responsibility of the larger community.

These elements combine to form the ideal form of Traditional Neighborhood Development as promoted by the New Urbanists. However, commercial developers are currently incorporating some but not all of these elements in their designs. “Lifestyle Centers” are being promoted as the next generation of the shopping mall. These centers typically include an open-air layout and a mix of specialty stores. One local example of the Lifestyle Center is Easton Town Center in Northeast Columbus. Easton began with large indoor and outdoor privately-owned retail areas and now has added townhouse residential development across the street. Such “hybrid”, retail-intense developments are often criticized because of their immense scale mixed with “artificial quaintness”. Many lack a true mixture of uses and ownership and lack public open space and institutional uses. However, many of the more “authentic” historic areas began as criticized speculative development.

Another example, Rosemary Beach is a beach-front TND located on the Florida panhandle, designed by Andres Duany and Elizabeth Plater-Zyberk. The following TND graphics are reproduced from Rosemary Beach sales literature.

connections as well as allowed for the relocation of Home Road and incorporated it as a feature of the site.

Six hundred multi-family units were proposed, with about a fourth of those taking the form of village-style detached units, called “village lots” and “carriage lots.” Other housing forms included “terrace,” “courtyard,” and “mews.” Commercial areas included one-story, as well as multi-story buildings, with both large footprints and some “vener” buildings which would have disguised the size of larger, big-box uses.



Cobblestone Crossing overall development plan (top) and town center detail (bottom). Source: Planned Communities, Floyd Browne Group, Lincoln Street Studios, Bird-Houk.

Overall, the application included a pattern book which showed, in text and imagery, how each building type would be configured and shaped (massing), the treatment of windows and doors, and the types of materials and how those materials would be applied. Images showed examples of how these details would be applied in new construction as well as representative historical structures that “informed” the detailing. The pattern book committed to the nature of the development and the standards that would be used, becoming a regulatory part of the rezoning development plan package.

Although the project was withdrawn before approval, Orange Township learned much during the process. The pattern book was a feature that helped the township visualize how development would occur and provided visual details that would be complicated to provide in a text-only format. The overall layout also provided the township with a “real world” application of a Town Center, suggesting the acreage and use mix necessary from a developer’s perspective. The zoning commission may wish to consider this proposal when it reviews the Sub-Area recommendations in the following chapter.

Smart Growth

Since Maryland enacted supporting legislation in 1997, Smart Growth has been a topic for planners nationwide. Maryland directs state growth related expenditures into locally designated compact growth areas.

The American Planning Association 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.” Smart Growth encourages the location of stores, offices, residences, schools and related public facilities within walking distance of each other in compact neighborhoods. The popularity of many smart growth concepts has captured the interest of the press as well. Smart growth incorporates many of the concepts of conservation subdivisions in rural areas, and TNDs in urban areas. See Figure 13.1 for a comparison of common elements of smart growth versus sprawl.

Figure 13.1 Comparing Smart Growth and Sprawl (Ewing, 1996; Galster, et al, 2001)

	Smart Growth	Sprawl
Density	Higher-density, clustered activities.	Lower-density, dispersed activities.
Growth pattern	Infill (brownfield) development.	Urban periphery (greenfield) development.
Land use mix	Mixed land use.	Homogeneous (single-use, segregated) land uses.
Scale	Human scale. Smaller buildings, blocks and roads. Careful detail, since people experience the landscape up close, as pedestrians.	Large scale. Larger buildings, blocks, wide roads. Less detail, since people experience the landscape at a distance, as motorists.
Public services (shops, schools, parks)	Local, distributed, smaller. Accommodates walking access.	Regional, consolidated, larger. Requires automobile access.
Transport	Multi-modal transportation and land use patterns that support walking, cycling and public transit.	Automobile-oriented transportation and land use patterns, poorly suited for walking, cycling and transit.
Connectivity	Highly connected roads, sidewalks and paths, allowing relatively direct travel by motorized and nonmotorized modes.	Hierarchical road network with numerous loops and dead-end streets, and unconnected sidewalks and paths, with many barriers to nonmotorized travel.
Street design	Streets designed to accommodate a variety of activities. Traffic calming.	Streets designed to maximize motor vehicle traffic volume and speed.
Planning process	Planned and coordinated between jurisdictions and stakeholders.	Unplanned, with little coordination between jurisdictions and stakeholders.
Public space	Emphasis on the public realm (streetscapes, pedestrian environment, public parks, public facilities).	Emphasis on the private realm (yards, shopping malls, gated communities, private clubs).

Sustainability

An emerging issue in planning is sustainable development. This refers to development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Advocates of sustainable development argue that environmental concerns need to be balanced with social needs and economics. It is suggested that the highest quality of human life can be best obtained at the intersection of economics, environment, and equity. The reasons to support and encourage sustainability are broad and include:

- Improving health by ensuring that air, water, and soils are not polluted;
- Reducing costs, enhancing benefits, and encouraging economic development by using resources effectively;
- Respecting the natural habitats of animals; and
- Taking care of the environment that we depend on for survival.

“Sustainability” covers a wide range of topics, from energy production to neighborhood design to environmental health and natural hazard mitigation. The following table shows areas where the township and county can directly impact or generally influence many of these sustainability concerns. In some cases, the easiest response is to remove the obstacles that are created (sometimes inadvertently) which discourage sustainability. A second step would be to create incentives to reward the desired result. Finally, for the activist community, standards can be adopted which require certain types of adherence.

See Figure 13.2 for a summary of issues that are commonly related to sustainability.

Figure 13.2 Sustainable Community Development Code Framework (excerpts)

Issue	Remove Obstacles	Create Incentives	Enact Standards
Pollution Reduction	Allow mixed-use development in selected areas. Permit solar and small wind turbines in selected zoning districts. Allow live-work units in commercial and mixed-use districts to reduce vehicle miles. Reduce parking requirements for mixed-use developments.	Offer densities for green roofs. Allow and encourage shared parking arrangements.	Require sidewalks in all developments and connection with adjacent sites. Require provision of bicycle racks in all multi-family and commercial developments. Limit impervious surface and require use of permeable pavement in select locations.
Community Health	Adopt standards for bike facilities and pedestrian amenities in commercial areas. Adopt streets specs that incorporate “complete street” principles that encourage walking and biking.	Provide landscape credit for tree preservation. Offer open space credit for improved recreational facilities.	Require sidewalks through parking lots. Encourage non-residential building amenities such as bike parking, lockers, showers, for those walking or biking to work.
Food Production and Security	Allow farmers markets in commercial and mixed-use districts. Allow small-scale farming uses in suburban districts with compatibility standards. Allow vegetable gardens in any location in residential areas.	Provide density bonuses for cluster subdivisions that preserve high percentage of productive agricultural lands.	Give open space and landscaping credit for preserving existing urban agricultural spaces or creating new ones.
Housing Affordability	Remove barriers for constructing accessory dwelling units and “granny flats” in certain residential districts. Allow mixed-use developments in appropriate locations near major transportation facilities. Allow a mix of housing types.	Do not count accessory dwelling units against permitted density in residentially zoned districts. Allow in commercially zoned districts if parking is adequate.	Require a variety of unit sizes in multi-family buildings.
Renewable Energy	Allow solar panels without requiring an accessory use or conditional use permit.	Create density bonuses or other incentives for projects that incorporate solar design concepts into an overall design.	Require a minimum percentage of solar oriented lots in new developments. Adopt noise standards for small wind turbines that protect nearby residents.
Water Conservation	Permit rain gardens, drainage swales, and similar facilities by right. Allow rainwater harvesting tanks.	Grant landscaping credit for rain gardens. Restrict the use of water features at entries and in landscaping. Encourage bio-swales in large parking areas of non-residential developments.	Establish a list of low-water plants for use in residential and commercial areas. Create a minimum topsoil depth and seeding volume for turf in new residential developments.

Source: Rocky Mountain Land Use Institute

Development Patterns and Cost of Services

Many growing communities struggle with the cost of providing new services, especially when their property tax base is primarily residential. Depending on the development pattern chosen, Berlin Township has the opportunity to develop a significant commercial property tax base on U.S. 23 and U.S. 36/S.R. 37. This commercial tax base could help pay for new services and support the school districts.

Every community must determine what land use mix provides an appropriate balance of commercial versus residential property tax base. Single family residential development is often suspected of not paying its fair share of its costs because of school costs for children.

As noted in Chapter 11 a \$300,000 single-family house in the Olentangy School District that generates one school age child also generated a (2006) \$6,751.43 negative fiscal impact (property taxes paid versus cost to educate the student) that must be made up by other sources of revenue, most importantly other property tax revenues.

In order to ascertain what land use mix might be optimal, it is necessary to analyze the fiscal impacts of development to determine the costs versus revenues to the community. Models for estimating the fiscal impact of new development were developed by Robert Burchell, David Listokin and William Dolphin in *The New Practitioner's Guide to Fiscal Impact Analysis*, (Center for Urban Policy Research, Rutgers University, 1985), and the *Development Assessment Handbook*, (Urban Land Institute, 1994). Burchell and Listokin define development impact analysis as follows:

“Development impact analysis is the process of estimating and reporting the effects of residential and nonresidential construction on a host political subdivision, usually a local community, school district, special district and/or county. The effects take several forms: physical, market, environmental, social, economic, fiscal, and traffic. Development impact assessment may be either prospective or retrospective; it may be short term or long term; it may be an in depth or abbreviated study.”

Burchell and Listokin have created different models to approximate development impacts. These models use multipliers from regional or national standards to gauge impacts. For example, a single-family home with four bedrooms in Central Ohio would be expected to generate 1.428 school age children. These may be further broken down to .9866 school age children in grades Kindergarten–Sixth; .2475 in Junior High School, and .1906 in High School. These figures compare well with a blended average of three and four bedroom houses in the Olentangy School district.

Fiscal Impacts and Impact Fees

A fiscal impact analysis can be a useful tool to anticipate the cost versus revenue of a project before it is zoned or built. A fiscal impact analysis (cost of services needed versus revenue generated) may help determine one aspect of how the development might affect the general welfare of the township.

The Community Vision for Berlin Township will be represented by its revised Comprehensive Plan. The potential fiscal impacts of this plan may wish to be determined on a project basis for projects of large magnitude.

Cities and villages may now adopt impact fees that conform to the Supreme Courts ruling in Ohio if the impact fee bears a reasonable relationship between the city's interest in constructing new roads and the traffic generated by new developments,

and there is a reasonable relationship between the fee imposed and the benefits accruing to the developer as a result of the construction of new roads. Whether this power will extend to townships is unclear.

It has been generally held, however, that road improvements immediately adjacent to the development can be attributable to the project as part of the subdivision and zoning process. If large impact development proposals do not reasonably mitigate their impacts, they may impose an undue burden on the township. In such cases the rezoning may be premature, or not in conformance with the Comprehensive Plan. Therefore, communities need to anticipate the impacts of each project as a consideration in the planning and zoning process to avoid unexpected increases in the local tax rate due to new development.

Best Use Practices

Best Use Practices (BUPs) are visual examples that demonstrate the positive design principles in the public realm. Visuals are used because defining design elements in a strictly text format can be limiting, restrictive, and can result in a bland sameness. The following general principles enhance the quality and reflect development goals within town centers and other non-residential areas. Based on the limited access nature of U.S. 23 and U.S. 36/S.R. 37, BUPs having to do with setbacks and pedestrian walkability mainly apply to side streets and backage roads rather than to buildings that front on the highway.

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 (figure, right).



Seating should be located at logical resting points and situated so they do not block the internal walkway system.

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.



Building indentations, penetrations, and facade 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, window, porches, and other projections in new construction can add value and character to a commercial development. Continuous 'strip' buildings should be discouraged.



Top: Parking is incorporated into the site and street furnishing are pedestrian-oriented.

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

Bottom: Façade treatment (left) are preferred over repetitive elements (right).



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.

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 the U.S. 23 Access Management Plan allows access to 23, major circulation streets should be created rather than simply 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, between or behind buildings. Parking located directly in front of buildings should be minimized where possible. All lots should be landscaped and shading maximized.

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



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



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 (right).



Lighting

Building and site lighting 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.



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. Light fixtures should be designed as a cohesive part of the other site elements (above). This will include various lighting levels for vehicles, pedestrian circulation, signage and special accents.

Signage

The scale of signage should be designed with pedestrians in mind. 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, right). Variation of signage themes based on sign type or location should be encouraged (right). 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 simple to encourage readability and increase identification. Monument ground signs are preferred. No sign should interfere with the safe movement of pedestrians and vehicles.

Accessibility

Standard concrete walks should be 6 feet wide. Along secondary streets, the walk should be located five 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.

All major intersections should include painted crosswalks to alert drivers to the pedestrian crossing. Change of pavement (i.e., brick and concrete) should be considered for pedestrian crossings at major intersections.

Landscaping

Landscaping should be designed to provide shade for pedestrians and generally create a comfortable pedestrian environment in commercial portions of the corridor. Impervious surfaces should also be shaded to mitigate heat island effects. Continuous trees are encouraged to augment the public landscape plan. There are many environmental, as well as psychological benefits to including a tree planting plan. Trees can enhance property values, reduce traffic speeds, increase levels of comfort, and unify the look of an area. Correct placement and choice of species can eliminate ongoing maintenance issues.

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 auto operators.

Plant materials should be native to the area when possible.

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.



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

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

Screening for trash receptacles should have a minimum opacity of 80% during full foliage. The height of a screen wall should be at least six feet.

Redevelopment – A Case Study

Many of the principles discussed in this chapter can be applied not only to new development but to redevelopment of existing commercial areas as well. Much of the commercial development along the corridor is first-generation. While various businesses may have come and gone from certain sites, the structures themselves and the layout of the surrounding property has remained largely the same (one significant exception to that rule is the 401 E Powell Road property where Green Meadows Drive was recently relocated).

The following example uses the large expanse of parking in front of the Northpointe Plaza for an exercise in redevelopment. The unbuilt land represents a development opportunity whether any of the existing buildings would be part of the project or not.

The right-in/right-out access point between the two existing fast food businesses provides the main entrance for this redevelopment (right).



Two new in-line retail buildings are oriented toward the “street” with parking in front of each. Mid-block pass-throughs are appropriate to provide pedestrian access to additional parking behind these buildings.



Sidewalks and landscaping provide a comfortable atmosphere for pedestrians. Traffic control features such as roundabouts are

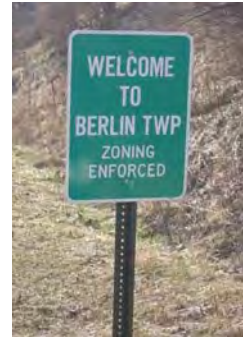
The under-utilized parking area between Wal-Mart and Kohl's on U.S. 23 (top) is filled with a set of in-line stores (middle). The featureless lot (left) becomes a pedestrian-oriented feature of the site (above).

placed at one or both ends as entrance features.

The view is terminated by adding a feature to the existing building at the far end of the street. This feature aligns with the axis of the street.

Community Identity – Gateway Features

Most boundaries between townships are marked with a simple green sign that designates the township name and, typically, that zoning is enforced. Orange Township recently erected a feature on all four corners of the intersection of South Old State Road and Orange Road. As development continues, the township may wish to develop a more unique entrance feature at major entrance points. These could include U.S. 36/S.R. 37, Cheshire Road, southern entrance at South Old State, the southern entrance at Africa, and along U.S. 23.



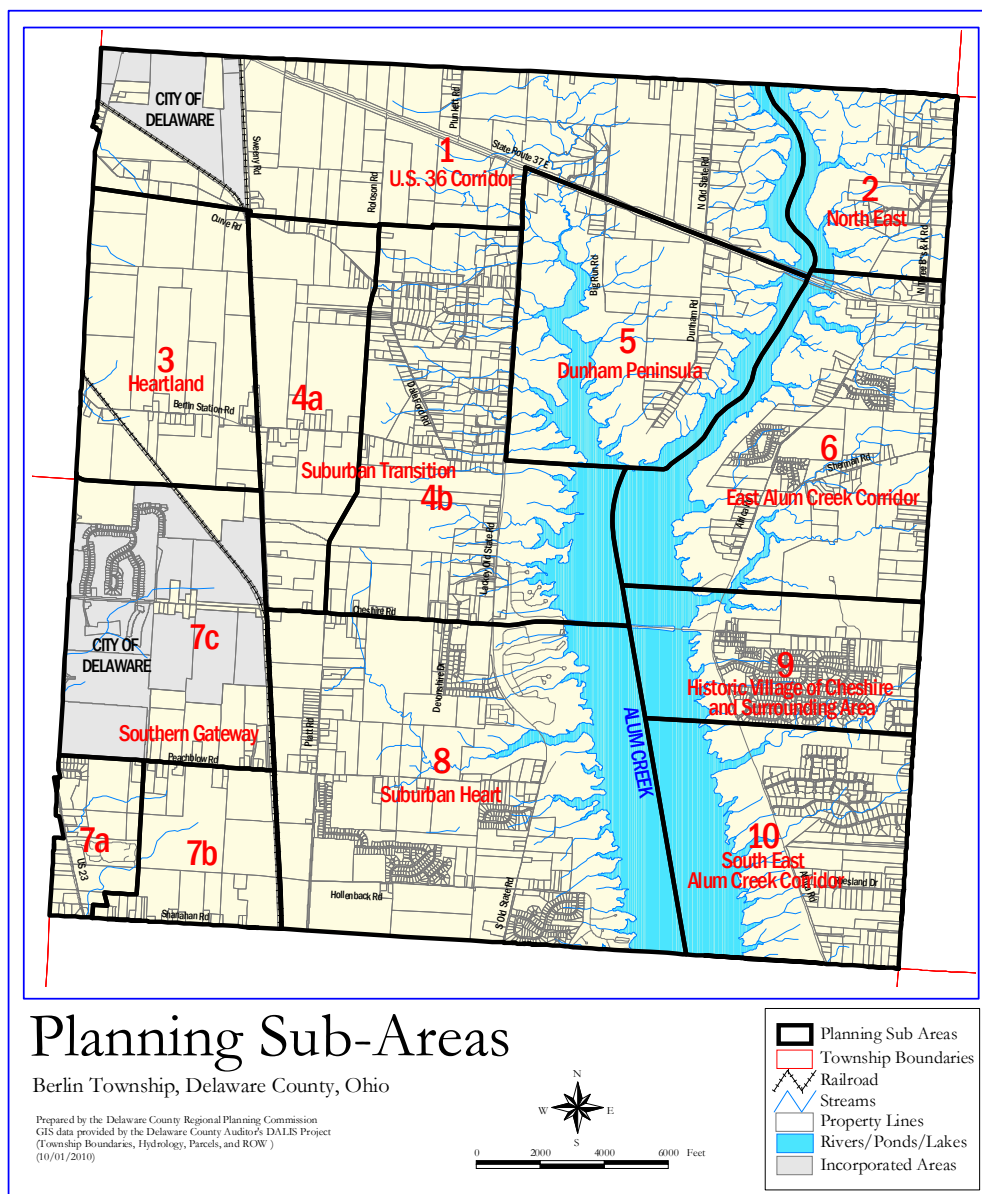
CHAPTER 14

Recommendations

Intent of the Berlin Township Comprehensive Land Use Plan

The 2010 Berlin Township Comprehensive Land Use Plan is the sum of all the previous chapters as background material to inform the following recommendations. It is presented in conjunction with the Land Use Map in this chapter. The recommendations are arranged into Sub-Areas as shown in Figure 14.1.

Figure 14.1 Planning Sub-Areas, Berlin Township Comprehensive Land Use Plan



Planning Sub-Area Recommendations of the Berlin Township Comprehensive Land Use Plan

Acreage figures are approximate. Undeveloped area is calculated by using parcels larger than 5 acres in size which are not impacted with critical areas that could hinder development. Current population is an estimate based on the number of units as defined by the County Auditor and the average persons per household, which is a different methodology from the projections presented in Chapter 2.

Planning Area One - U.S. 36 Corridor

Land area: 2,089 acres, **Potential development acreage:** 738 acres

Current estimated population: 206 (77 housing units)

Area One consists of lands bordering the city of Delaware on the west, Brown Township on the north, Alum Creek on the east, U.S. 36 on the south between Alum Creek and Lackey Old State Road, then bordering on the south along property lines that are generally parallel to, and approximately 2,000 – 4000 feet south of U.S. 36 from Lackey Old State Road to the railroad tracks, where the southern border of area shifts to the south side of Curve Road. There is potential future sewer service by the county, as this area is within the Central Alum Creek Service Area. A future Olentangy school is proposed for the corner of Sweeney and Curve Roads. Soils are prime agricultural soils, with poor suitability for septic systems.

- 1.1 The Curve Road Corridor north of Curve Road but south of the Conrail tracks is recommended for single family and agricultural uses at one unit per net developable acre.
- 1.2 The railroad corridor extending north from Curve Road to U.S. 36 is recommended for Planned Industrial use adjacent to the tracks, and Planned Commercial west of the tracks. Parcels southwest of the school site should remain residential at 1 unit per net developable acre.
- 1.3 Lands along U.S. 36 are recommended for Planned Commercial to a depth of approximately 700 feet north and south of U.S. 36, provided that:
 - a.) Parcels have limited access to U.S. 36 and are linked with parallel rear access roads built in increments by developers.
 - b.) Buildings should be designed with four-sided architectural features, minimizing blank walls and un-buffered service areas.
 - c.) Only low level, downward-cast lighting should be allowed to prevent a halo effect on the night sky in support of the Perkins Observatory.

- d.) To avoid sign clutter, ground signs should be the only sign type permitted along U.S. 36. Tall pole signs and billboard signs should be prohibited. A Berlin Township “look” or architectural sign syntax should be developed.
 - e.) Extensive landscaping should be required in parking lots to avoid the “sea of asphalt”. Use landscaping to divide parking areas by using islands at reasonable spacing, at ends of rows, and along U.S. 36 frontage.
 - f.) Areas should be developed with pedestrian connectivity and access as a goal. Retail and office design elements should include rear parking, grid streets, sidewalks, street trees and building orientation. Angled and parallel on-“street” parking, may be used to improve walkability. Office, civic, and multi-type residential use may use campus-style building orientation, courtyard and on-street parking and pedestrian connections.
- 1.4 West of Roloson Road, and south of the commercial corridor, residential is recommended to be 1.5 units per net developable acre (NDA) if sewer becomes available.
 - 1.5 East of Roloson Road and west of Old State Road, and south of the commercial area, residential use is recommended at one unit per acre without sanitary sewer or up to approximately 1.5 units per net developable acre with centralized sewer.
 - 1.6 A future traffic signal at Lackey Old State Road and U.S. 36 should be installed when the warrants are met. This would regulate the traffic from the commercial corridor and new backage roads.
 - 1.7 North of U.S. 36, the lands outside of the commercial corridor are recommended for residential and agricultural use at one unit per acre without sanitary sewer and 1.25 units per net developable acre with centralized sewer. No sewer service is anticipated for this area in the near term.

Planning Area Two - North East

Land area: 647 acres, **Potential development acreage:** 25 acres

Current estimated population: 110 (41 housing units)

Area two is bounded on the north by Brown Township, on the east by Berkshire Township, on the south by a line parallel to and approximately 700 feet north of U.S. 36 and on the west by Alum Creek. This is a low-density residential and agricultural area that backs up to Alum Creek and lands of the United States. No sanitary sewer is proposed, and the parcels of land have been so fragmented that it is unlikely any large enough tracts could be assembled to do on-site sewage treatment.

2.1 Area 2 is recommended to be agricultural use and single family residences at a density of one unit per 2 acres.

Planning Area Three - Heartland

Land area: 1,095 acres, **Potential development acreage:** 181 acres

Current estimated population: 64 (24 housing units)

Area Three is bound on the west by Delaware Township, on the north by the AEP electric transmission lines south of and parallel to Curve Road, on the east by the Conrail tracks, and on the south by property lines parallel to and approximately 2200 feet south of Berlin Station Road.

The area is characterized by prime agricultural soils in large undivided tracts of land. There is no central sewer proposed by the county, and soils are generally unsuitable for on site treatment plants with land application systems. There is no access to major arterial roads. Annexation is possible, as this area lies within the exclusive city water agreement area, and is the location of the Glenn Road Extension, which is likely to bring additional development pressure.

3.1 Agriculture and single family residences on 2-acre lots, or PRD development at a density of one unit per net developable acre with sewer, one unit per two acres without sewer are recommended.

Planning Area Four - Suburban Transition

The area is bound on the north by a line extending east from the intersection of Curve Road and the Conrail tracks to property lines parallel to Curve Road and parallel and 3-4,000 feet south of U.S. 36; on the east by Lackey Old State Road, on the south by Cheshire Road, and on the west by the railroad tracks. There is potential future sewer service by the county, as this area is within the Central Alum Creek Service Area. Because of the diversity of conditions and uses within this planning area, the recommendations are divided into Sub-Areas a, b, and c.

Sub-Area 4a

Land area: 881 acres, **Potential development acreage:** 416 acres

Current estimated population: 89 (33 housing units)

The area is bounded on the west by the Conrail tracks, on the north by area 1, on the east by Roloson Road and the general extension southward of Roloson Road via the property lines to Berlin Station Road, then southward approximately 2,000 feet and west to the tracks, by property lines. Southern border is Cheshire Road.

This area is characterized by the eastward reach of the prime agricultural soils with conditions similar to Sub-Area 3. Soils are generally unsuitable for on-site treatment plants with land applications systems. The land is flat with poor drainage. Large lots dot Berlin Station Road and Curve Road. There is no access to major arterial roads. Annexation threat is limited by the railroad tracks and agreements between the city and county. A future Olentangy High School site is proposed on the south side of Berlin Station Road and Cheshire Elementary is under construction on Gregory Road. A landowner has placed 62 acres of land at the southeast corner of the Conrail tracks and Curve Road in an Agricultural Conservation district.

- 4.1 The plan recommends agriculture and single family residences on 2-acre lots, or PRD development at a density of 1.85 units per net developable acre (NDA) with sewer.
- 4.2 A new road (Piatt Road extension) should be built as development occurs, providing major access to the future school and connecting Cheshire Road to Berlin Station Road.
- 4.3 The new Road (Piatt Road extension) continues north from south from Berlin Station Road to Curve Road.

Sub-Area 4b

Land area: 1,773 acres, **Potential development acreage:** 272 acres

Current estimated population: 667 (249 housing units)

Area 4b is bound by area one on the north, Lackey Old State Road and the Alum Creek Lake on the east, Cheshire Road on the south, and proposed new road I on the west. Ridges and ravines leading to Alum Creek Lake characterize the area 4b. The area is not suitable for long-term agriculture. This area is significantly developed with one-acre lot sizes. The area is within the county's sewer service area and development of the Cheshire Elementary School has brought access to sewer. The Township Hall and the new Fire Station are both located within this area.

- 4.4 The plan recommends a small park at the northwest corner of Cheshire and Old State Roads.
- 4.5 The plan recommends agriculture and single family residences on 2-acre lots, or PRD development at a density of 1.25 units per net developable acre (NDA) with sewer from the 67-acre Roh property south.
- 4.6 Bikeway paths along any widened roads should include the edge of Cheshire Road, particularly across the Alum Creek causeway to Cheshire.

Planning Area Five - Dunham Peninsula

Land area: 1,361 acres, **Potential development acreage:** 19 acres

Current estimated population: 78 (29 housing units)

Area five is wedged between Alum Creek on the east and west, with U.S. 36/S.R. 37 as the northern boundary. It has dead end access via Dunham and Big Run Roads. Sewer service is not immediately available but the area is in a future sewer service planning area.

- 5.1 The plan recommends a planned commercial corridor parallel to U.S. 36 at a depth of approximately 300 feet minimum and 700 feet maximum depth, provided:
 - a.) Parcels have limited access to U.S. 36 and are linked with parallel rear access road built in increments by developers.
 - b.) Only low level, downward-cast lighting should be allowed to prevent a halo effect on the night sky in deference to the Perkins Observatory.
 - c.) To avoid sign clutter, ground signs should be the only sign type permitted along U.S. 36. Tall pole signs and billboard signs should be prohibited. A Berlin Township sign syntax should be developed.
 - d.) Extensive landscaping should be required in parking lots to avoid the “sea of asphalt”. Use landscaping to divide parking areas by using islands at reasonable spacing, at ends of rows, and along U.S. 36 frontage.
 - e.) Areas should be developed with pedestrian connectivity and access as a goal. Retail and office design elements should include rear parking, grid streets, sidewalks, street trees and building orientation. Angled and parallel on-“street” parking, may be used to improve walkability. Commercial, office and civic uses may use campus-style building orientation, courtyard and on-street parking and pedestrian connections.
- 5.2 The land south of the U.S. 36 commercial corridor on Dunham Road is recommended for a density of 1.5 units per net developable acre. Buffering of transitional zoning may be allowed between the non-residential uses and single-family uses.
- 5.3 Dense landscaping/mounding should be located between different uses as buffering.

Planning Area Six - East Alum Creek Corridor

Land area: 1,697 acres, **Potential development acreage:** 183 acres

Current estimated population: 348 (130 housing units)

Area six is bound on the west by Alum Creek and lands of the United States, on the north generally by property lines parallel to and 700 feet north of U.S. 36, on the east by Berkshire Township, and on the south by a line approximately 1300 feet north of and parallel to Cheshire Road.

There is sanitary sewer service to this area serving residential development and commercial uses at the U.S. 36 and I-71 interchange and the U.S. 36 commercial corridor.

- 6.1 On the north side of U.S. 36, lots with highway frontage are recommended for commercial and office uses.
- 6.2 On the south side of U.S. 36 and the west side of 3 Bs and K Road, commercial or office uses are recommended.
- 6.3 Lands west of Africa Road adjacent to Alum Creek State Park are recommended for single family residential use at very low density of one unit per two acres.
- 6.4 Lands east of Africa Road are recommended for residential use at one unit per net developable acre.
- 6.5 New parallel commercial access road H should connect Africa and 3 Bs and K Roads provided:
 - a.) Parcels have limited access to U.S. 36 and are linked with parallel rear access roads built in increments by developers.
 - b.) Only low level, downward-cast lighting should be allowed to prevent a halo effect on the night sky in deference to the Perkins Observatory.
 - c.) To avoid sign clutter, ground signs should be the only sign type permitted along U.S. 36. Tall pole signs and billboard signs should be prohibited. A Berlin Township “look” or architectural sign syntax should be developed.
 - d.) Extensive landscaping should be required in parking lots to avoid the “sea of asphalt”. Use landscaping to divide parking areas by using islands at reasonable spacing, at ends of rows, and along U.S. 36 frontage.
- 6.6 As the industrial land at 700 S. 3 B’s and K Road develops, the Zoning Commission should seek the rezoning of that land to Planned Industrial.

Planning Area Seven - Southern Gateway

Planning Area 7 is bounded on the west by Liberty Township, on the east by the Conrail tracks and Gregory Road, on the south by Orange Township, and on the north by property lines approximately 3700 feet north of and parallel to Cheshire Road. Area 7 is further divided into sub-areas 7a, 7b and 7c.

Planning Area 7 includes the U.S. Route 23 corridor, the main north-south federal highway in Delaware County. There are opportunities for commercial and industrial development along this corridor. Such development could also cause congestion on U.S. 23 if not correctly planned and built. The railroad tracks offer the opportunity for rail service to industrial users.

The area north of Peachblow Road is within the exclusive city water agreement area and has already seen a large amount of annexation.

The land is excessively flat and drainage is problematic. There are no floodplains, since this is near the top of the watershed. There are few wetlands, other than agriculturally tiled wetlands. Many of these soils are prime agricultural soils, with low suitability for on-site septic systems due to slow percolation and drainage.

Sub-Area 7a

Land area: 283 acres, **Potential development acreage:** 142 acres

Current estimated population: 686 (256 housing units)

Current Conditions

East Side of U.S. 23: A large (207-unit) manufactured home park lies behind a small commercial (restaurant) use. Some of the other existing commercial uses are temporary and will be replaced with more valuable commercial uses in time. A Speedway gas station is located at the intersection of Shanahan and U.S. 23. Fairview Memorial Park cemetery lies south of Connor Lane, a 12-lot single family subdivision with access from U.S. 23.

West side of U.S. 23: A number of commercial uses, with mini-storage warehouses just north of the Hyatts Road/U.S. 23 intersection. Other commercial/office uses exist, including Byers automotive center and the P&D Builders building in the Park at Greif, served by Delaware County sewer service.

Recommendations: Area 7a - U.S. 23 Corridor

- 7.1 Planned Commercial districts are recommended for parcels with frontage on U.S. 23. Access management principles and interconnection of properties north to south must be included.

- 7.2 No left turns should be permitted across U.S. 23 except at ODOT approved locations. The plan suggests these to be at Shanahan Road, and the signalized intersection at Grief Parkway.
- 7.3 Only low level, downward-cast lighting should be allowed to prevent a halo effect on the night sky in deference to the Perkins Observatory.
- 7.4 To avoid sign clutter, ground signs should be the only sign type permitted along U.S. 23. Tall pole signs and billboard signs should be prohibited.
- 7.5 A Berlin Township architectural sign syntax should be developed.
- 7.6 Extensive landscaping should be required in parking lots to avoid the “sea of asphalt”. Use landscaping to divide parking areas by using islands at reasonable spacing, at ends of rows, and along U.S. 23 frontage.

West side of U.S. 23

- 7.7 A parallel access road is recommended to be constructed in increments along the Liberty Township and Berlin Township line north to south. The first easement segments of this road are dedicated in the Park at Greif, west of P&D Builders. The road should eventually run from the northwest corner of the 5542 Columbus Pike, north to Grief Parkway.

East side of U.S. 23

- 7.8 Recommend Planned Commercial as shown on the Comprehensive Land Use Plan map.
- 7.9 There should be dedication and incremental construction of a parallel access road to U.S. 23 by individual landowners as their parcels develop. This parallel access road should connect Peachblow Road on the north, run parallel to and approximately 1200 feet east of U.S. 23, running south until heading slightly west to provide access to a new entrance to the manufactured home park. Connor Lane should be extended to the east to connect with the new road. The Connor Lane entrance to U.S. 23 should be closed in a cul-de-sac after the entrance to the completed parallel access road (with improved access to U.S. 23) is achieved.
- 7.10 A parallel access road should be incrementally constructed from the south side of the home park parallel and approximately 400 feet east of U.S. 23 south to the large ravine, as depicted on the land use map.
- 7.11 Only low level, downward-cast lighting should be allowed to prevent a halo effect on the night sky in support of the Perkins Observatory.
- 7.12 Ground signs should be the only types of sign permitted along U.S. 23 to avoid sign clutter. Tall pole signs and billboard signs should be prohibited.

7.13 A Berlin Township “look” or architectural sign syntax should be developed.

7.14 Extensive landscaping should be required in parking lots to avoid the “sea of asphalt”. Use landscaping to divide parking areas by using islands at reasonable spacing, at ends of rows, and along U.S. 23 frontage.

Sub-Area 7b

Land area: 647 acres, **Potential development acreage:** 457 acres

Current estimated population: 110 (41 housing units)

Current Conditions:

A small industrial area exists on the south side of Peachblow Road. This area is bounded by commercial zoning on the west, a mix of industrial and low density Farm Residential on the north, the railroad tracks on the east and Shanahan Road on the south.

Recommendations: Sub-Area 7b

7.15 Retain existing pattern of low-density residential zoning along the north side of Shanahan Road to a line parallel to and approximately 700 feet north of Shanahan Road.

7.16 North of the Shanahan Road residential frontage, light industrial park-type uses are recommended as shown on the Comprehensive Land Use Plan. The land is flat, has rail access, public water, U.S. 23 frontage and good drainage if many parcels are planned together to use the swale that empties east to west under Shanahan Road. A second access to Shanahan Road is desired, either at North Road or west of the school entrance. Both accesses would be ideal.

7.17 Residential development along the south Side of Peachblow Road is recommended for a density of 1.85 units per net developable acre.

7.18 Improve Peachblow Road pursuant to recommendations from the County Engineer.

Sub-Area 7c

Land area: 370.53 acres (880 annexed by the City of Delaware)

Potential development acreage: 274 acres

Current estimated population: 51 (19 housing units)

Current Conditions: Peachblow Road on the south to Cheshire Road on the north, from the township line on the west to the Conrail tracks. The township area north of Peachblow is all zoned FR-1, single-family one acre minimum lot size.

Recommendations: Sub-Area 7c

- 7.19 Develop areas that remain in the township as single-family residential. If centralized water and sewer are available, then densities may be allowed up to 1.85 units per net developable acre. If centralized water and sewer are not available, then lot sizes should be one unit per acre or larger in accordance with Health District regulations for on-lot septic systems.

Planning Area Eight – Suburban Heart

Land area: 2,767 acres, **Potential development acreage:** 926 acres

Current estimated population: 1,525 (569 housing units)

The area is bounded on the west by the Conrail tracks, on the east by Alum Creek Reservoir, on the south by Orange Township, on the north by Cheshire Road. This area is the suburban heart of the township. There is county sewer available or planned to be available to this area, although the ultimate sewer capacity will be affected by uses elsewhere in the township and the county. There is a main sewer line on S. Old State Road that crosses Hollenback Road to Arrowhead elementary school.

Although there is prime agricultural soil on the west side of Sub-Area 8, its proximity to Cheshire Road, and S. Old State, and to Orange Township, with sanitary sewer service, make long-term agricultural use unlikely. There are numerous drainage ravines, which empty to Alum Creek, making development feasible.

- 8.1 West of Piatt Road and south of Cheshire Road, the plan recommends development at one unit per net developable acre without sanitary sewer, or up to 1.85 units per net developable acre with centralized sewer.
- 8.2 East of Piatt Road and north of Peachblow Road, the plan recommends development at one unit per net developable acre without sanitary sewer, or up to 1.5 units per net developable acre with centralized sanitary sewer.
- 8.3 A large, approximately 40- to 60-acre township park would be desirable for athletic fields and organized sports when the township is fully built out. This park would be centrally located if land could be acquired at the northwest corner of this area, on the east of the railroad tracks, south of Cheshire Road.

- 8.4 The 2001 Thoroughfare Plan and other local plans recommend the extension of Piatt Road at the Berlin Township line south to Lewis Center and the extension of Shanahan east to South Old State Road. The plan for Sub-Area 8 supports such a Piatt Road extension by a proposed new road south to Lewis Center.
- 8.5 A bike path along Piatt Road and Cheshire Roads would link the proposed park with Cheshire and Lewis Center. Other paths should be included along major arterials as scheduled improvements are made.
- 8.6 A neighborhood commercial area is recommended for the improved full intersection of Piatt Road and Shanahan Road. Small retail and office uses should be limited to an area approximately 300 feet in depth on the north side of Shanahan. The area would extend approximately 500 feet east of Piatt Road. Buildings should be oriented to the street, with parking to the side and rear. Sidewalk connections should be included to the any adjacent residential development with ample buffering where non-residential uses are located next to residential development.
- 8.7 An entrance feature at the intersection of Piatt Road and Shanahan Road could be incorporated into this development and would give interest and recognition upon entering Berlin Township.

Planning Area Nine - Historic Village of Cheshire and Surrounding Area

Land area: 849 acres, **Potential development acreage:** 19 acres

Current estimated population: 1,278 (477 housing units)

Planning area 9 is bounded on the west by Alum Creek, on the north by a line parallel to and approximately 1300 feet north of Cheshire Road, on the east by Berkshire Township, and on the south by the lands of the United States extending east to 3 Bs and K Road.

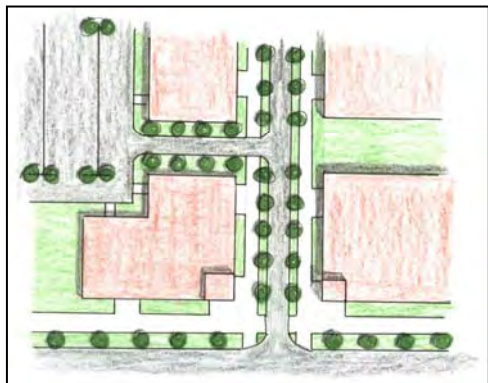
- 9.1 The area is served by Delaware County sanitary sewer mostly within the village of Cheshire and the PRD subdivisions. The lands fronting on 3 B's and K Road are recommended for single family use at one unit per net developable acre, continuing north of Cheshire Road to include some of the lands of Double Eagle Golf Course.
- 9.2 The unincorporated village of Cheshire and some of its adjacent properties as depicted on the Comprehensive Plan are recommended for redevelopment in a mixed use planned district that would permit residential use at up to five units per net developable acre, and local commercial uses, preferably in a downtown with historic architectural syntax, on-street angle parking, sidewalks, street trees, and shallow or zero setbacks.

Village Center General Guidelines

Due to the intensity of uses and higher densities in town centers, good design is critical to the success of such centers. The following are general design guidelines that should be considered in developments in the Cheshire Village area and at the Piatt Road/Shanahan Road Neighborhood Commercial area.

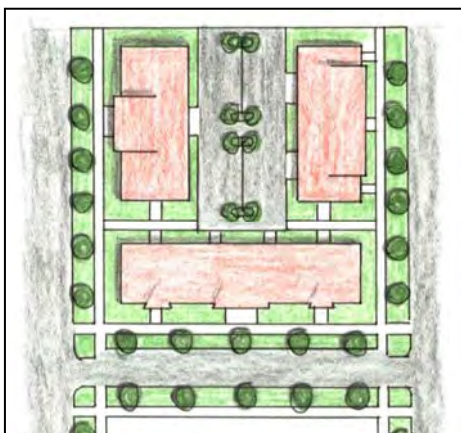
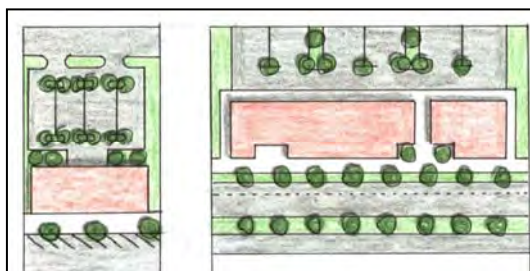
<p>Building locations</p> <p>For retail uses, buildings should be located along a “build-to” line, providing for a 30-foot setback with curb, street trees and sidewalk.</p> <p>Office and residential uses may use a build-to line of 50 feet from curb.</p> <p>Multi-tenant buildings are encouraged. Excessive gaps and non-useable spaces between buildings are discouraged.</p> <p>Buildings should include architectural details on all exposed sides. Retail uses should have a minimum 80% “open” glazing (windows and doors) at street level.</p> <p>Pedestrian connections to rear parking areas may be established between buildings. Such areas should be wide and buildings should include four-sided architectural details.</p> <p>Buildings may have front and rear entrances whenever possible.</p> <p>Multi-family uses in single-use structures should be townhouses with rear garages near parks.</p> <p>Single-family lots with at least 80’ of frontage may use front-load garages if the garages are at least 10’ behind the front of the building. Lots with less frontage should utilize rear service roads.</p> <p>Public Spaces</p> <p>Common open spaces that are fronted by buildings are encouraged.</p> <p>In residential areas, open space should be a combination of formal town squares, pocket parks and natural preservation areas.</p>	<p>Parking</p> <p>Parking lots should be located behind or to the side of buildings rather than in front.</p> <p>Diagonal or parallel on-street parking should be located in front of retail areas and on local streets and commercial lanes where appropriate.</p> <p>Parking ratios should be calculated for the overall development rather than for individual businesses.</p> <p>Retail – 1 space per 250 gross square feet</p> <p>Office – 1 space per 250 gross square feet</p> <p>Residential – 2 spaces per unit</p> <p>Parking areas should contain landscaped curbs and islands with deciduous trees.</p> <p>Parking lots should be screened from public right-of-way by a four-foot evergreen hedge or masonry wall.</p> <p>Landscaped buffers should be provided between dissimilar uses.</p> <p>Bicycle parking should be provided at convenient intervals in safe locations near major entrances.</p> <p>Streets</p> <p>All streets should be two-way.</p> <p>Sidewalks at least 4 feet wide should be provided throughout with a minimum 5’ tree lawn between sidewalk and street (unless otherwise restricted). Retail uses may utilize tree wells instead of a tree lawn.</p> <p>Street trees should be provided on both sides of the street at a minimum 40 feet on center.</p> <p>Street furnishings (benches or other seating areas) should be provided in retail areas and public spaces.</p> <p>Streets should interconnect – cul-de-sacs should be discouraged.</p>
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Village Center Design Concepts



Design concept demonstrating basic retail and office design elements including rear parking, grid streets, sidewalks, street trees and building orientation.

Design concept demonstrating basic retail design elements including rear parking, angled and parallel on-street parking, sidewalks, street trees, building orientation and pedestrian access.



Design concept demonstrating office, civic, or residential use with campus-style building orientation, courtyard and on-street parking and pedestrian connections.

Planning Area Ten - South East Alum Creek Corridor

Land area: 1,268 acres

Potential development acreage: 54 acres

Current estimated population: 480 (179 housing units)

Planning area 10 is bounded by Orange Township on the south, the Alum Creek State Park on the west and north, and Berkshire Township on the east. The area includes scattered, large-lot single-family homes and two large subdivisions served by sanitary sewer. Lots are a 1-acre minimum lot size. Alum Creek State Park dominates area 10.

- 10.1 The plan recommends very low-density development at one unit per two acres to blend with the park. Where sanitary sewer is available, one unit per net developable acre is recommended.

General Recommendations

The following implementation items are general in nature and are not specific to any sub-area.

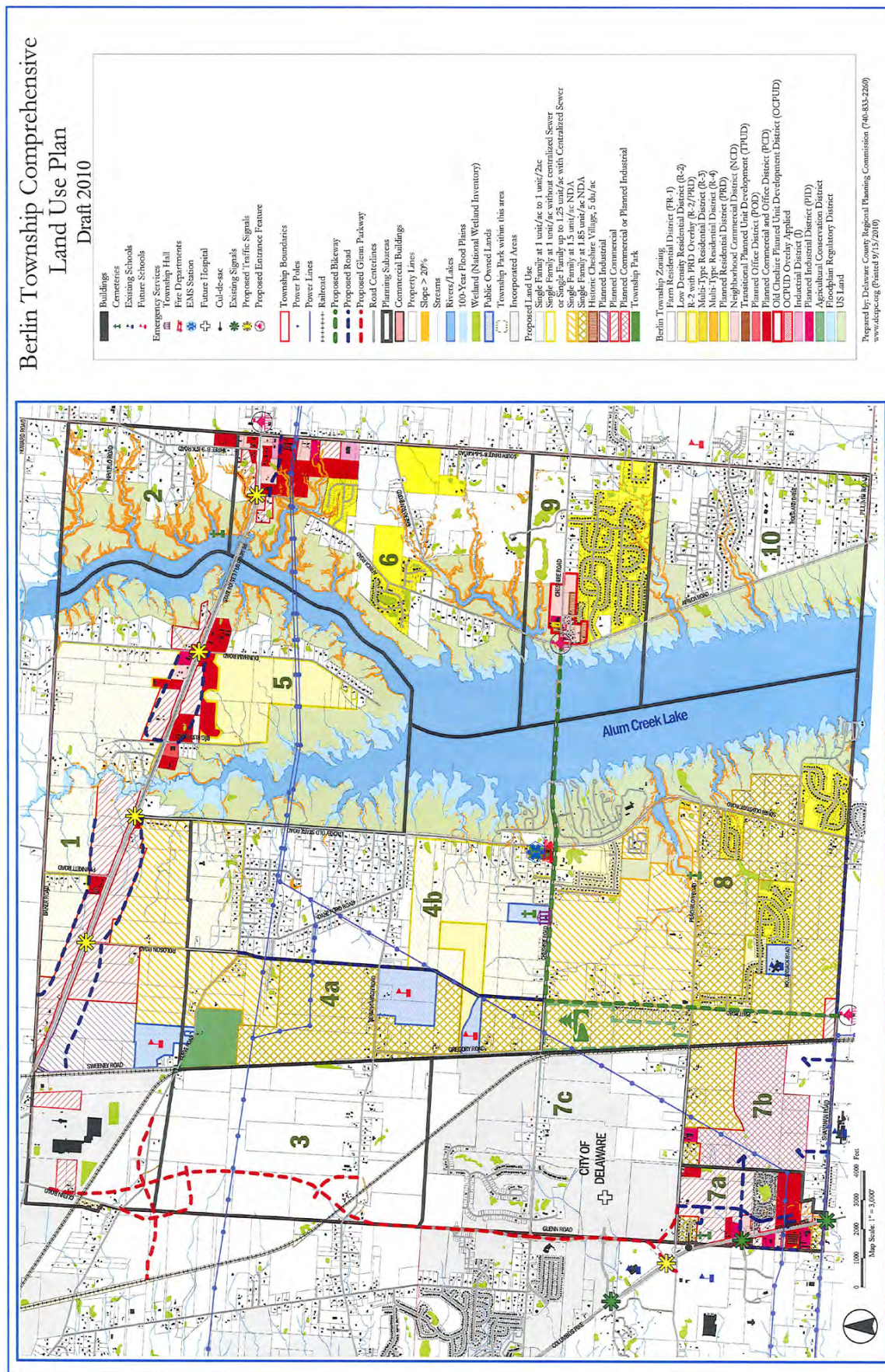
- A.) Work with township residents interested in recreation planning and encourage development of parks and leisure trails as part of new developments.
- B.) Continue to require sidewalks within and pedestrian connections between residential developments.
- C.) Encourage pedestrian-oriented commercial development and seek pedestrian connections between commercial and residential developments.
- D.) Seek usable open space in developments.
- E.) Consider the overall housing mix when reviewing rezoning requests as the township continues to develop.
- F.) Encourage the conservation of natural resources (steep slopes, woodlands, wooded ravines, floodplains, etc.) as part of a subdivision's open space while utilizing the current PRD and TPUD zoning language.
- G.) Seek multiple entrances to developments and the interconnection of subdivisions to improve safety, reduce travel times and lower maintenance costs.
- H.) Seek street connections or cross-easements between commercial uses.
- I.) Support access management along state routes as well as along existing and proposed arterial roads, referencing the ODOT goals for U.S. 23 and U.S. 36/S.R. 37.

- J.) Support the County Engineer by encouraging best practices for stormwater management and by encouraging development that preserves surface and ground water quality.
- K.) Keep local agencies informed throughout the development process so they can plan for future service.
- L.) Work with agencies to identify new sites for township facilities.
- M.) Provide for updates to the Comprehensive Land Use Plan within 5-10 years.

Berlin Township 2010 Comprehensive Land Use Plan Map

The Berlin Township Comprehensive Land Use Plan Map incorporates the goals, means and planning principles recommended in this text. It is intended to represent the best thinking for future development at the time of its adoption. The plan is subject to change depending on significant new considerations after the plan's adoption or a shift in the basic goals of the community. See Figure 14.2 or the larger insert for the Comprehensive Land Use Plan Map.

Figure 14.2 Berlin Township Comprehensive Land Use Plan Map



Berlin Township 2010 Comprehensive Build-out Land Use Mix

The 2010 Berlin Township Comprehensive Plan makes site-specific recommendations for every parcel of land in the township. The following table (Figure 14.3) projects the result of the land use recommendations of the Land Use Map and Figure 14.4. shows a projected build-out population for each Sub-Area.

Figure 14.3 Comparison of Existing Land Use Acreage and Build-Out Acreage

Land Use Type	2010		Build-out	
	Acreage	Percentage	Acreage	Percentage
Agriculture	3,702.50	22.11%	-	0.00%
Total Residential	3,292.72	19.66%	7,481.25	44.67%
Single Family	3,273.20	19.54%	7,414.88	44.28%
Multi-family	19.52	0.12%	66.37	0.40%
Total Comm. & Industrial	251.56	1.50%	1066.32	6.37%
Commercial	239.86	1.43%	917.66	5.48%
Industrial	11.70	0.07%	148.66	0.89%
Institution	92.61	0.55%	203.07	1.21%
Rivers/Lakes/Seasonal Swales	2,101.23	12.55%	2,101.23	12.55%
Highway/Rail/Right-of-Way	687.82	4.11%	1,781.92	10.64%
Golf/Parks	2817.40	16.82%	2,964.86	17.70%
Agricultural Vacant Land	151.42	0.90%	-	0.00%
Residential Vacant Land	2,461.13	14.70%	-	0.00%
Industrial Vacant Land	-	-	-	0.00%
Commercial Vacant	40.29	0.24%	-	0.00%
Incorporated Areas*	1,148.36	6.86%	1,148.36	6.86%
Total Acreage	16,747.04	100.00%	16,747.04	100.00%
(Total Township)	15,598.68		15,598.68	

With a complete build-out scenario, there is no remaining agricultural land. The township is the location of a regional park, Alum Creek State Park, which is the majority of parks comprising 18% of the township. For this reason, the amount of parkland far exceeds the more typical 6%.

**Includes all land which has been annexed, regardless of the annexation type and or township taxing and service implications.*

Figure 14.4 Build-out Population by Sub-Area

Sub-Area	2010 Est.	Build-out
1 – US 36 Corridor	206	2,734
2 – North East	113	334
3 – Heartland	64	2,341
4 – Suburban Transition		
4a	88	2,245
4b	668	1,830
5 – Dunham Peninsula	75	1,125
6 – East Alum Creek Corridor	370	1,530
7 – Southern Gateway		
7a	681	925
7b	70	663
7c	51	705
8 – Suburban Heart	1,522	6,126
9 – Historic Cheshire Village Area	1,278	1,408
10 – South East Alum Creek Corridor	485	857
Current and Future Build-Out Population	5,674	23,537

The build-out number uses the estimated current population and adds recorded vacant lots and approved residential subdivisions and rezonings. Proposed land use is then overlaid, using a net developable acreage which factors out roads and unbuildable areas.

Existing Land Use layer was created based on the County Auditor's Office DALIS parcel layer dated 8/2010. From the existing land use classifications, only Agricultural, Agricultural Vacant, Residential Vacant, Other Uses Vacant and Single Family lots with acreage greater than 10 acres were selected as Vacant Land.

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Appendix A

A Brief History of Planning

- 1189 England; required stone party walls 1½ feet thick each side, 16-feet tall on houses.
- 1214 Magna Carta; King John of England, prevented the seizure of land by the King without compensation. First land use regulation, restricting forests for hunting.
- 1297 England- Front yards to be cleared and maintained.
- 1400s England- all roofs in urban areas to be stone, lead or tile (fire protection).
- 1565 St. Augustine, Florida, first American planned city, Spanish Law of the Indies.
- 1666 Great fire of London, England- An Act for the Rebuilding of the City of London, divided city housing into 4 classes, required uniform roof lines and balconies, established front setbacks, mandated 3 year reconstruction or seizure by the city for the public good.
- 1690 Annapolis, Maryland, Sir Francis Nicholson, designed it as a new town, with radial spokes.
- 1692 Philadelphia, first major city built on land speculation, used grid pattern for the layout. 1st neighborhood park system.
- 1692 Boston ordinance restricted slaughter, still, curriers and tallow chandler houses to areas of the city less populous and offensive to the public.
- 1699 Williamsburg, Virginia, Sir Francis Nicholson, designed grid with green mall, central avenue.
- 1733 Savannah, Georgia, General James Ogelthorpe, 24 squares, 40 families per square, grid.
- 1777 Vermont, 1780 Massachusetts, 1789 North Carolina Constitutions prevent taking of land without compensation.
- 1785 Land Act of 1785- Established survey grid 36 square mile townships, North West territories, (includes Ohio).
- 1787 United States Constitution, Article V of the Amendments- “no person shall...be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use without just compensation.”
- 1789 Washington D.C. plan, Pierre Charles L’Enfant combined the radial spokes of Annapolis and the green mall of Williamsburg.
- 1811 25 x 100 standard New York City lot.
- 1856 Central Park, New York City, public green space, parks movement. Frederick Law Olmstead, Sr.
- 1860s Public health movement- New York, San Francisco, regulating tenements and slaughterhouses.
- 1869 Riverside, Illinois, English garden style city by Frederick Law Olmstead Sr. Used curving, tree-lined streets, deep setbacks, single family detached houses, exclusively residential neighborhoods. Became the standard for FHA in the 1930s, thus copied in virtually every major city and community in the US. Still the standard suburban style of land plan used today.
- 1871 *Pumpelly V. Green Bay* (1871) - Established a taking by flooding of private property.
- 1890 Jacob Riss writes *How the Other Half Lives*, depicts slum conditions in New York.
- 1893 Chicago, Colombian Exposition, “White City”, Daniel Hudson Burnham, beginning of City Beautiful movement.
- 1898 Ebenezer Howard writes *Tomorrow, a Peaceful Path to Real Reform*, beginning of Garden City movement.
- 1903 Cleveland Plan, Daniel Burnham, civic center, first master plan for an American city to be realized.
- 1904 San Francisco Plan, Daniel Burnham, based on City Beautiful principles.
- 1909 Chicago, first regional plan in US, by Daniel Burnham.
- 1909 Wisconsin passed first state enabling legislation permitting cities to plan.
- 1909 Los Angeles, first zoning ordinance.

- 1909** Harvard, first course in city planning.
- 1915** *Hadacheck v. Sebastian*- 239 U.S. 394 (1915) Determined that a local government can prohibit land uses in certain areas it deems inappropriate, even though this significantly reduces land value.
- 1916** New York adopts first comprehensive zoning ordinance, no mention of master plan.
- 1919** Ohio Planning Conference, precursor of APA established, first citizen based planning organization in US.
- 1920s** City Beautiful gives way to legalistic, “city efficient” emphasis on administration, lawyers, and engineers.
- 1922** Standard State Zoning Enabling Act issued by the U.S. Department of Commerce. Mentions a plan as a separate study, but most communities do not realize its importance. Zoning seen as planning. Flawed.
- 1922** *Pennsylvania Coal v. Mahon*, 260 U.S. 393 (1922) Supreme Court rules that if a regulation goes too far, it will be recognized as a taking. The determination as to whether a taking has occurred rests on the facts of the case. Still the basic takings case today.
- 1925** Cincinnati, Ohio, first comprehensive city land use plan in America. Not the New York model. Alfred Bettman.
- 1926** First capital budget, Cincinnati, Ohio.
- 1927** *Village of Euclid (Ohio) v. Ambler Realty* (1926) – upheld zoning as constitutional under the United States Constitution, as a police power of the state. If zoning classifications are reasonable, they will be upheld.
- 1928** Standard City Planning Enabling Act issued by the U.S. Department of Commerce. Enter the modern planning age, where a comprehensive plan is the intended basis of zoning, the implementing tool. Act flawed, not largely followed; most major cities already regulating land use under standard zoning act.
- 1930s** Greenbelt cities, including Greenhills, Ohio, Greenbelt, Maryland, Greendale, Wisconsin.
- 1935** Frank Lloyd Wright’s *Broadacre City, A New Community Plan*, lot size varied with family. Did not consider the broad economic spectrum, elitist.
- 1941** Ladislas Segoe, Cincinnati, Ohio writes *Local Planning Administration*, (the “Green” book). The Planning “bible” still used and updated today as the basic manual for planners.
- 1961** Jane Jacobs writes *The Death and Life of Great American Cities*.
- 1964** T.J. Kent writes *The Urban General Plan*. Noted standard City Planning Act of 1928 was faulty: said plan should be:
- 1.) long range and general;
 - 2.) one comprehensive document adopted at one time with all elements integrated;
 - 3.) focused on the physical development implications of socio-economic policies;
 - 4.) be identified as the city council’s (elected official’s) plan.
- 1969** *Design with Nature*, Ian McHarg, brings environmental sensitivity to planning movement with overlay of land capability and critical resources.
- 1970s** Citizen participation and advocacy planning movements bring power back to the people from the inception of the plan.
- 1970s-90s** Land use law cases; Appellate and Supreme Court decisions regarding
- Growth management (*Golden v. Planning Bd. of Town of Ramapo*; also *Construction Industry Association of Sonoma County, California v. City of Petaluma*);
 - Affordable Housing and the fair share analysis (*Southern Burlington County NAACP v. Township of Mount Laurel*, 67 N.J. 151, 336 A. 2d 713, 1975);
 - Takings and exactions;
 1. *Penn Central Transportation Company et al v. City of New York*, 1978. No taking occurred as a result of the Grand Central Station being placed in a Landmark Preservation District. The use of the terminal was unimpeded, and useful governmental purpose (landmark preservation) was vindicated. The fact that the landmark Preservation commission recommended denial of a 53 story tower over Grand Central Station did not in itself assure that the tower would be denied zoning, nor was it a taking.

- a.) *First English Evangelical Lutheran Church v County of Los Angeles* 482 U.S. 304 (1987). The court rejected as a full remedy the declaration of invalidity of the zoning ordinance. Plaintiff could be compensated for time the use of the land was lost due to zoning.
- b.) *Nollan v. California Coastal Commission* 483 U.S. 825 (1987) Court held that development exaction's are valid so long as there is a reasonable relationship between the imposed exaction and the impact on property. The requirement of an easement for public walkway along the beach was not related to the issuance of a building permit on private property.
- c.) *Lucas v. South Carolina Coastal Council* 505 U.S. 1003 112 S. Ct. 2886 (1992) Court held that when a regulation goes too far to deny all economic use of a property, it will be considered a taking.
- d.) *Dolan v. Tigard* 114 S. Ct. 2309, 2315 (1994) City requirement to dedicate land in a floodplain for a bike path as a condition to approval of expansion of an existing hardware store was not reasonable. Must be an essential nexus between the exaction and the use. The benefit to the landowner must be roughly proportional to the impact of the development. The burden is on the community to create this nexus.

1990s Desktop geographic information systems (GIS) allow for inexpensive sophisticated land capability and land use analysis, court decisions relate to reasonableness of environmental preservation (aquifers, endangered species, floodplains, wetlands).

1990s New Urbanist Movement. Return to grid pattern of cities and mixed uses, high densities, mostly centered in the south and west. Making in-roads into central USA as a design alternative. Conservation subdivisions gain momentum in rural areas as an environmentally sensitive replacement for nondescript cluster subdivisions.

Appendix B

Summary of Community Input

The following detailed information is related to the summary in Chapter 4. During the previous land use planning effort, residents were asked to comment on what they valued in the township. On April 28, 1999, the residents and Zoning Commission noted that the essence of Berlin Township is:

1. Open spaces
2. Rural feel as characterized by:
 - Agriculture and preservation of agricultural buildings when agriculture is gone.
 - Green Space between developments.
 - Preserved ravines, jurisdictional wetlands, slopes >20%, trees and fence lines.
 - Access to Alum Creek State Park.
 - Large lots.
 - Mature trees on scenic roads; rough road edge, farm fences, split rail.
 - Large agricultural areas, retention of open space along roads to remind of the former agricultural land.
 - Wildlife corridors maintained.
 - Parks/ green areas, established in neighborhoods to replace farms that disappear.
 - Greenbelts/bike paths which tie together neighborhoods, perhaps using drainage way or utility corridors.
3. Planned developments with a mix of land uses (residential, commercial, industrial, institutional) for a balanced tax base.
4. Low level lighting, downward cast for commercial uses.
5. Effective landscape buffers between commercial and residential uses.
6. Diverse housing types.
7. Ideally, to be less auto dependent, by designing connecting paths between developments.
8. Moderate traffic.

Goals

Similar to the Strengths and Weaknesses ranking above, the 2009 Zoning Commission ranked the 1999 Goals by either agreeing, disagreeing, or being neutral. For this list, a score of 10 indicates that all members agreed and a score of 30 indicates that all members disagreed with the statement. Based on the results below, all previous goals appear to be applicable today.

1. To preserve the rural character of Berlin Township as expressed in its openness, green areas, farms, natural resources (floodplains, wetlands, slopes > 20%, ravines, creeks and rivers) and low density. **10**
2. To provide an opportunity for agriculture to continue through flexible/creative zoning. **10**
3. To provide for a variety of rural, and low density suburban (less than 2 units per acre) residential housing districts. **10**
4. To retain a primarily single family residential housing mix, but permit a diversity of housing types. **12**

5. To encourage commercial and light industrial development in planned districts to broaden the jobs and tax base, and to prevent property taxes from rising faster than the growth in the township tax base. **10**
6. To provide for dense landscape buffering between incompatible land uses. **12**
7. To provide passive and active recreational areas as the township grows. **10**
8. To retain wildlife cover and corridors where feasible. **13**
9. To link developments with green spaces and paths. **10**
10. To preserve the rural “look” along township roads via fencing and landscaping. **13**
11. To retain historic and agricultural structures. **13**
12. To preserve scenic views. **12**
13. To create a “heart” of the township at Cheshire with mixed uses. **12**
14. To relate land use and density to land suitability, utility availability and existing land use; limit development to the carrying capacity of the land infrastructure. **12**
15. To recognize and maintain only those services needed for a predominantly rural/low density community. **17**
16. To determine and implement an appropriate land use mix. **10**
17. To use access management controls to limit key access points to minimize highway congestion. **12**
18. To ensure the amount and location of facilities providing goods is based on need; to discourage over-development or premature development. **12**
19. To implement and maintain the land use plan. **10**
20. To enforce zoning regulations. **10**
21. To expand township services at a rate to ensure public health and safety. **10**
22. To acquire suitable land for the township and school future needs. **10**

(continued)

The following table shows the ranking of the current planning committee in reviewing the issues raised during the 1999 Comprehensive Plan process. A lower score indicates agreement with the comment. The best score possible is 10. The highest score possible (50) indicates that everyone strongly disagreed with the comment.

Strengths	Weaknesses
Alum Creek Park 13	Need more industrial/commercial tax base 12
Low crime 13	High taxes 17
Beautiful natural resources 15	Lack of central focus or town center 20
Fresh air 15	Trailer Parks 22
Green areas 15	Rapid growth of schools 22
Openness 15	Necessity to commute 23
Rural atmosphere 15	Overhead power lines 23
Wildlife 17	Shopping needs not close enough 23
Good schools 17	Not enough variety in restaurants 23
Lack of High density housing 17	Vulnerability to undesirable development 23
Agriculture/farms 18	Growth rate may be about to explode 25
Central location 18	Not enough utilities where needed 25
Large lot sizes 18	Too much developer owned property 25
Lack of Multifamily 18	Lack of jobs in township 27
Recreation 20	Speeding on residential streets 27
Good utilities 20	Lack of traffic control 28
Commercial Development in defined areas 20	Lack of entertainment 28
Diversity of community 20	Public disrespect for private property 32
To be able to look up and see stars 20	Overcrowded schools 33
Appreciating property values 22	Lack of full time fire department 33
Small town feel 22	Light pollution 35
Can still hunt 25	Truck stops 35
Minimal development 25	Noise of Alum Creek boats 37
Low traffic 25	Too many bars 38
Not a transient community 27	
Skinny roads 32	

In addition to ranking the Goals above, members of the Zoning Commission were encouraged to name other ideas that could be discussed as new Goals. Those comments included:

- Create a Berlin Township Parks Board;
- Fair signage rules for the community;
- Trails to areas like adjoining township trails, Alum Creek, new Delaware shopping plaza, schools, recreation (3);
- Actively pursue the types of industry that would decrease the tax burden to residents;
- Township enforcement of zoning violation to insure neighborhoods remain clutter free;
- Increase commercial areas especially on 36/37 (need sewer);

- Continue to work to preserve and protect township boundaries from annexation;
- Require developers to donate land for recreational areas (example: Mariner's Watch has a great deal of open space and it's all passive and unused;

Finally, the township distributed surveys to all township residents, receiving 90 responses. The following is a small example of the overall LAND USE-RELATED sentiments:

- Zoning should be done to make the township a community that will not be annexed;
- Keep large lot sizes (2);
- Density too high, not enough green space;
- Need to keep rural-type densities/keep rural atmosphere/township needs to stay rural/keep density down and the need for more schools will slow down;
- Be careful not to deviate from zoning restrictions and density levels/Density not too much and not too little;
- I hope the 1 non-resident (home occupation) employee regulation can be increased;
- Keep commercial near 23, protect Old State and Cheshire from becoming Sawmill/need more planned commercial services/need retail closer (small centers);
- Encourage builders/developers to build reasonably-priced condos/affordable housing should be available in the township, even if this means multi-family;
- Would like a recreational center (4) with pool (3), library, park paths/more family friendly community with parks, sports fields (2)/roads wide enough to share with bicycles/parks, parks, parks, playground for kids/create bike trail (16)/pool resources with Orange Township;
- Concerned about farmland preservation/maintain agriculture at this time to provide a local food source;
- Encourage Trustees to work with Commissioners to extend sewer service;
- Better sign standards/more signs/flexible standards;
- No parks if it raises taxes/no sidewalks keep it rural;
- Taxes are way too high – how about the county/twp paying for trash pickup, just like the city?