Orange Township

Delaware County, Ohio

Comprehensive Land Use Plan, 2010

ORANGE TOWNSHIP

Prepared by
Delaware County Regional Planning Commission
Delaware County, Ohio

July 19, 2010

Orange Township Zoning Commission

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Da-Wei Liou, GISP, *GIS Manager*
Stephanie J. Matlack, *Executive Administrative Assistant*

Unless otherwise noted, base map datasets are provided by the Delaware County Auditor's Office DALIS Project (parcel, water, political boundaries, etc.).

ORANGE TOWNSHIP

Delaware County
Regional Planning Commission

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Executive Summary

Orange Township is the fastest growing township in Ohio's fastest-growing county. Growth has outstripped all projections. As agriculture has given way to suburban development, the township has attempted to create well-designed neighborhoods and commercial developments to retain a sense of rural character.

Orange Township 2009 – Land Use Facts and Issues:

- 15.29% of the township (or 2,553.46 acres) has been annexed since 1988.
- Population grew from 3,789 in 1990 to 12,464 in 2000 for an increase of 229%. Population grew to 22,264 in 2009 (DCRPC Estimate) for an additional increase of 78.63%
- From 2000 to 2009 there were 1,833 new house lots zoned, 1,014 new multi-family units zoned, and 518 new acres of commercial and industrial ground zoned.
- There is a 9-10 year supply of house lots in the subdivision process in the County.
- Agricultural acreage decreased from 5,024 acres in 2000 to 1,730 acres in 2009 with no "vacant farmland" on the land use map. Loss of farmland is no longer the primary concern of residents regarding growth.
- Traffic continues to be a significant problem, at certain locations during certain times of the day.
- There is a commitment to more open space, environmental protection, and park amenities.
- Orange Township has significant natural beauty in its ravines. These ravines need to be protected.
- There is a variety of housing for all income levels in the township. Approximately ninety-nine percent of all housing is new, or in very good condition.
- There are 8,430 housing units within the boundaries of Orange Township (does not include annexed territory). Of the total, 6,593 or 78%, are single family homes and 1,837 or 22%, are multi-family housing units.
- Economic conditions are comparatively good in Orange 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.
- 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 Orange Township with school-related growth and increased traffic.
- Township collector roads were built in the 1800s for farm-to-market use and are too narrow for today's traffic. Several township collector roads have been widened and some key intersections have been improved, but some narrow roads are considered part of the scenic character.
- 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.

- 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.

- Except for a few locations where topography is a limiting factor, sanitary sewer service is available for the entire township although the entire township is not currently served with sewer lines. Sewer design densities are typically 2 housing units per acre.

- 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.

- Orange Township requires the most policing of any township in the county. The township dedicates funding to the County Sheriff for additional service that operates out of a substation at the Alum Creek Wastewater Treatment Facility.

- Highbanks Metro Park and the Alum Creek State Park provide passive open space and recreation. In the last several years the township has aggressively funded and built several leisure trails and parks including a popular aquatic center.

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CHAPTER 1

Introduction and Vision

"THE EARLY settlers were men and women of heroic mold. Though coming simply to find more room, cheaper lands, and to found a home, they met the trying experiences of the new country with a spirit that exhibited such characters as make the world's heroes…

Slowly and laboriously they toiled through the unbroken wilderness, and here reared their first cabin. Here they dispensed their frugal hospitality, spread around their humble charities, and, with heroic patience and fortitude, endured the stern fate of the pioneer, unknown and unsung of fame.

What is now called Orange Township, was, before the pioneer's ax disturbed the native quiet of the woods, an unbroken forest of heavy timber…indicating a generous variety of soil. Sloping up, on either hand, from the Alum Creek on the east, and from the Olentangy on the west, the land forms a ridge of some elevation, nearly in the middle of the township, and is now traversed by the track of the Cleveland, Columbus, Cincinnati & Indianapolis Railway…

Plucked from homes of comfort and rudely transplanted in the wilderness, they drew from nature the comforts and adornments of a home, and decked their firesides with those social and domestic virtues which so often force from these later times a sigh for "the tender grace of a day that is dead." From the necessities of the situation, the hospitality of the early settlers was as spontaneous as it was generous."

-- History of Delaware and Ohio, O.L. Baskins Co., 1880 *(www.heritagepursuit.com)*
Image source: Maptech historical USGS maps, combination of Northeast Dublin Quad (1903) and Northwest Westerville Quad (1904)

"Make no small plans; they have no magic to stir men's blood and probably will not be realized. Make big plans; aim high in hope and work, remember that a noble logical diagram once recorded will never die, but long after we are gone will be a living thing, asserting itself with ever growing insistency. Remember that our sons and grandsons are going to do things that would stagger us. Let your watchword be order and your beacon beauty."

- Daniel Hudson Burnham, Father of the American City Planning Movement

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

The Orange Township Comprehensive Plan Steering Committee convened on March 5, 2009 to kick-off the process for a 2010 Orange Township Comprehensive Plan.

The comprehensive plan is a set of policies, goals and maps for the future development of the township. However, as a plan, it has no teeth under Ohio law. The township must adopt zoning, which implements these policies and visions. Zoning is the police power that guides and enforces the township's development. It is the intention of the township to adopt a revised comprehensive plan that is descriptive of its vision of the future. After the updated plan is adopted, it will be the township's responsibility to amend its zoning to conform to the plan. This update seeks to:

1.) Review the changes in land use, population, utility services, roads, and boundaries that have occurred from 2001 to 2009.
2.) Review the changes in economic, legislative, judicial and regulatory conditions that have occurred from 2001 to 2009.
3.) Review the goals and policies adopted in 2001; judge whether the goals and policies are still representative of the community's 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 means for 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 2010 Comprehensive Land Use Plan is intended to be site-specific, with land use and/or density classification attached to each parcel, and viewed from an environmental standpoint with policies to protect critical resource areas.

DALIS – How Digital Information Affects the Township's Ability to Plan

The Delaware County Auditor has developed a Geographic Information System (GIS) for the primary purpose of accurately mapping tax parcels. DALIS stands for Delaware Area Land Information System. It 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 Auditor has also created soil maps and digital ortho photos with structures.

Maps may be created with accuracy to a scale of 1" =100' for Orange 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 Orange Township Comprehensive Plan. The software used is ArcInfo and ArcView, by ESRI.

Summary of Previous Township and County Planning Efforts

The 1991 Orange Township comprehensive plan (Frank Elmer) was a generalized plan. It was "not the intent of the Land Use Plan to positively identify the actual future use of every individual parcel or tract of land within the township."

The 1991 Elmer Plan and the work of the steering committee in 1996 determined that they wished to preserve the "rural character" of the township while allowing appropriate growth. The "Essence of Orange Township" (according to the consensus of the steering committee) was:

- Rural feel as characterized by:
    - Open Spaces
    - Space between developments
    - Ravines
    - Access to Alum Creek, Olentangy River
    - Upscale bedroom community, with large, open entrances that are well landscaped
    - Mature trees on scenic roads
    - Agricultural areas
    - Wildlife corridors
- Different/diverse housing;
- Mix of land uses (residential, commercial, industrial, institutional) for a balanced tax base;
- City of Orange in 2020?
- Pitched roofs, not flat roofs (even for most commercial/office uses);
- Height limits of 2 1/2 stories for most structures, 50' maximum in non-residential areas;
- Green spaces along commercial corridors;
- Ground signs, not pole signs;
- Low level lighting, downward cast for commercial uses;
- Effective landscape buffers between commercial and residential uses;
- Ideally, not to be totally auto-dependent, by designing connecting paths between developments;
- A center, or heart of the township, perhaps at Lewis Center;
- Parks in neighborhoods;
- Greenbelts/bike paths that connect neighborhoods;

Based upon the expression of what is worth preserving or striving for as the essence of Orange Township, the Steering Committee established a vision for the future.

> *When Orange Township is all built out, we would like it to be a community with a diversity of housing, commercial and industrial uses, with attractive landscaping in commercial corridors and at entrances to neighborhoods, with useable green spaces throughout the community. We would like to retain some agricultural areas as long as possible. We would like to preserve unique scenic views and our critical natural resources such as ravines, floodplains, wetlands and forests.*

In 1993, the Regional Planning Commission completed a process to create county-wide Comprehensive Plan. This plan was also general in nature, was not site-specific, and did not meet the needs of individual townships. Although adopted by the RPC, it was not endorsed by individual townships. Over the years it has had limited use in situations where there was no other township-initiated plan.

The 2001 Comprehensive Plan was intended to be site-specific and generally used the format within the pages of this plan. Land use and/or density classification was attached to each parcel. The advent of the Delaware County Auditor's Geographic Information System for property tax maps (DALIS) has made this possible via a much more detailed set of topographic and property line maps. This chapter describes in detail how the 2001 Comprehensive Plan was revised to become the 2010 plan.

A Parks Trails and Greenways Master Plan was created in 2003 and recently updated involving significant public input. The result was a number of proposals and implementation which will be incorporated into the Comprehensive Land Use Plan.

The 2010 Comprehensive Plan augments, modifies, and supercedes any previous land use plan.

Other Survey and Vision Efforts

Over the last several years, various opinion surveys have been produced within the township and throughout the larger community area. Some of these were part of the Comprehensive Planning process and others were part of a study initiated by the health district or the Building Industry Association. The 2010 Plan attempts to assemble the various results from previous studies and surveys and allow the current working group to judge whether those values are still accurate.

In June 1998, the **Building Industry Association (BIA)** conducted a survey in Delaware County to gauge sentiments about the effects of growth. A total of 400 likely voters were canvassed for 18 minutes apiece about various growth concerns. The data was county-wide, not divided into townships. It was divided into school districts. Since Orange Township is 100% within Olentangy School district, some observations may be made. (23% of those surveyed resided in the Olentangy school district.)

- *Development/loss of land, growth planning, and traffic/roads were most important issues facing the community today (#2, #4 and #6).*
- *40.8% of all surveyed said we are doing a poor/not so good job of managing growth and development.*
- *55.8% said we are doing poorly to reduce traffic congestion.*
- *Amenities/access were the top vote getter (20.2%) in the positive aspects of growth.*
- *18.9% said there was nothing positive about growth.*
- *Only 3% said there were positive aspects to well-planned growth.*
- *42.8% said that traffic was the most unfavorable aspect of growth.*
- *53.9% said they want growth to continue, but the pace is too fast.*
- *19.8% said they wanted no more growth.*
- *49.4% said government should encourage planned growth.*
- *56% of those favoring planned growth were from Olentangy.*
- *#1 and #2 priorities on managing growth were keeping up with school construction and protecting the environment and open spaces.*
- *63% of Olentangy voters ranked traffic conditions C-F on a scale of A-F.*

A second detailed survey was performed in Delaware County in 1998 relative to the Environmental Health of the county. This became known as the PACE survey. Unlike the BIA survey, which asked questions related to growth, this survey asked questions relating to the community's perception of its environmental health. This survey was performed in person and by mail. Trained volunteers surveyed 500 students in five local high schools and 200 county fair attendees. In addition, the survey questions were mailed to 40,000 households.

The top five environmental concerns were:

- *Need for more parks, green space, wildlife habitats (733 responses)*
- *County development, zoning, annexation out of control (721)*
- *Surface water pollution from sewage systems (686)*
- *Surface water pollution from factories, agriculture (685)*
- *Environmental education (660)*

It may be observed that in the high growth townships of Delaware County, such as Orange, there was a growing opinion that growth was having many negative attributes:

- *too much traffic,*
- *unplanned neighborhoods,*
- *lack of environmental and open space protection,*
- *inadequate new school construction, and too rapid pace of growth.*

Updating the 2001 Goals

To be reflective of the values and goals of a community, the comprehensive plan must be representative. During the process that led to the 2001 plan, the Steering Committee refined the essence of Orange Township into goals for the future land use of the township. For the 2010 updated plan, the current Zoning Commission and BZA were asked to assign numbers 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, it is intended to generally honor the goals of the 2001 plan while updating them to meet the needs of today. A score of 50 would indicate that all respondents thought the issue was a top priority. A score of 10 would indicate that everyone disagreed with the issue.

- Discourage over-development or premature development. **48.9**
- Relate land use and density to land suitability, utility availability, adjacent existing land uses and the carrying capacity of the infrastructure. **46.7**
- Preserve the rural and natural character and beauty of Orange Township as expressed in its open spaces, green areas, farms, natural resources (floodplains, wetlands, slopes >20%, ravines, creeks and rivers) as it changes from a rural to a suburban community. **46.7**
- Enforce zoning regulations. **46.7**
- 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. **45.6**
- Protect local real estate values. **45.6**
- Determine and implement an appropriate land use mix. **45.0**
- Implement and maintain the land use plan. **45.0**
- Avoid traffic congestion on local, county and state roads. **44.4**
- Retain wildlife cover and corridors where feasible. **43.3**
- Expand township services at a rate to ensure public health and safety. **43.0**
- Provide for dense landscape buffering between incompatible land uses. **42.2**
- Conserve surface and ground water quality around Alum Creek reservoir. **42.2**
- Preserve scenic views. **42.2**
- Link developments with green spaces and paths. **41.1**
- Preserve the rural "look" along township roads via fencing and landscaping, especially at entrances to new subdivisions. **40.0**
- Retain a primarily single family residential housing mix, but permit a diversity of housing types. **40.0**
- Provide passive and active recreational areas as the township grows. **38.9**
- Retain historic and agricultural structures. **37.8**
- Create a "heart" of the township at Lewis Center with mixed uses. **37.8**
- Provide for a variety of residential housing districts, with an overall (township-wide) density not to exceed 2 units per acre where centralized sanitary sewer exists or can be provided. **37.5**
- Acquire suitable land for the township and future school needs. **34.8**
- Provide an opportunity for vestiges of agriculture to continue. **31.1**

Respondents were also asked to make any additional comments and raise any other issues. These were discussed and are listed here, arranged into loose categories. Comments submitted by the general public are also included here:

Sidewalks/trails

- Sidewalks extended to allow for less traffic and better access. Even an asphalt bike trail would help;
- Bike paths network to/from all Alum Creek parking areas. Bike lanes. Park is huge asset. Consider hard core bikers and families. They will tend to shop/eat in area;
- We need more trails so it is important to provide for trail right-of-way.

Transportation

- Raised areas (made of brick) on streets in subdivisions in which excessive speed is an issue. Other communities have these to slow traffic;
- Complete relocation and extension of Home Road;
- Complete I-71 and Big Walnut interchange;
- Better understanding of the impact of planning and land use on traffic congestion and the county road/transportation access plan, including mass transit.

Land Use

- Encourage land use and/or construction to reduce vehicle travel with appropriate and contiguous residential and business uses;
- Establish land use policy for the intersection of South Old State Road and Lewis Center Road;
- Continued careful crafting of zoning so that intent of ordinance is clear and exceptions, when necessary, do not violate that intent;
- Identify the "distinct elements" that compose the scenic views and rural character which the township is trying to preserve and make those areas a priority. It is not realistic to try to preserve everything, but to have planned preservation and planned growth;
- The township needs realistic planned growth for a variety of uses, including residential and commercial;
- The township needs a variety of residential development, not just single family homes, but townhomes, condos, and apartments in suitable areas;
- Township needs a way to identify historic structures and farms, and then determine the best method to preserve them, be it zoning regulations, easements, etc. Again, it is not realistic to save all historic structures and farms, but to have planned preservation;
- Kerbler property – the Planned Communities plan continues to be a viable opportunity into the future if an agreement could come back together;
- Old Lewis Center could still become a well-done commercial center with architectural regulations – the future rail overpass will directly affect this development;
- Acreage north of Lewis Center Road and east of tracks should be 2 houses per gross acre with development of park and school sites.

Image/other

- Sense of identity/point of focus that we are Lewis Center/Orange Township, not just a collection of developments in same geographic vicinity;
- Concern about future annexation creeping by City of Columbus into county and township;
- A perspective of sustainability of use, construction, etc. as the CLUP is updated;
- Allowance for uses for alternate energy production (solar panels/farms, wind power, etc.);
- Fiber-optic loop similar to Dublin to attract high-tech/IT businesses;
- We need a rec center;
- To preserve farmland/wetlands make it easy to donate development rights and get tax deduction for donation.

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CHAPTER 2
Demographic Trends

Regional Population

To put Central Ohio and Orange 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 Orange Township to indicate a true comparison of growth rates from 1990 to 2000.

Figure 2.1 Regional/Local Growth Rates

Nation/State/Region	1990 population	2000 population	Rate 1990-2000	2009 estimate	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, US 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%.

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

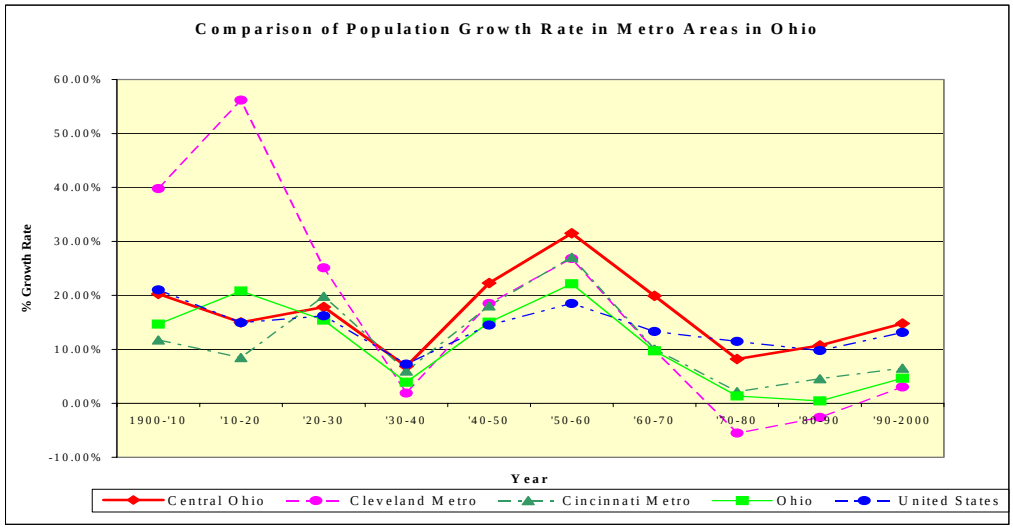
Delaware County is growing largely by domestic in-migration with 38,964 new residents moving into the county from 2000 to 2008. Births minus deaths represented 12,771 additional residents in this same time span. By contrast, Franklin County experienced an outward migration of -40,851 from 2000-2008. Delaware County received a higher number of domestic migration, suggesting that some migration came from other Central Ohio counties. Figures 2.3 & 2.4 illustrate these trends.

Figure 2.3 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, US Census Bureau)

Figure 2.4 Central Ohio Growth Rates (1900-2000)



(Data Source Census 2000)

Delaware County's growth should be reviewed as an indicator of future growth pressures in Orange Township. According to the 2007 American Community Survey by the US Census Bureau, Delaware County's population is 49% male and 51% female, over 92% Caucasian. 80% of the population resides in owner-occupied homes.

Figure 2.5 indicates the significant rate of growth within Delaware County compared to other counties. The growth rate for the period 2000-2006 was 42.5% which ranked Delaware County 13th nationally. However, between 2006 and 2007, the increase was estimated at 3.5%, placing Delaware County in the last slot at 100th nationally. In 2008, Delaware County was no longer on the list for annual growth.

Figure 2.5 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, US Census Bureau, 2008)*

Orange Township Population/Demographics

For the past 40 years, Orange Township has had varied rates of growth. Growth rates didn't increase significantly until the 1990s. This growth continued to increase until dropping in the last few years, as illustrated in Figure 2.6.

Figure 2.6 Census Population Figures, Orange Township 1960-2000 and 2008 estimate

Year	Census Population	Population Change from Last Census	Percent Change from Last Census
1960	1,535	--	--
1970	1,902	367	19.30%
1980	1,941	39	2.01%
1990	3,789	1,848	48.77%
2000	12,464	8,675	69.60%
2008 est.	22,264	9,800	44.02%

(Source Census 2000 and DCRPC 2008 Demographic Package)

Figure 2.7 shows a breakdown of the demographic data of Orange Township residents. Detailed census information released in 2002 uses sampling to create details on population at the township level. The following census page depicts Orange Township's demographic information such as ethnic background, household type and ownership. Although this information will vary when the 2010 Census is released, this is the most current data that uses the broadest sampling techniques.

Figure 2.7 2000 General Demographic Profile of Orange Township, Delaware County Ohio

Table DP-1. Profile of General Demographic Characteristics: 2000
Geographic Area: Orange township, Delaware County, Ohio
[For information on confidentiality protection, nonsampling error, and definitions, see text]

Subject	Number	Percent
Total population	**12,464**	**100.0**
SEX AND AGE		
Male	6,205	49.8
Female	6,259	50.2
Under 5 years	1,393	11.2
5 to 9 years	1,223	9.8
10 to 14 years	848	6.8
15 to 19 years	562	4.5
20 to 24 years	619	5.0
25 to 34 years	2,617	21.0
35 to 44 years	2,632	21.1
45 to 54 years	1,429	11.5
55 to 59 years	360	2.9
60 to 64 years	269	2.2
65 to 74 years	325	2.6
75 to 84 years	136	1.1
85 years and over	51	0.4
Median age (years)	31.3	(X)
18 years and over	8,617	69.1
Male	4,230	33.9
Female	4,387	35.2
21 years and over	8,352	67.0
62 years and over	657	5.3
65 years and over	512	4.1
Male	234	1.9
Female	278	2.2
RACE		
One race	12,295	98.6
White	11,376	91.3
Black or African American	473	3.8
American Indian and Alaska Native	14	0.1
Asian	353	2.8
Asian Indian	104	0.8
Chinese	107	0.9
Filipino	16	0.1
Japanese	25	0.2
Korean	65	0.5
Vietnamese	20	0.2
Other Asian [1]	16	0.1
Native Hawaiian and Other Pacific Islander	2	-
Native Hawaiian	-	-
Guamanian or Chamorro	1	-
Samoan	-	-
Other Pacific Islander [2]	1	-
Some other race	77	0.6
Two or more races	169	1.4
Race alone or in combination with one or more other races: [3]		
White	11,527	92.5
Black or African American	538	4.3
American Indian and Alaska Native	63	0.5
Asian	401	3.2
Native Hawaiian and Other Pacific Islander	8	0.1
Some other race	104	0.8

Subject	Number	Percent
HISPANIC OR LATINO AND RACE		
Total population	**12,464**	**100.0**
Hispanic or Latino (of any race)	188	1.5
Mexican	71	0.6
Puerto Rican	22	0.2
Cuban	7	0.1
Other Hispanic or Latino	88	0.7
Not Hispanic or Latino	12,276	98.5
White alone	11,256	90.3
RELATIONSHIP		
Total population	**12,464**	**100.0**
In households	12,464	100.0
Householder	4,629	37.1
Spouse	3,044	24.4
Child	4,130	33.1
Own child under 18 years	3,763	30.2
Other relatives	220	1.8
Under 18 years	51	0.4
Nonrelatives	441	3.5
Unmarried partner	231	1.9
In group quarters	-	-
Institutionalized population	-	-
Noninstitutionalized population	-	-
HOUSEHOLD BY TYPE		
Total households	**4,629**	**100.0**
Family households (families)	3,481	75.2
With own children under 18 years	2,061	44.5
Married-couple family	3,044	65.8
With own children under 18 years	1,740	37.6
Female householder, no husband present	311	6.7
With own children under 18 years	235	5.1
Nonfamily households	1,148	24.8
Householder living alone	876	18.9
Householder 65 years and over	83	1.8
Households with individuals under 18 years	2,105	45.5
Households with individuals 65 years and over	350	7.6
Average household size	2.69	(X)
Average family size	3.12	(X)
HOUSING OCCUPANCY		
Total housing units	**5,055**	**100.0**
Occupied housing units	4,629	91.6
Vacant housing units	426	8.4
For seasonal, recreational, or occasional use	18	0.4
Homeowner vacancy rate (percent)	5.0	(X)
Rental vacancy rate (percent)	5.8	(X)
HOUSING TENURE		
Occupied housing units	**4,629**	**100.0**
Owner-occupied housing units	3,366	72.7
Renter-occupied housing units	1,263	27.3
Average household size of owner-occupied units	2.93	(X)
Average household size of renter-occupied units	2.06	(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 does regarding growth in Orange Township. Since 1995, the township has averaged 405 building permits each year sharply declining in the last two years. In 2004 the township issued 762 permits, its highest total to date. Figure 2.8 lists the number of permits issued for all

Delaware County townships and municipalities from 1995 to 2008. Note that Orange Township either had the highest, or second-highest number of building permits within the townships, trading the top spot with Genoa Township. Following in order of permits was Concord, Liberty, Berlin and Berkshire townships.

Because the township was in the "first tier" of sewered townships, Orange Township has seen a number of large-scale production-built subdivisions over the last decade. This has resulted in typical single-use suburban-style development.

Figure 2.8 Building Permits issued per Delaware County Township/Municipality (1995 to 2008)

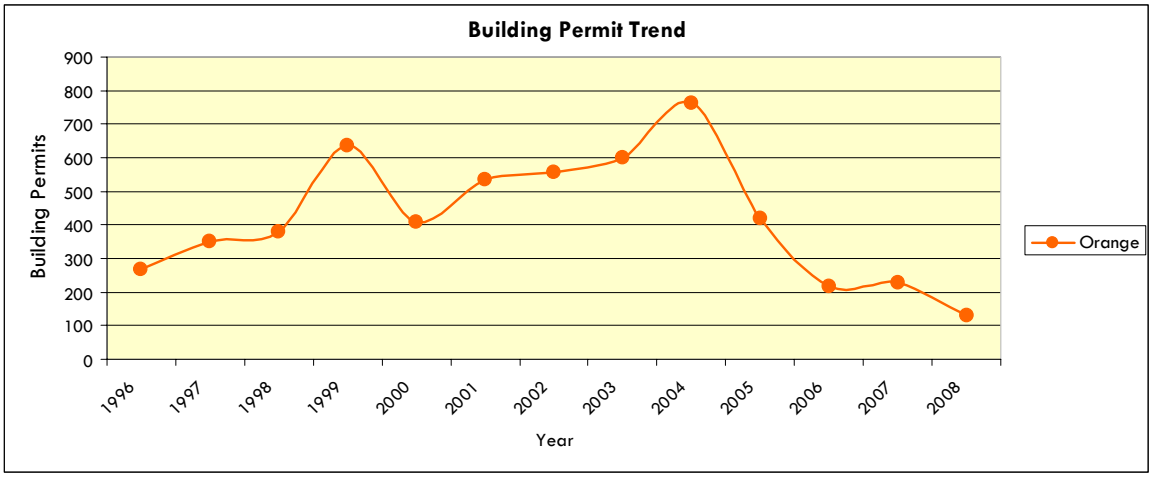
Townships	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Berkshire	21	22	16	17	34	16	16	13	15	18	28	29	37	17
Berlin	65	66	54	98	117	128	182	156	123	97	84	66	40	30
Brown	11	17	9	10	8	17	10	14	11	8	4	3	2	3
Concord	35	30	43	96	103	235	355	294	410	235	167	134	80	67
Delaware	3	4	12	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 and Municipal Building Departments, 2009)

Figure 2.9 depicts Orange Township's building permit history. Permits reached a high of 762 in 2004 before sinking to 216 in 2006 and 228 in 2007. The township posted just 129 in 2008.

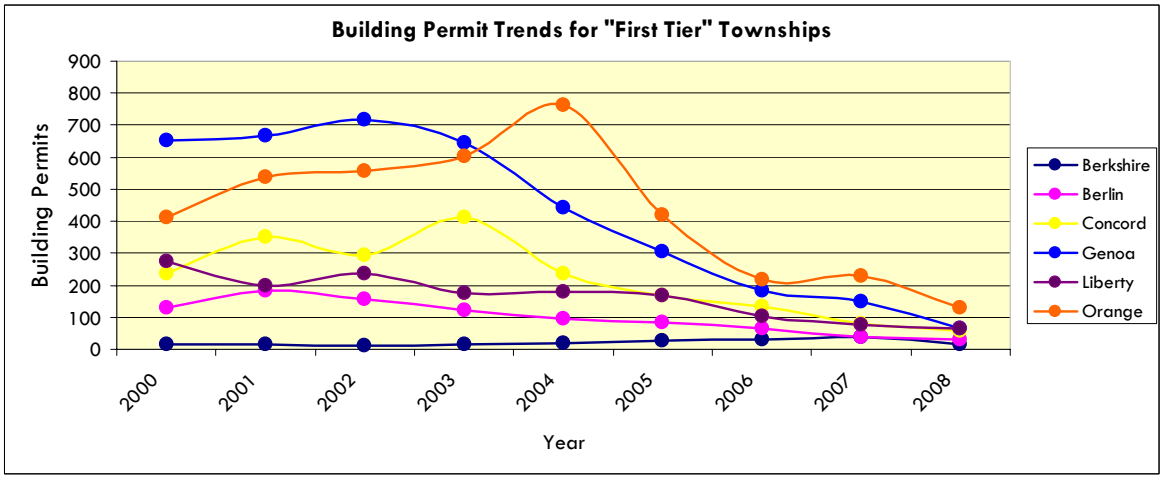
Figure 2.9 Orange Township Building Permit History (1996 to 2008)



(Source DCRPC, 2009)

The drop-off isn't limited to Orange Township, of course. Figure 2.10 depicts the building trend in all of the high-growth townships in southern Delaware County over the last decade.

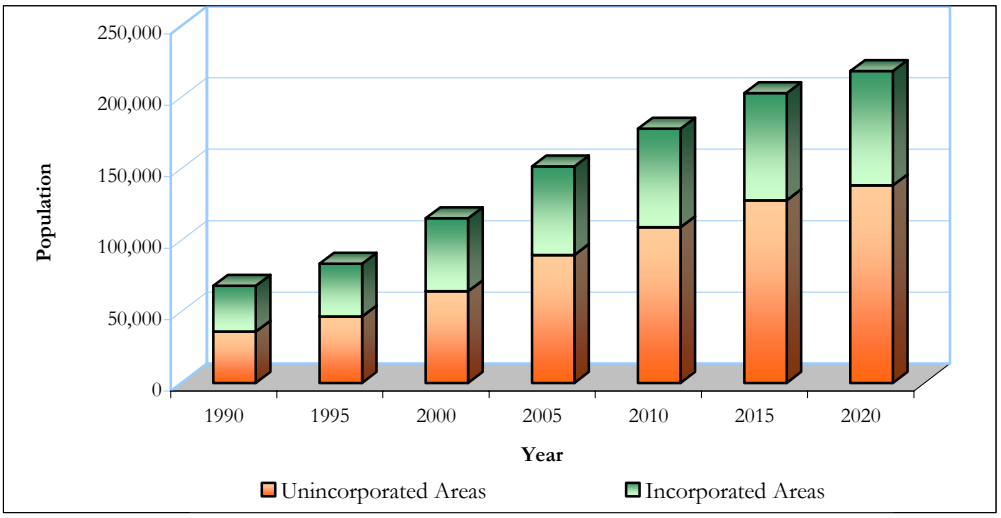
Figure 2.10 High Growth Townships Building Permit History (2000 to 2008)



(Source DCRPC, 2009)

Figure 2.11 demonstrates the projected population for Delaware County in five-year increments to 2020, based on the building permit projection method.

Figure 2.11 Population Projections for Delaware County to 2020 using building permit data



(Source DCRPC, 2007)

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 Orange 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 2.12) contains population projections for area townships and municipalities of Delaware County through the year 2020. This table indicates that 35,000 people could reside in Orange Township by 2020. This represents 12,736 new residents from 2008 to 2020, a 36% increase (this does not specifically factor in projects which are "in the development pipeline").

Figure 2.12 Population by Housing Unit Method Projections for Area Townships/Municipalities

	Census Data				Estimated	Projected			Growth Rate	
Townships	1990	2000	Pop. Index	Vacancy Rate	2008	2010	2015	2020	2001-2010	2011-2020
Berkshire Twp.	1,713	1,946	2.81	4.5%	2,358	2,529	2,716	2,851	28.08%	12.75%
Berlin Twp.	1,978	3,313	2.81	4.7%	5,563	5,747	7,135	8,143	64.66%	41.68%
Brown Twp.	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 Twp.	4,053	11,293	2.93	5.0%	21,421	21,887	28,269	28,269	79.61%	29.16%
Harlem Twp.	3,391	3,762	2.82	3.1%	4,100	4,215	4,482	4,672	11.69%	10.83%
Liberty Twp.	1,136	9,182	3.00	5.3%	12,989	13,400	15,577	17,155	39.11%	28.02%
Orange Twp.	3,789	12,464	2.93	8.4%	22,264	23,160	29,393	35,000	75.11%	51.12%
Porter Twp.	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 Twp.	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, October 2008)

Orange Township Growth Summary

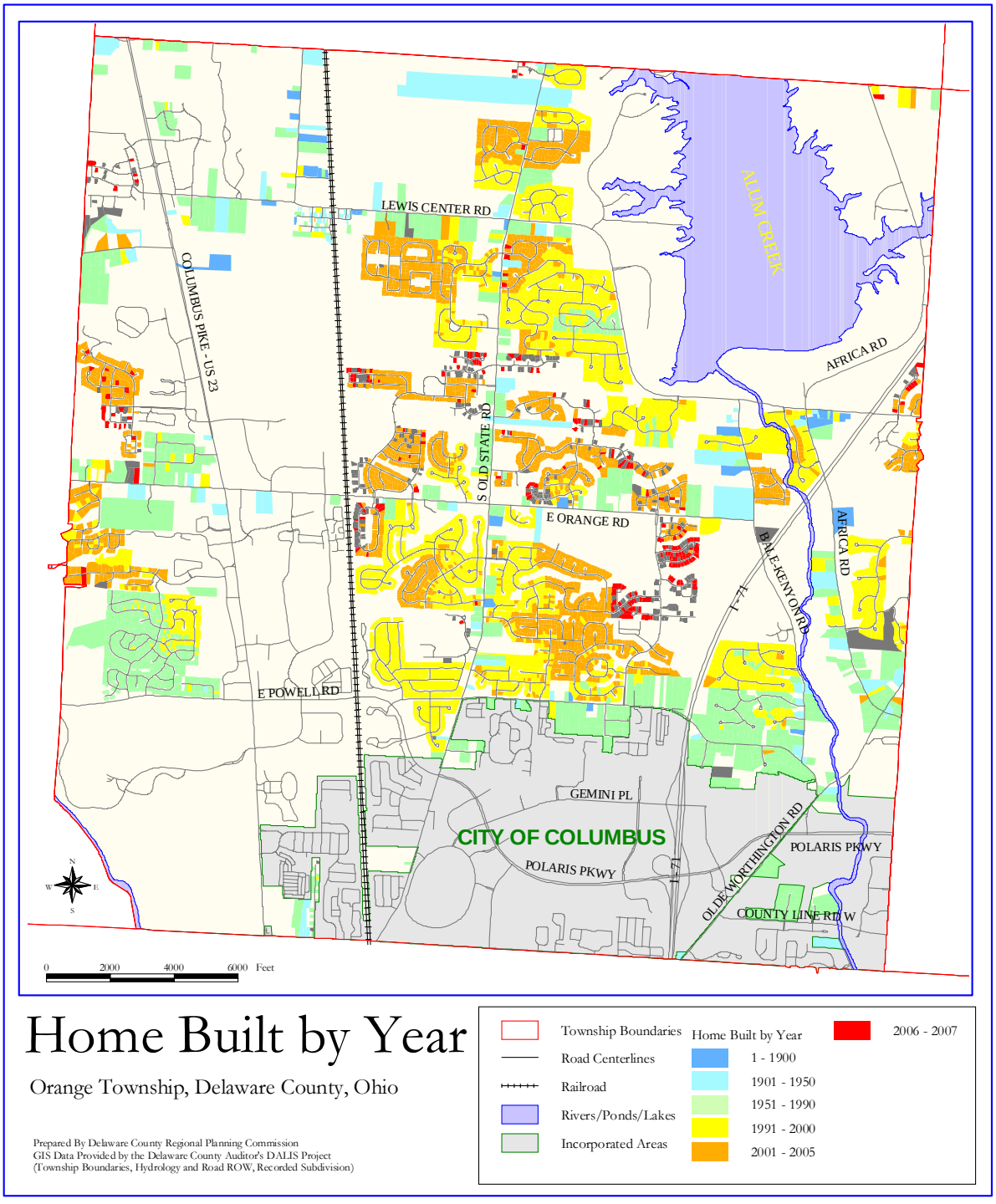
According to the U.S. Census Bureau, Delaware County was the fastest growing county in Ohio by percentage of growth (64.3%) from 1990-2000 and the 13th fastest from 2000-2006 (42.5%). Orange (229%), Genoa (178.6%) and Liberty (142.3%) Townships displayed the most rapid growth rates in the county from 1990-2000. Since then, these townships have continued to grow. Orange, in particular, has added 9,800 residents since 2000, a 79% increase for the decade. Genoa saw a 90% growth and Liberty experienced 41%. These three townships are served by centralized county sewer service, which permits higher densities. Centralized sanitary sewer can lead to responsible growth and yield development options that are less land consumptive. Such responsible growth requires a good land use plan and the right land use mix.

CHAPTER 3

Development and Change

Before exploring the statistics surrounding development and change, it is interesting to see when that growth occurred. Figure 3.1 displays residential housing by "built date".

Figure 3.1 Map Showing Year Built for Existing Homes



Township Zoning Activity

The first step in the development process is usually rezoning. Therefore rezoning is a strong indicator of development and change in the township. Figure 3.2 indicates the change in acreage as a result of rezoning requests approved by the Orange Township Zoning Commission since 2000.

Figure 3.2 Approved Rezonings, 2000 to 2008, in Orange Township

Applicant Name	ACRES	FROM	TO	RPCDATE	TWPDATE	SF LOTS	MF UNITS
AIRTIGHT, LTD C/O CON'L	13.25	FR1	PID	1/27/2000	4/17/2000	-	-
PCI (North Orange)	180.62	FR1	SFPRD	2/24/2000	10/25/2000	382	
PCI (North Orange Commercial)	56.91	FR1	PCD	2/24/2000	10/25/2000	-	-
PCI (North Orange Commercial)	82.00	FR1	PCD	2/24/2000	12/18/2000	-	-
MARK GUTENTAG	8.19	FR1	PCD	3/30/2000	6/19/2000	-	-
PCI (Regency at Highland Lakes)	58.97	FR1	SFPRD	9/28/2000	12/18/2000		118
JOHN QUINN	2.23	C-2, PC	PCD	10/26/2000	3/3/2001	-	-
RANDY WILCOX	22.15	C-2	PID	12/28/2000	4/3/2001	-	-
MICHAEL CARRAN	8.26	C-2	PID	12/28/2000	4/3/2001	-	-
GROVER & MARY JOHNSON (Walnut Woods)	28.00	FR1	SFPRD	1/25/2001	4/3/2001	37	
MERIDIAN LAND GROUP (Alum Crossing)	50.40	FR1	SFPRD	4/26/2001	9/25/2001	100	
ROBERT TAEK RO (Glen Oak)	289.87	FR1	SFPRD	5/31/2001	12/6/2001	335	
D & S INVESTMENTS	2.04	FR1	PCD	8/30/2001	10/2/2001	1	
FRANK BARNES (North Pointe Meadows)	41.82	FR1	SFPRD	8/30/2001	10/11/2001	83	
ORANGE HILL DEVELOPMENT (annexed)	13.96	FR1	SFPRD	8/30/2001	10/18/2001		58
ALUM CREEK INC. (McCammon Chase)	64.01	FR1	SFPRD	8/30/2001	12/6/2001	87	
DEL-CO WATER (Land trade)	10.37	FR1	SFPRD	11/29/2001	1/10/2002	1	
PLANNED COMMUNITIES	3.08	FR1	PCD	2/28/2002	5/21/2002	-	-
PLANNED COMMUNITIES (Park Pl. at No. Orange)	21.74	SFPRD	MFPRD	2/28/2002	5/21/2002		84
EPCON GROUP (Villas at Maple Creek)	14.39	FR1	MFPRD	8/29/2002	10/15/2002		56
P.D. PAYKOFF	5.30	FR1	PID	8/29/2002	10/15/2002	-	-
FIFTH THIRD BANK	1.03	PCD	PCD	9/26/2002	10/18/2002	-	-
M.H.D COMPANIES	6.04	FR1	SFPRD	3/27/2003	5/29/2003	11	
PCI (North Orange Condos)	77.93	SFPRD	MFPRD	3/27/2003	7/21/2003	1	219
PCI (Olentangy Crossings)	76.70	FR1	PCD	4/24/2003	10/17/2003	-	-
PCI (Olentangy Crossings)	65.07	FR1	SFPRD	4/24/2003	10/17/2003	104	
PCI (Olentangy Crossings)	16.19	FR1	MFPRD	4/24/2003	10/17/2003		45
CUTLER PROPERTIES	6.30	FR1	SFPRD	8/28/2003	9/30/2003	10	
JACKIT & ANNA MONGKOLLUGSANA	3.47	FR1	PCD	11/20/2003	12/30/2003	-	-
PLANNED COMMUNITIES (Avonlea)	21.00	FR1	SFPRD	12/18/2003	12/30/2003	22	
M/I HOMES (McCammon Estates)	94.99	FR1	SFPRD	12/18/2003	2/22/2005	171	
MTB CORP. (Clear Creek Condos)	14.33	FR1	MFPRD	1/29/2004	9/7/2004		45
CENTEX HOMES (Wilshire 7)	34.61	FR1	SFPRD	5/27/2004	9/7/2004	47	
401 EAST POWELL ROAD LTD.	17.73	PI	PCD	7/29/2004	12/20/2004	-	-
CV REAL PROPERTY (McCammon Condos)	20.00	FR1	MFPRD	8/26/2004	11/29/2004		45
TRIANGLE (Village at Bale Kenyon)	50.00	FR1	MFPRD	10/28/2004	1/11/2005		100
PCI (Olentangy Crossings South)	22.07	FR1	SFPRD	10/28/2004	1/31/2005	37	
PLANNED COMMUNITIES	8.19	FR1	PCD	10/28/2004	1/31/2005	-	-

SILVESTRI HOMES (Lake Shore)	30.00	FR1	SFPRD	10/28/2004	1/31/2005	40	
LITTLE BEAR DEVELOPMENT	42.7	FR1	SFPRD	11/18/2004	7/14/2005	94	
LITTLE BEAR DEVELOPMENT	11.1	FR1	MFPRD	11/18/2004	7/14/2005		58
LITTLE BEAR DEVELOPMENT	30.42	FR1	PCD	11/18/2004	7/14/2005	-	-
SOLID GROUND DEVELOPMENT	1.56	PCD	PCD	11/18/2004	2/7/2005	-	-
3S / HIDDEN RAVINES LLC	1.77	PCD	PCD	1/27/2005	2/10/2005	-	-
THE GLIMCHER CO.	24.42	PCD	PCD	3/31/2005	3/7/2006	-	-
PCI/LEWIS CENTER (Olen Crossings 7)	23.60	MFPRD	MFPRD	6/30/2005	8/11/2005	111	170
PCI/LEWIS CENTER INVEST.	1.50	MFPRD	PCD	6/30/2005	8/11/2005	-	-
SILVESTRI CUSTOM HOMES	74.93	FR1	SFPRD	8/25/2005	10/25/2005	135	0
DAVID PERRY CO.	2.92	FR1	PCD	1/26/2006	4/25/2006	-	-
MORGAN LLC.	2.70	C-2	PCD	2/23/2006	5/11/2006	-	-
KD ORANGE 486 INC. TIRE DISCOUNTS	1.99	PCD	PCD	6/29/2006	8/7/2006	-	-
NOCAR, PEREZ	0.28	FR1	SFRPD	8/31/2006	10/23/2006	1	
ANIMAL HOSPITAL OF POLARIS	1.96	FR1	PCD	8/31/2006	10/23/2006	-	-
PREP POLARIS LLC	1.64	PCD	PCD	10/25/2007	12/6/2007	1	
CARL GIOFFRE CONCRETE CONST.	6.11	FR1	PCD	11/29/2007	5/20/2008	-	-
KD ORANGE 486 INC	12.17	PCD	PCD	7/31/2008	1/5/2009	-	-
JAIN CENTER OF CENTRAL OHIO	5.00	SFPRD	SFPRD	8/28/2008	2/2/2009		
7991 COLUMBUS PIKE LLC	14.32	FR1	PCD	11/20/2008	3/16/2009	-	-
TOTALS						1,830 SF	1,014 MF

Source: DCRPC, February 2009. FR1=Farm Residential, SFPRD=Single-Family Planned Residential, MFPRD=Multi-Family Planned Residential, PC=Planned Commercial and Office, PID=Planned Industrial, C-2=Commercial.

Figure 3.3 Conversion of land through Rezonings by District

	FR-1	SFPRD	MFPRD	C-2	PCD	PID	From Totals
FR-1		1,136.01	126.01	0	369.93	18.55	**1,650.50**
SFPRD	0	5.00	94.12	0	0	0	**99.12**
MFPRD	0	0	23.60	0	1.50	0	**25.10**
C-2	0	0	0		34.23	30.41	**64.64**
PCD	0	0	0	0	45.58	0	**45.58**
PID	0	0	0	0	17.73	0	**17.73**
To Totals	**0.00**	**1,141.01**	**243.73**	**0.00**	**468.97**	**48.96**	**1,902.67**

Source: DCRPC, February 2009

Figure 3.4 Number of individual zoning cases by year (some may include a mix of uses in a single rezoning)

2000	2001	2002	2003	2004	2005	2006	2007	2008
6	10	6	7	12	5	5	2	3

Out of a total of 52 rezoning cases since 2000, Orange Township saw 1,798.08 acres convert from one use to a different one. The township also reviewed 74.18 acres of changes within the same zoning classification.

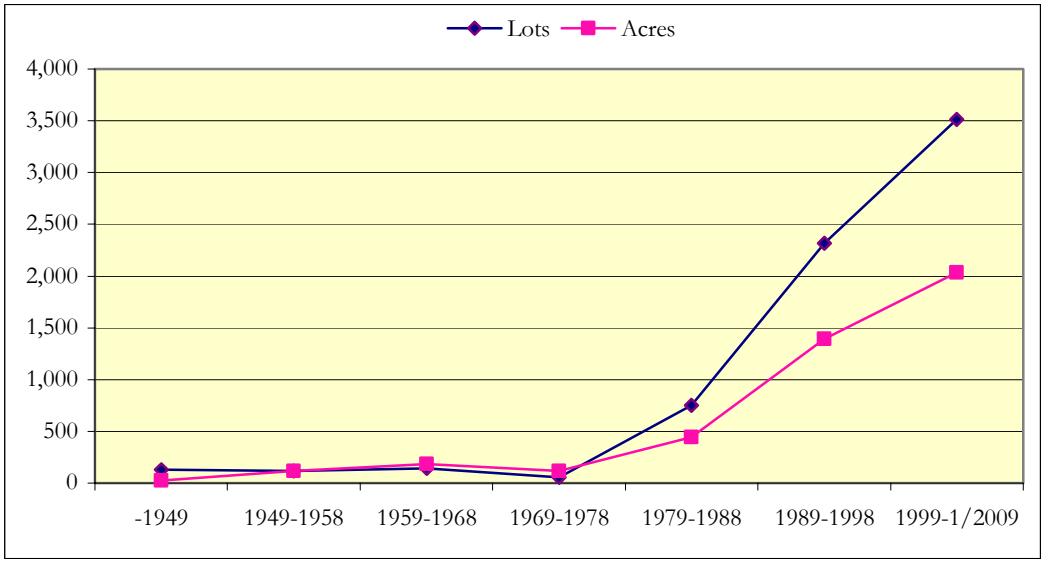
In terms of land, 89% or 1,650.5 acres of the conversion of land use came from the FR-1 zoning district, which is the "base" district. More than a thousand acres (1,141.01) was rezoned to Single Family Planned Residential and 243.73 acres to Multi-Family Planned Residential, both of which allow for more flexible design standards and an approved

development plan. Also, 568.97 acres were rezoned to PCD (Planned Commercial). Only 48.96 acres were rezoned to Planned Industrial, some of which came from the FR-1 distict but with the majority coming from the C-2 district. These figures indicate a movement toward more flexible uses with higher densities.

Township Development Activity

Platting activity for new subdivisions is a great indicator of future growth, as it precedes building permits.

Figure 3.5 Platting History, by acreage, in Orange Township



(Data Source: DALIS May, 2007)

New subdivisions

The Delaware County Regional Planning Commission (DCRPC) approves platting for the county (exclusive of incorporated villages and cities). Growth has been highest along the "southern tier" of the county based on the availability of sewer. This section describes the various ways residential and commercial lots can be created.

The simplest form of subdivision in the "NPA" or No Plat lot split. 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 "No-plat" subdivision procedure is required for lots 5 acres or less.

Figure 3.6 indicates no-plat activity in the entire county in 2008 while Figure 3.7 indicates a relatively modest amount of no-plat activity in Orange Township from 2001 to 2008.

Figure 3.6 Delaware County No-Plat Lot Split Statistics, 2008

Township	No.	Acres	Vacant Lots Reviewed
Berkshire	1	2.661	0
Berlin	5	9.772	3
Brown	1	3.823	1
Concord	2	8.875	1
Harlem	2	4.652	1
Kingston	0	0.000	0
Liberty	4	5.015	1
Marlboro	0	0.000	0
Orange	3	7.900	3
Oxford	1	3.03	1
Porter	0	0.000	0
Radnor	0	0.000	0
Scioto	9	17.984	7
Thompson	0	0.000	0
Trenton	1	2.653	0
Troy	2	4.959	1
Total	**31**	**71.324**	**19**

Source: DCRPC, April 2009

Figure 3.7 Orange Township Lot Split Statistics, 2001-2008

	Total		Vacant	
Year	Lots	Acres	Lots	Acres
2001	6	13.193	4	5.026
2002	7	27.577	3	22.491
2003	4	5.93	4	5.93
2004	4	9.238	1	1.465
2005	5	13.938	4	8.952
2006	2	6.04	1	4
2007	0	0	0	0
2008	3	7.9	3	7.9

Source: DCRPC, April 2009

Figure 3.8 Chart Showing Platted Single-Family Subdivisions, by year, in Orange Township, 2000-2008

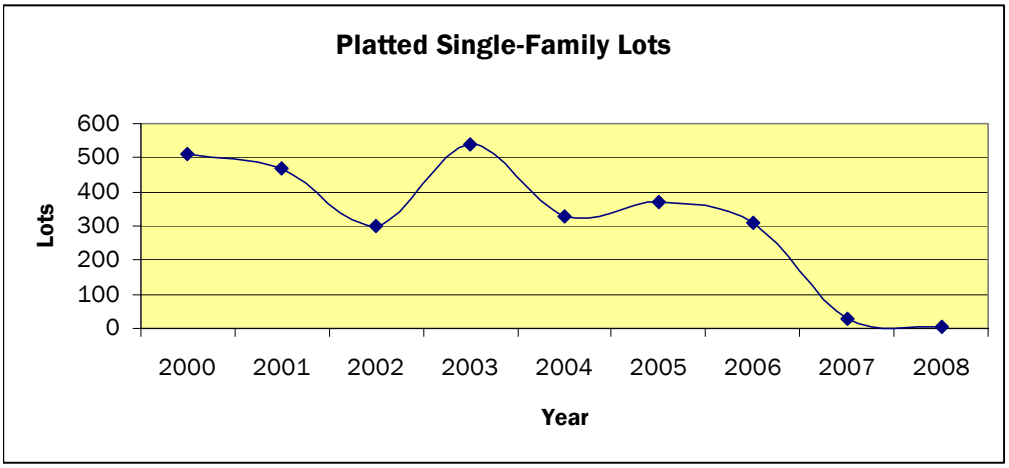


Figure 3.9 Recorded Single-Family Subdivision Detail

Name	Type	Acres	SF Lots	Recorded
WALKER WOOD S. 10 PT 1	SR	16.13	33	1/7/2000
RIVER BEND S 1 P 1	SR	72.88	69	2/6/2000
RIVER BEND SUB SEC 3	SR	24.59	39	2/11/2000
VILLAGES OF OAK CREEK P10, PT B	SR	6.39	20	5/4/2000
BRYN MAWR AT DELAWARE SEC 2 P1	SR	22.73	33	5/25/2000
WILSHIRE S3	SR	12.13	31	7/11/2000
SUMMERFIELD VILLAGE S2 P1	SR	14.85	30	8/4/2000
WILSHIRE ESTATES S 4	SR	14.77	28	9/13/2000
THE SHORES, SEC. 12	SR	35.00	60	9/15/2000
WALKER WOOD S.7 P 2	SR	13.64	21	10/3/2000
WALKER WOOD S10 P2	SR	3.16	7	10/3/2000
RIVER BEND S1 P. 2	SR	12.92	27	10/25/2000
WALKER WOOD, S. 9	SR	11.86	11	10/25/2000
WALKER WOOD S. 12	SR	10.16	24	10/26/2000
ABBEY KNOLL SEC 2	SR	7.20	12	12/6/2000
ABBEY KNOLL SEC 1	SR	21.78	51	12/6/2000
RIVER BEND S4 P 1	SR	24.42	17	12/29/2000
OLDE STATE FARMS SEC 1	SR	35.34	55	4/11/2001
BRYN MAWR AT DELAWARE. SEC.2 P2	SR	24.66	37	5/24/2001
SUMMERFIELD VILLAGE S2 P3	SR	13.33	39	5/24/2001
SUMMERFIELD VILLAGE S2 P2	SR	6.28	26	5/24/2001
WALKER WOOD S 13	SR	21.23	55	6/19/2001
VILLAGE AT ALUM CREEK SEC 5	SR	26.19	63	8/2/2001
RUSK SUBDIVISION # 2	SR	8.68	3	8/15/2001
WILSHIRE ESTATES S5 PA	SR	16.09	31	8/17/2001
WILSHIRE ESTATES S5 PB	SR	21.90	25	8/17/2001
ABBEY KNOLL SEC 3	SR	31.62	37	9/19/2001
CROSS CREEK SEC 2 PART A	SR	28.19	27	9/21/2001
WALKER WOOD S 14	SR	12.72	34	10/12/2001
VILLAGES OF OAK CREEK SEC 11A	SR	7.83	25	11/16/2001
WALKER WOOD SEC. 5	SR	12.17	14	11/30/2001
RIVERS EDGE @ ALUM CREEK SEC 1	SR	14.04	26	1/25/2002
RIVER BEND S4 PH2	SR	18.36	13	2/7/2002
NORTH ORANGE SEC 2 PH 1	SR	1.08	0	6/13/2002
NORTH ORANGE SEC 3 PH 1	SR	21.77	45	6/13/2002
CROSS CREEK SEC 2 PART B	SR	7.95	29	9/9/2002
VILLAGE AT ALUM CREEK SEC 6	SR	30.01	69	9/23/2002
VILLAGES OF OAK CREEK SEC 11B	SR	8.09	27	10/15/2002
WALNUT WOODS SEC 1	SR	5.38	9	10/21/2002
GLEN OAK SECTION 1	SR	32.14	49	11/20/2002
ESTATES OF GLEN OAK SEC 1 A	SR	13.06	13	12/3/2002
ESTATES OF GLEN OAK SEC 1 PH B	SR	8.11	19	12/3/2002
WILSHIRE ESTATES SEC 6 PH A	SR	36.31	40	1/8/2003

NORTH ORANGE SEC2 PH A&B	SR	24.56	53	2/19/2003
RIVERS EDGE @ ALUM CREEK SEC 2	SR	20.41	41	4/11/2003
NORTH POINTE MEADOWS SEC 1	SR	22.59	42	5/2/2003
McCAMMON CHASE SEC 1	SR	22.04	36	6/25/2003
GLEN OAK SEC2 PH A	SR	9.85	23	8/14/2003
WILSHIRE SEC 6 PH B	SR	19.13	35	8/22/2003
GLEN OAK SEC 2	SR	10.54	36	10/2/2003
WILLOW SPRINGS, N S 2	SR	40.90	60	10/3/2003
ESTATES OF GLEN OAK SEC 2	SR	26.00	28	10/3/2003
VILLAGE AT ALUM CREEK SEC 7	SR	45.81	93	11/14/2003
ABBEY KNOLL SEC 4 PH A	SR	8.96	21	12/11/2003
VILLAGES OF OAK CREEK PH 12	SR	8.32	29	12/12/2003
NORTH ORANGE SEC 3 PH 2 PT A	SR	2.68	1	12/15/2003
McCAMMON CHASE SEC 2	SR	16.07	33	1/2/2004
McCAMMON CHASE SEC 3	SR	26.15	22	1/2/2004
GLEN OAK SEC. 3 PH A	SR	35.98	32	1/29/2004
NORTH ORANGE SEC 2 PH 3 PT A	SR	16.12	36	2/4/2004
NORTH ORANGE SEC 2 PH 3 PT B	SR	17.44	30	2/4/2004
ABBEY KNOLL SEC 4 PH B	SR	14.17	31	2/12/2004
WALNUT WOODS SEC 2	SR	23.33	28	2/20/2004
ESTATES OF GLEN OAK SEC 3 PH A	SR	8.44	27	4/13/2004
ESTATES OF GLEN OAK SEC 3 PH B	SR	8.52	26	5/6/2004
THE SHORES SEC 13	SR	10.74	20	7/15/2004
NORTH POINT MEADOWS SEC 2	SR	19.28	41	10/25/2004
CROSS CREEK SEC 3 PH B	SR	11.42	25	5/16/2005
GLEN OAK SEC 3 PH B	SR	11.97	41	5/25/2005
ESTATES OF GLEN OAK SEC 4 PH A	SR	11.64	32	5/25/2005
OLDE STATE FARMS SEC 2	SR	27.34	30	5/26/2005
McCAMMON ESTATES SEC 1 PH A	SR	19.08	35	6/8/2005
MCCAMMON ESTATES, SECTION 1, PHASE B	SR	1.23	3	8/18/2005
MCCAMMON ESTATES, SECTION 2	SR	36.16	56	8/18/2005
AVONLEA	SR	11.19	20	9/16/2005
NORTH ORANGE SEC 3 PH 2 PT C	SR	0.00	31	11/17/2005
ABBEY KNOLL SEC 5 PH A	SR	18.78	26	11/30/2005
ABBEY KNOLL SEC 5 PH B	SR	13.34	18	11/30/2005
ALUM CROSSING SEC 1	SR	30.20	52	12/29/2005
OLENTANGY CROSSING SOUTH SEC 1	SR	34.82	41	1/2/2006
AFRICA ROAD ESTATES SUB	SR	10.33	3	3/14/2006
GLEN OAK SEC 4	SR	20.14	30	4/11/2006
MCCAMMON ESTATES SEC 3 PH A	SR	0.00	54	6/21/2006
MCCAMMON ESTATES SEC 4	SR	0.00	19	6/21/2006
WILSHIRE SEC 7	SR	35.35	49	6/29/2006
MCCAMMON ESTATES, SECTION 3, PHASE B	SR	2.22	4	9/7/2006
OLENTANGY CROSSINGS SEC 5	SR	41.07	69	10/10/2006
LAKE SHORE	SR	31.15	41	11/14/2006

GLEN OAK, SEC 6	SR	21.10	27	6/28/2007
GLEN OAK SEC 9	SR	3.18	7	2/13/2008
CROSS CREEK SEC 3 PH A	SR			1/20/2009
TOTAL Single Family Units, 2000-2008			2,909	

Source: DALIS, 2009. Figures represented gross platted acreage and residential lots. Acreage may also include open space areas. SR=Single-Family

Figure 3.10 Chart Showing Recorded Multi-Family Plats in Orange Township, 2000-2008

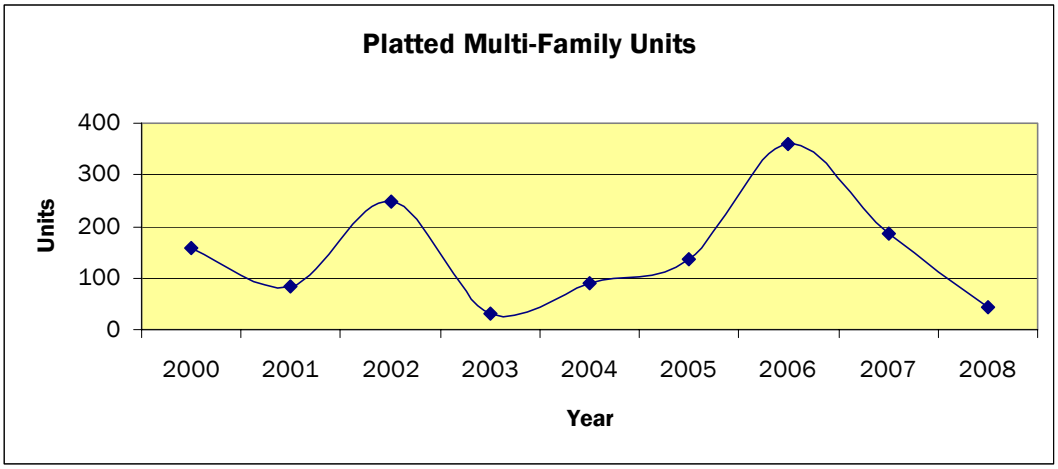


Figure 3.11 Recorded Multi-Family Plat Detail

Name	Type	Acres	MF Units	Recorded
THE VILLAGE AT WALKER WOODS CONDOS	MR	3.23	13	1/25/2000
THE VILLAGE AT WALKER WOODS CONDOS PH 1	MR	1.71	8	1/25/2000
THE VILLAGE AT WALKER WOODS CONDOS PH 2	MR	1.35	8	1/25/2000
THE VILLAGE AT WALKER WOODS CONDOS PH 3	MR	1.10	8	1/25/2000
THE VILLAGE AT WALKER WOODS CONDOS PH 4	MR	1.13	8	1/25/2000
THE VILLAGE AT WALKER WOODS CONDOS PH 5	MR	0.60	4	1/25/2000
THE VILLAGE AT WALKER WOODS CONDOS PH 6	MR	1.14	8	1/25/2000
THE VILLAS AT RIVERBEND CONDOS	MR	4.70	25	2/29/2000
THE VILLAS AT RIVERBEND CONDOS 1ST AMENDMENT	MR	1.83	16	6/15/2000
THE VILLAS AT RIVERBEND CONDOS 2ND AMENDMENT	MR	3.10	16	9/22/2000
THE VILLAGE AT WALKER WOODS CONDOS 7TH AMENDMENT	MR	5.18	24	11/14/2000
THE VILLAS AT RIVERBEND 3RD AMENDMENT	MR	2.80	20	12/11/2000
THE VILLAS AT RIVERBEND 4TH AMENDMENT	MR	3.27	16	2/16/2001
THE VILLAGE AT WALKER WOODS CONDOS 8TH AMENDMENT	MR	4.30	28	6/12/2001
THE VILLAS AT RIVERBEND 5TH AMENDMENT	MR	2.81	16	6/21/2001
THE VILLAS AT RIVERBEND 6TH AMENDMENT	MR	1.97	12	9/18/2001
THE VILLAS AT RIVERBEND 7TH AMENDMENT	MR	2.10	12	11/20/2001
THE VILLAS AT RIVERBEND 8TH AMENDMENT	MR	11.00	8	3/12/2002
NORTH ORANGE SEC 1 PH 1	MR	71.38	161	6/13/2002
HIDDEN SPRINGS CONDOS CORRECTON AMENDMENT	MR	0.00	24	10/21/2002
HIDDEN SPRINGS CONDOS 1ST AMENDMENT	MR	0.00	40	10/30/2002
HIDDEN SPRINGS CONDOS 3RD AMENDMENT	MR	1.38	16	12/2/2002

HIDDEN SPRINGS CONDOS 2ND AMENDMENT	MR	3.00	24	7/26/2003
REGENCY AT HIGHLAND LAKES CONDO	MR	0.00	3	10/31/2003
REGENCY AT HIGHLAND LAKES CONDO 1ST AMENDMENT	MR	0.79	3	12/16/2003
REGENCY AT HIGHLAND LAKES CONDO 2ND AMENDMENT	MR	0.43	2	3/30/2004
REGENCY AT HIGHLAND LAKES CONDO 3RD AMENDMENT	MR	0.66	3	4/29/2004
REGENCY AT HIGHLAND LAKES CONDO 4TH AMENDMENT	MR	1.79	4	5/28/2004
HIDDEN SPRINGS CONDOS 4RTH AMENDMENT	MR	2.87	24	6/17/2004
PARK PLACE VILL. AT NORTH ORANGE CONDO	MR	1.18	4	7/19/2004
REGENCY AT HIGHLAND LAKES CONDO 5TH AMENDMENT	MR	1.31	2	8/26/2004
REGENCY AT HIGHLAND LAKES CONDO 6TH AM AMENDMENT END	MR	2.70	5	9/21/2004
THE VILLAGE AT NORTH FALLS CONDOS	MR	4.75	16	12/3/2004
VILLAS AT MAPLE CREEK CONDOS 4TH AMENDMENT	MR	6.16	24	12/3/2004
REGENCY AT HIGHLAND LAKES CONDO 7TH AMENDMENT	MR	11.03	5	12/8/2004
PARK PLACE VILL. AT NORTH ORANGE CONDO 1ST AMENDMENT	MR	3.05	6	1/21/2005
VILLAS AT MAPLE CREEK CONDOS 5TH AMENDMENT	MR	5.84	20	2/2/2005
PARK PLACE VILL. AT NORTH ORANGE CONDO 3RD AMENDMENT	MR	0.50	1	2/17/2005
REGENCY AT HIGHLAND LAKES CONDO 8TH AMENDMENT	MR	0.00	2	2/17/2005
THE VILLAGE AT NORTH FALLS CONDO 1ST AMENDMENT	MR	5.06	12	2/23/2005
HIDDEN SPRINGS CONDOS 5TH AMENDMENT	MR	0.97	16	4/1/2005
THE VILLAGE AT NORTH FALLS CONDO 2ND AMENDMENT	MR	0.00	12	5/6/2005
REGENCY AT HIGHLAND LAKES CONDO 9TH AMENDMENT	MR	0.00	1	7/8/2005
THE VILLAGE AT NORTH FALLS CONDO 3RD AMENDMENT	MR	0.00	12	7/21/2005
HIDDEN SPRINGS II CONDO	MR	0.00	37	8/1/2005
PARK PLACE VILLAGE NORTH ORANGE CONDO 2ND AMENDMENT	MR	0.00	4	10/3/2005
THE VILLAGE AT NORTH FALLS CONDO 4TH AMENDMENT	MR	0.00	12	12/6/2005
HIDDEN SPRINGS CONDO 6TH AMENDMENT	MR	0.00	16	1/4/2006
THE VILLAGE AT NORTH FALLS CONDO 5TH AMENDMENT	MR	0.00	12	2/22/2006
REGENCY AT HIGHLAND LAKES CONDO 10TH AMENDMENT	MR	0.00	5	3/15/2006
REGENCY AT HIGHLAND LAKES CONDO 11TH AMENDMENT	MR	0.00	1	5/31/2006
THE VILLAGE AT NORTH FALLS CONDO 6TH AMENDMENT	MR	0.00	8	6/14/2006
PARK PLACE VILLAGE NORTH ORANGE CONDO 4TH AMENDMENT	MR	0.00	4	9/1/2006
REGENCY AT HIGHLAND LAKES CONDO 12TH AMENDMENT	MR	5.18	1	9/6/2006
OLENTANGY CROSSINGS SEC 2	C/MR	59.26	96	10/10/2006
THE VILLAGE AT NORTH FALLS CONDO 7TH AMENDMENT	MR	0.00	4	11/8/2006
REGENCY AT HIGHLAND LAKES CONDO 13TH AMENDMENT	MR	0.00	4	11/20/2006
OLENTANGY CROSSINGS SEC 7	C/MR	41.05	170	12/1/2006
LITTLE BEAR VILLAGE SEC 1 PH B	SR/MR	52.14	40	12/19/2006
THE VILLAGE AT BALE KENYON CONDOS PH 1	MR	0.00	5	1/17/2007
THE VILLAGE AT NORTH FALLS CONDO 8TH AMENDMENT	MR		4	4/17/2007
SLATE CREEK AT NORTH ORANGE CONDO	MR		16	4/19/2007
THE VILLAGE AT BALE KENYON CONDOS 1ST AMENDMENT	MR		4	4/20/2007
REGENCY AT HIGHLAND LAKES CONDO 14TH AMENDMENT	MR	0.00	3	5/18/2007
PARK PLACE VILLAGE NORTH ORANGE CONDO 5TH AMENDMENT	MR		6	7/12/2007
THE VILLAGE AT NORTH FALLS CONDO 9TH AMENDMENT	MR		8	8/1/2007
THE VILLAGE AT BALE KENYON CONDOS 2ND AMENDMENT	MR		4	8/20/2007

REGENCY AT HIGHLAND LAKES CONDO 15TH AMENDMENT	MR		1	8/23/2007
REGENCY AT HIGHLAND LAKES CONDO 16TH AMENDMENT	MR		1	9/17/2007
PARK PLACE VILLAGE NORTH ORANGE CONDO 6TH AMENDMENT	MR		2	10/17/2007
THE VILLAGE AT NORTH FALLS CONDO 10TH AMENDMENT	MR		4	11/1/2007
REGENCY AT HIGHLAND LAKES CONDO 17TH AMENDMENT	MR		1	11/14/2007
ORANGE CENTRE	MR/C/INST	59.96	128	12/18/2007
LITTLE BEAR CONDO	MR	0.00	4	1/3/2008
PARK PLACE VILLAGE NORTH ORANGE CONDO 7TH AMENDMENT	MR		4	3/26/2008
LITTLE BEAR CONDO 1ST AMENDMENT	MR		4	4/15/2008
REGENCY AT HIGHLAND LAKES CONDO 18TH AMENDMENT	MR		1	5/22/2008
SLATE CREEK AT NORTH ORANGE CONDO 1ST AMENDMENT	MR		5	6/3/2008
HIDDEN SPRINGS II CONDO 1ST AMENDMENT	MR		16	6/17/2008
PARK PLACE VILLAGE NORTH ORANGE CONDO 8TH AMENDMENT	MR		2	6/19/2008
THE VILLAGE AT BALE KENYON CONDOS 3RD AMENDMENT	MR		4	8/7/2008
PARK PLACE VILLAGE AT NORTH ORANGE CONDO 9TH AMENDMENT	MR		2	8/20/2008
PARK PLACE VILLAGE NORTH ORANGE CONDO 10TH AMENDMENT	MR		2	10/31/2008
REGENCY AT HIGHLAND LAKES CONDO 19TH AMENDMENT	MR			1/21/2009
REGENCY AT HIGHLAND LAKES CONDO 19TH AMENDMENT	MR			1/21/2009
TOTAL Multi-family Units, 2000-2008			1,337	

Source: DALIS, 2009. Data includes unit count based on recorded plats. Amended plats may cause units to be counted more than once. MR=Multi-Family Residential, SR=Single-Family Residential, C=Commercial, INST=Institutional.

Figure 3.12 Chart Showing Recorded Non-Residential Plats in Orange Township, 2000-2008

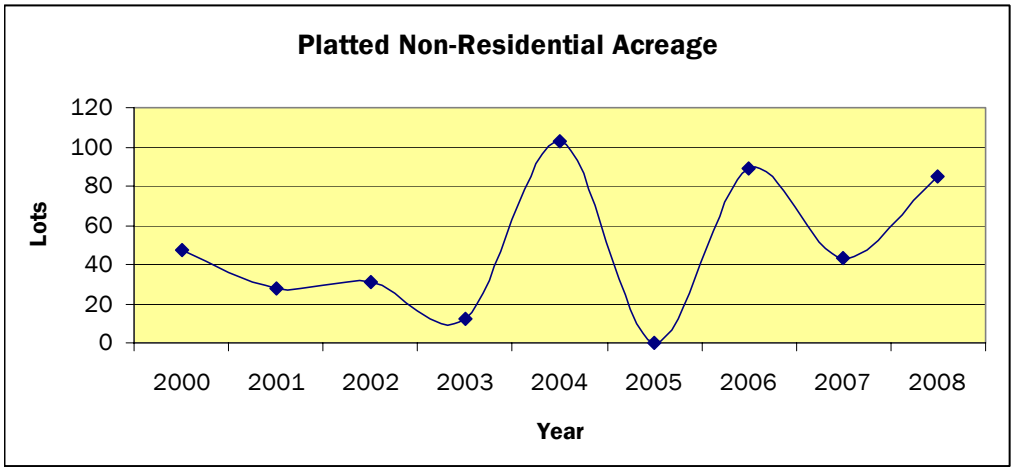


Figure 3.13 Recorded Non-Residential Plat Detail

Name	Type	Acres	Lots	Recorded
HIGH PARK CENTER	C	19.20	0	9/25/2000
US ROUTE 23 / POWELL RETAIL	C	19.36	0	10/11/2000
ORANGE POINT COMMERCE PARK P 2	C	8.80	0	12/22/2000
NORTHBROOKE CORPORATE CENTER PH 2	C	28.10	0	6/1/2001
GREEN MEADOWS COMMERCE CENTER	C	0.00	0	9/6/2001
ORANGE POINT COMMERCE PARK PH 4 PT 1	C	17.66	0	5/21/2002
GREEN MEADOWS COMMERCE CENTER CONDOS	C	13.50	0	7/11/2002

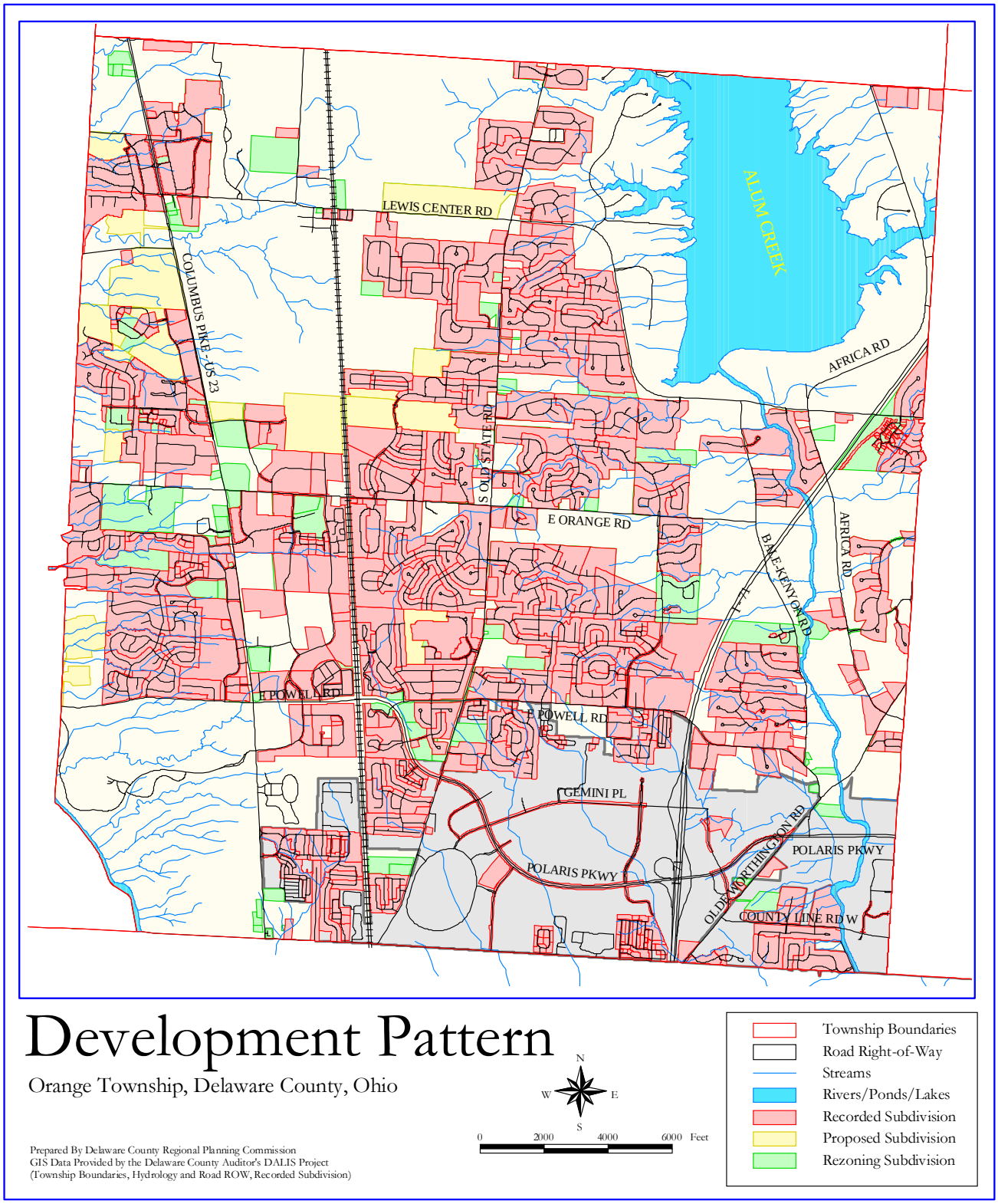
RESUB OF LOT 1759 THE CAMPUS AT HIDDEN RAVINES	C	3.82	0	5/22/2003
ORANGE POINT COMMERCE CENTER PHASE 4 SEC2	C	8.79	0	8/11/2003
GREEN MEADOWS COMMERCE CENTER CONDOS 2ND AMEND	C	30.52	0	2/9/2004
NORTH ORANGE SEC 1 PH 3	C	15.86	0	2/17/2004
NORTH ORANGE SEC 1 PH 2 PART A	C	18.13	0	2/17/2004
NORTH ORANGE SEC 1 PH 2 PT B	C	16.85	0	2/17/2004
GILTZ	C	8.19	0	5/10/2004
SUB OF LOT NO 4268	C	0.00	0	5/19/2004
HIGH PARK CENTER RE-PLAT	C	13.40	0	6/23/2004
86 HIDDEN RAVINES DRIVE CONDO	C	0.00	0	3/2/2005
RESUB OF LOT 1147 ORANGEPOINT SUB NO 2	I	0.00	0	5/13/2005
DIVISION 1 RIVER BEND SUB SEC 2 LOT 4266	C	0.00	0	9/16/2005
OLENTANGY CROSSINGS SEC 1	ROW	16.00	0	3/13/2006
OLENTANGY CROSSINGS SEC 2(acreage is commercial only)	C/MR	40.571	96	10/10/2006
OLENTANGY CROSSINGS SEC 4	C	23.38	0	10/10/2006
LITTLE BEAR VILLAGE SEC 1 PHASE A	C	7.95	0	10/11/2006
OLENTANGY CROSSINGS SEC 7 (acreage is commercial only)	C/MR	1.039	170	12/1/2006
OLENTANGY CROSSING SOUTH SEC 2	C	5.57	0	1/9/2007
OLENTANGY CROSSING SEC 2 LOT 7352 DIVISION 1	C	3.925	0	2/7/2007
DIVISION 2 RIVER BEND SUB SEC 2 LOT 4266	C	2.86	0	4/27/2007
LITTLE BEAR VILLAGE SEC 1 DIV 1	C	5.15	1	5/3/2007
ORANGE CENTRE (acreage is commercial only)	MR/C/INST	25.912	128	12/18/2007
OLENTANGY CROSSINGS SEC 2 LOT#7352 DIV#2	C	3.93	0	3/12/2008
VENTURE DRIVE OFFICE CONDOS	C	2.335	0	5/23/2008
HIGH PARK CENTER REPLAT OF LOT 4924 (LOT 6609 & 6612, DIV# 1)	C	11.49	0	7/11/2008
GREEN MEADOWS INDUSTRIAL PARK, PH 1, LOY 709, DIV 1	C	15.68	0	8/1/2008
ORANGE CENTRE, LOT 7491, DIV. 1	C	7.09	0	8/15/2008
ORANGE CENTRE, LOT 7496, DIV. 1	C	9.08	0	8/15/2008
OLENTANGY CROSSINGS SEC 2, LOT 7353, DIV 1	C	34.89	0	11/12/2008
NORTH ORANGE SEC 1 PH 2 PT B LOT 6606 DIVISION #1	C		0	1/29/2009
TOTAL Non-Residential Acreage, 2000-2008		439		

Source: DALIS, 2009. Data includes gross acreage for all platted developments and may include dedicated right-of-way. Further divisions ("Division #1 etc.") may cause acreage to be counted more than once. C=Commercial, ROW=Right of Way, MR=Multi-family Residential, I=Industrial, INST=Institutional.

From this data, it is clear that the intensity of larger residential developments spiked in 2003 and multi-family peaked in 2006. Meanwhile, commercial platting, which often follows residential growth, saw jumps in 2004, 2006 and 2008.

The Development Pattern Map on the following page (Figure 3.14) 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 will appear as yellow. When that subdivision is platted, it will appear as red.

Figure 3.14 Development Pattern Map



Source: RPC, February 2009

Regional Development Activity

To understand future growth pressures for Orange Township, the recent development pressures of the region (all non-municipal areas in the county) 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 the subdivision plat which creates the lots to be sold. 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 3.15 demonstrates the status of each lot reviewed by Commission.

Figure 3.15 Total Number of Available Lots and Multi-Family Units in Delaware County Townships at the end of:

	2003	2004	2005	2006	2007	2008	Orange 08
Single-family zoning approved (not platted)	480	1,474	1,496	1,371	1,486	1,386	168
Single-family zoning pending (not platted)	361	1,422	780	214	12	0	0
Sketch plan reviewed	262	836	550	131	479	71	10
Overall preliminary subdivisions approved	88	41	47	47	47	0	0
Expired subdivision lots (can be restored)	763	765	727	717	576	1,156	71
Preliminary approved subdivisions	2,615	2,388	2,443	2,096	1,951	1,889	395
Final subdivision approved (not recorded)	471	360	182	265	74	63	33
Unbuilt recorded lots	3,349	2,592	1,925	2,248	2,066	1,835	420
Multi-family without building permit	1,282	2,140	3,638	3,972	3,767	3,019	949
Totals*	**9,671**	**11,573**	**11,788**	**11,061**	**10,458**	**9,419**	**2,046**

** Totals are not necessarily the sum of all categories, since there can be zonings that are also expired subdivisions. (Source: DCRPC, April 2009)*

This table indicates that 9,419 lots were in the platting "pipeline" at the end of 2008. 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 five years (1,382/year) these lots in the "pipeline" represent 9.1 years of supply for development. This time period has been increasing over the last few years as development has slowed.

Looking at these same figures for Orange Township exclusively, there are 2,046 units in the pipeline. Of these, 1,097 were in single-family development. Looking back at the building permit data, Orange Township has seen an average of 351 permits per year over the past five years. It would take a little over three years to complete all the lots in the pipeline. This is considered a normal supply. If the pace of building remains where it was in 2008 (129 per year), it would take much longer.

Township Boundaries & Annexations

Orange Township was established in 1808 as a 26.4 square mile township. Beginning in 1988, annexations have removed 2,604 acres, or 4.07 square miles from the township. More than 2,079 acres were annexed in the 1990s with Polaris (1,206.8 ac.) as the largest. The cities of Westerville and Columbus have converged on Worthington Road, which has become the de facto east/west Columbus and Westerville boundary.

Figure 3.16 Orange Township Annexations by Year

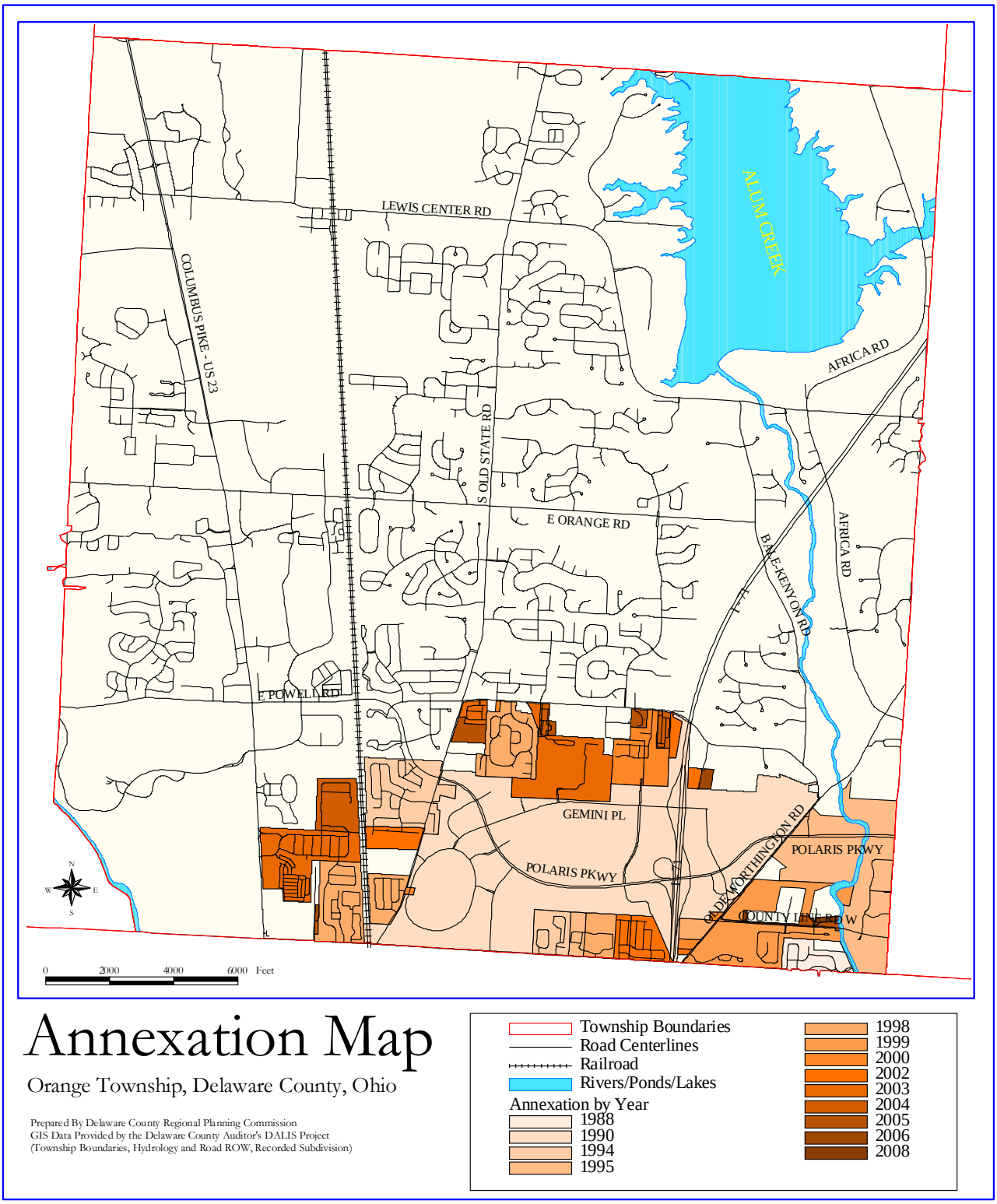


Figure 3.17 Listing of Annexations in Orange Township

Year	Acreage	Location	City
1988	38.50	Hanawalt Road	Westerville
1990	1,206.80	Polaris	Columbus
1994	35.40	Lazelle Road	Columbus
1994	118.62	S. Old State Rd.	Columbus
1995	268.00	Worthington Road	Westerville
1995	15.03	Lazelle Road (east)	Columbus
1998	5.01	Barley Loft Drive	Columbus
1998	13.67	Worthington Road	Columbus
1998	30.00	Lazelle (east)	Columbus
1998	36.77	S. Old State Road	Columbus
1998	79.80	Lazelle Road	Columbus
1998	80.10	E. Powell Road	Columbus
1999	.27	Smothers Road (ROW)	Westerville
1999	50.80	Worthington Road	Westerville
1999	97.95	Worthington Road	Westerville
1999	3.00	Worthington Road (ROW)	Westerville
2000	1.15	E. Powell Road	Columbus
2000	1.50	S. Old State Road	Columbus
2000	3.95	Worthington Road	Columbus
2000	35.08	Lyra Drive/Gemini Parkway	Columbus
2000	31.12	Lyra Drive/Gemini Parkway	Columbus
2000	2.03	Worthington Road	Columbus
2002	15.00	Lazelle (east)	Columbus
2002	8.295	E. Powell Road	Columbus
2002	5.68	Colonial Meadows/Orion Place	Columbus
2002	1.83	Worthington Road	Columbus
2002	32.40	Lazelle Road (east)	Columbus
2002	27.72	S. Old State Road	Columbus
2003	107.71	US 23/Olentangy Meadows	Columbus
2003	12.55	E. Powell Road/S. Old State	Columbus
2003	119.66	E. Powell Road/Christ the King	Columbus
2004	1.06	Arnold Place	Columbus
2004	48.44	US 23/Olentangy Meadows	Columbus
2004	4.86	E. Powell Road/Abbey Orchard	Columbus
2004	10.91	E. Powell Road	Columbus
2004	6.99	Maxtown/State St. (ROW)	Westerville
2005	2.25	E. Powell Road/Abbey Orchard	Columbus
2005	8.88	County Line Road (ROW)	Westerville
2005	6.45	E. Powell Road	Columbus
2005	14.5	S. Old State	Columbus
2006	5.36	Colonial Meadows/Orion Place	Columbus
2006	1.32	Arnold Place	Columbus
2008	2.843	County Line Road	Westerville
2008	.93	County Line Road	Westerville
2008	4.40	County Line Road	Westerville
Totals	**2604.588 ac.**		

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CHAPTER 4
Existing Land Use

Orange Point Commerce Center

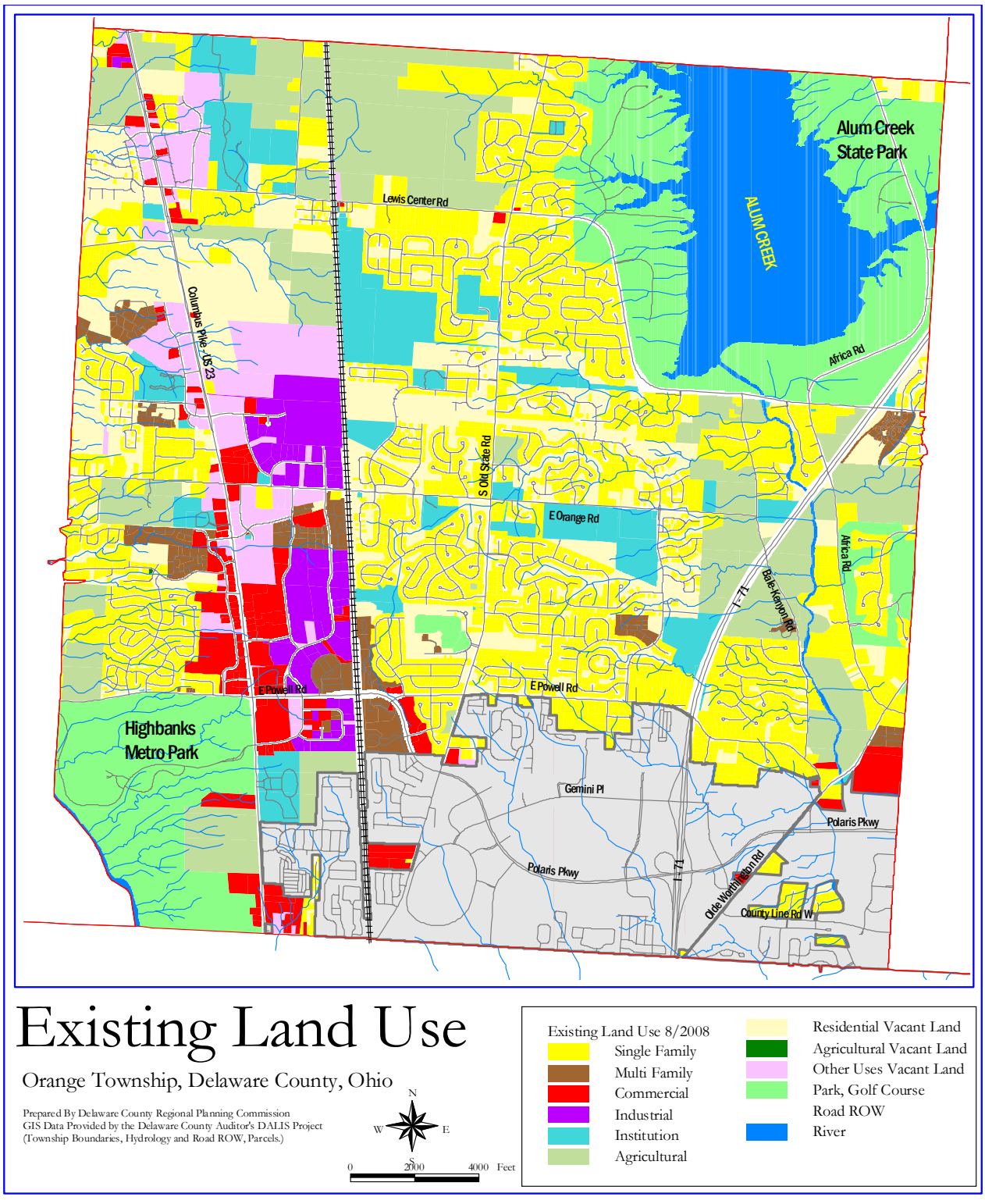
Existing Land Use

The County Auditor maintains an existing land use determination for each parcel, to be used for formulating the tax formula for each lot. Figure 4.1 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 4.2. 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 4.1 Comparison of Existing Land Use Acreage 1999-2009

	1999		2009	
Land Use Type				
Agriculture	**5,024.47**	**30.09%**	**1,730.73**	**10.37%**
Total Residential	**2,369.91**	**14.19%**	**3,835.50**	**22.97%**
Single Family	2,239.95	13.42%	3,504.76	20.99%
Multi-family	129.96	.78%	330.74	1.98%
Total Comm. & Industrial	**622.09**	**3.73%**	**901.21**	**5.40%**
Commercial	405.25	2.43%	532.70	3.19%
Industrial	216.84	1.30%	368.51	2.21%
Institution	**391.09**	**2.34%**	**875.52**	**5.24%**
Rivers/Lakes/Seasonal Swales	**1,319.44**	**7.90%**	**1,303.61**	**7.81%**
Highway/Rail/Right-of-Way	**973.35**	**5.83%**	**1,257.96**	**7.53%**
Golf/Parks	**2,125.54**	**12.73%**	**2,118.08**	**12.69%**
Agricultural Vacant Land	**82.10**	**.49%**	**0**	**0%**
Residential Vacant Land	**1,208.72**	**7.24%**	**1,564.06**	**9.37%**
Industrial Vacant Land	**249.80**	**1.50%**	**70.27**	**.42%**
Commercial Vacant	**291.20**	**1.74%**	**486.13**	**2.91%**
Incorporated Areas	**2,038.85**	**12.21%**	**2,553.46**	**15.29%**
Total Acreage	**16,696.53**	**100%**	**16,696.53**	**100%**
(Total Township)	14,657.68		14,143.07	

Figure 4.2 Existing Land Use 2009, Orange Twp., Delaware County, Ohio



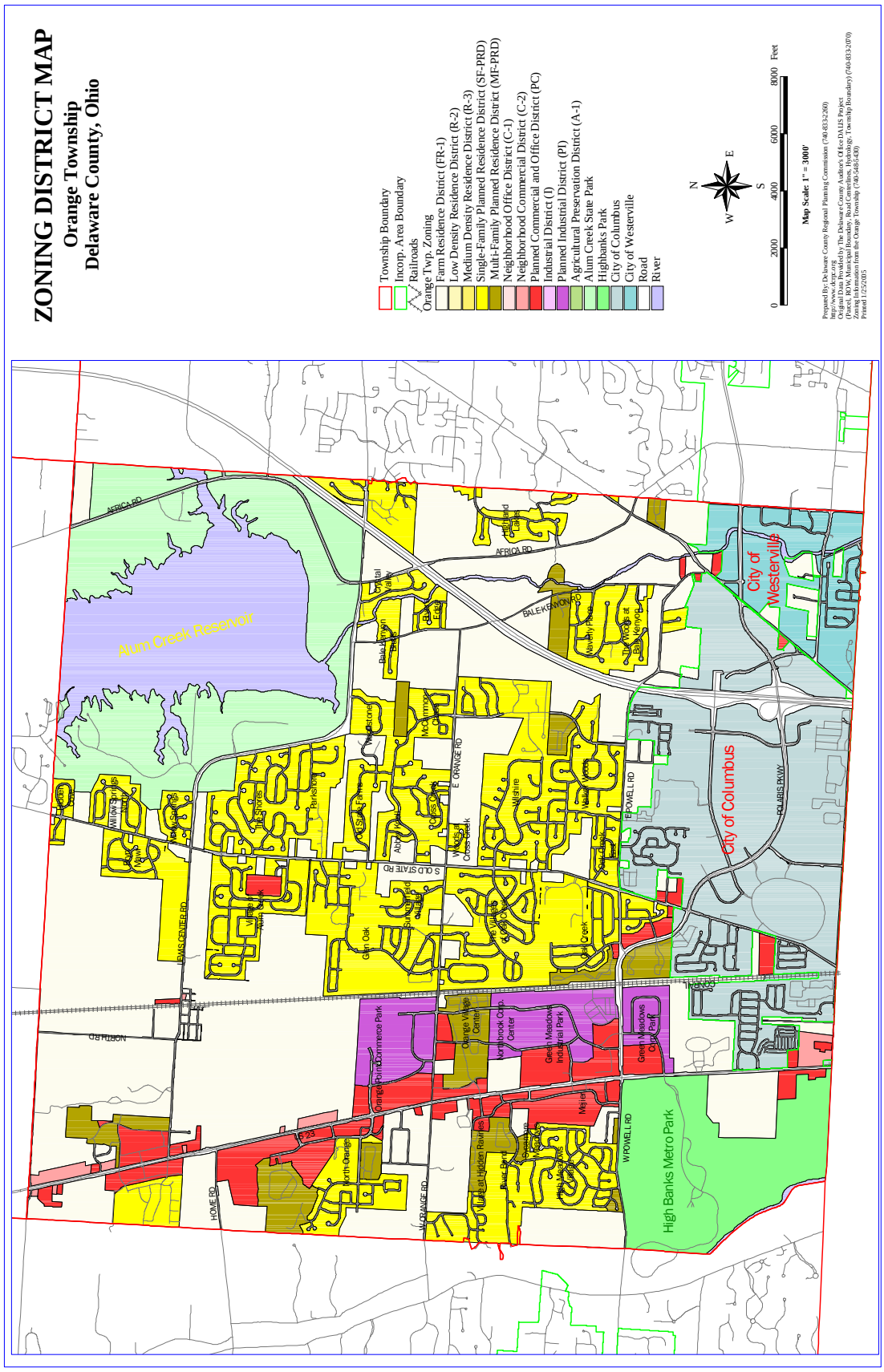
Zoning Map

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 4.3 Total Acreage within Each Zoning District

Zoning District	Acreage	% of Total
Farm Residence (FR-1)	4,747.84	28.44%
Single-Family Planned Residential (SF-PRD)	3,282.39	19.66%
Multi-Family Planned Residential (MF-PRD)	508.23	3.04%
Neighborhood Commercial (NCD)	66.72	0.40%
Planned Commercial and Office (PCD)	712.27	4.27%
Planned Industrial (PID)	437.01	2.62%
Highbanks Park (Zoning Not Applicable)	741.25	4.44%
Alum Creek State Park (Zoning Not Applicable)	1,288.24	7.72%
City of Columbus (Zoning Not Applicable)	1,789.97	10.72%
City of Westerville (Zoning Not Applicable)	418.84	2.51%
Road ROW/Rail ROW (Zoning Not Applicable)	1,608.97	9.64%
Lakes/River (Zoning Not Applicable)	1,094.80	6.56%
Total Acreage	16,696.53	100%

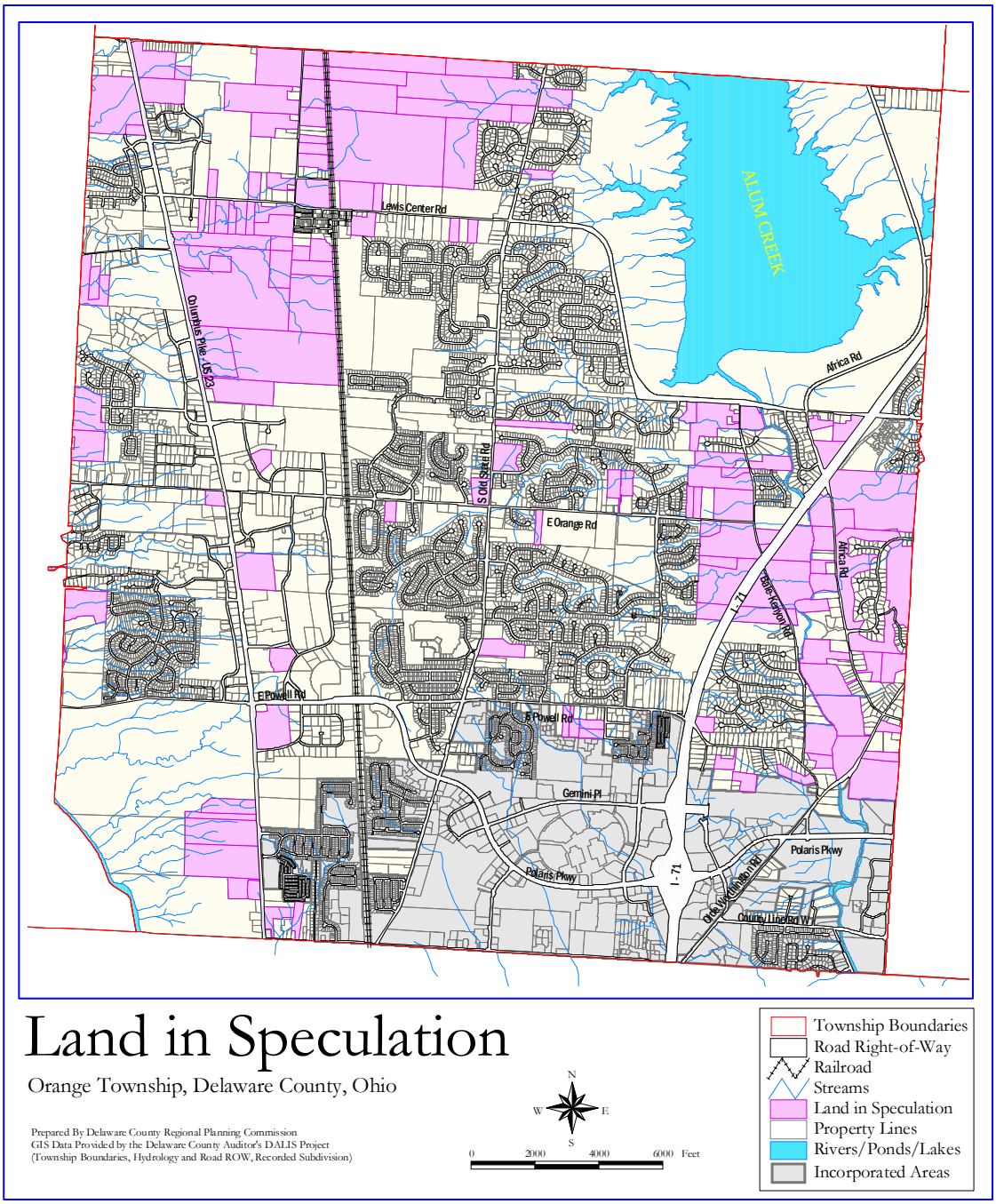
Figure 4.4 Current Zoning Map



Land in Speculation

In an effort to judge the potential developable land within the township, a Land in Speculation map is created. Rather than attempt to judge the motivations of land owners for the creation of such a map, instead some general size characteristics are applied to land that is undeveloped, or underdeveloped. Generally, all land that is larger than 5 acres and unbuilt or adjacent to undeveloped land is used. There are approx. 2,833 total acres of potentially speculative land.

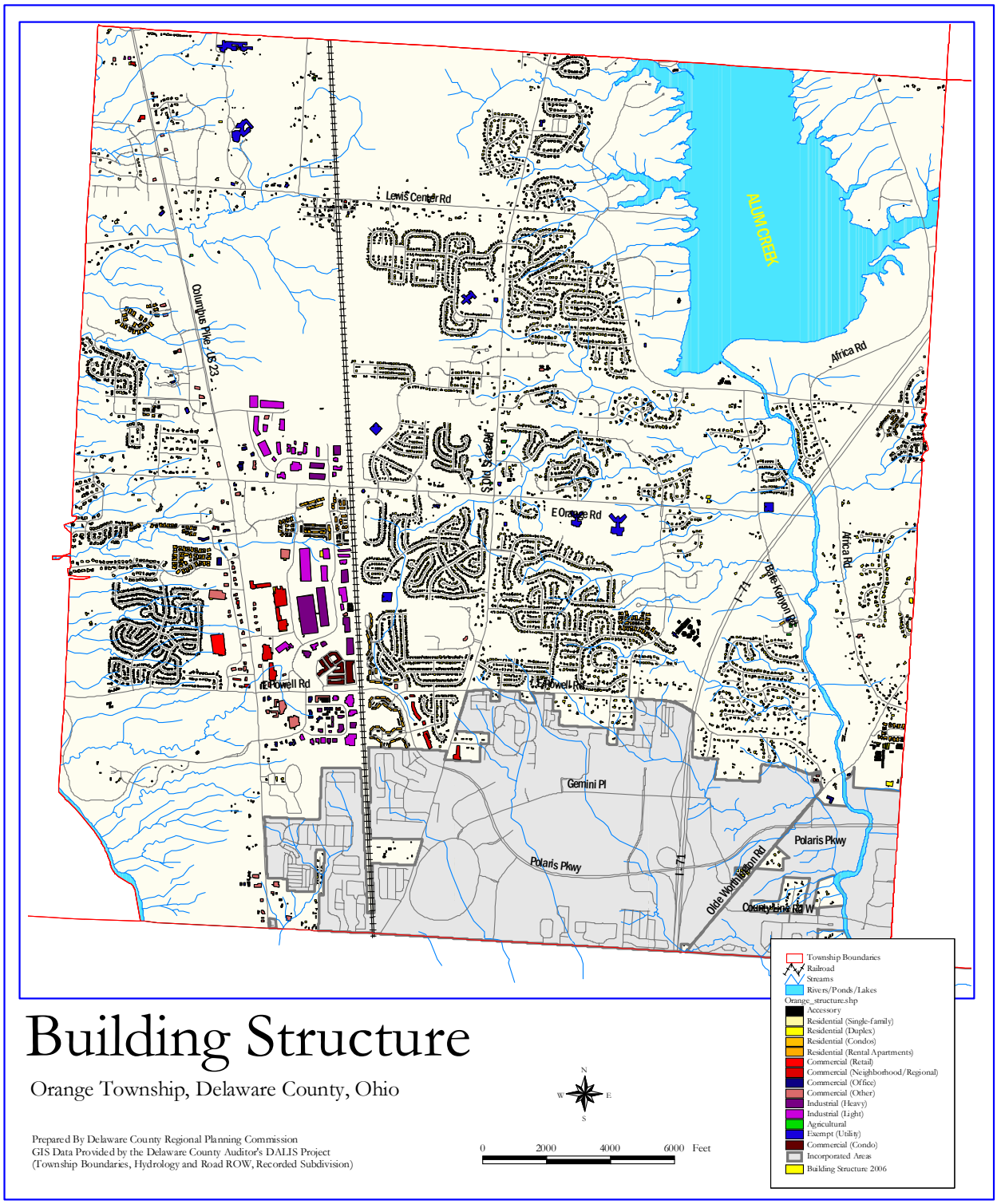
Figure 4.5 Undeveloped Land, Parcels Larger than 5 Acres



Structure Map

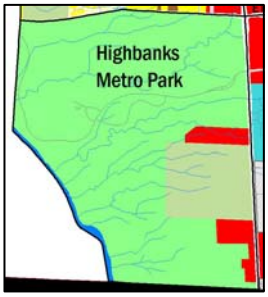
A structure map indicates how buildings relate to each other while displaying density. Buildings in Figure 4.6 are color-coded to indicate the land use of the underlying property.

Figure 4.6 Building Structure Map



Effects of Change in sub areas

The 2001 plan divided Orange Township into fifteen sub-areas with regard to existing land use. The changes in the last eight years for each of these areas are described below. Some of these represent recommendations from that plan that have since been accomplished.



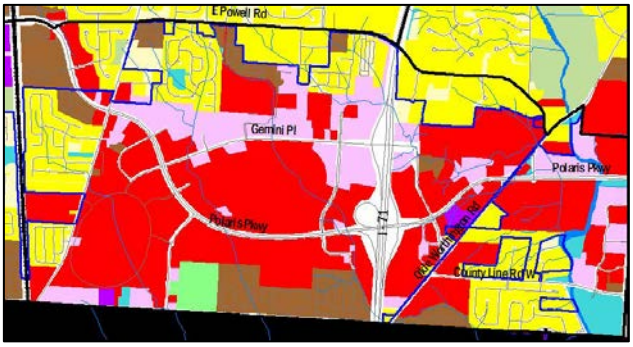
Sub Area 1 Southern Gateway – *910 acres*

Southern Gateway is bordered on the north by Powell Road, to the east by U.S. 23 and is dominated by the permanent open space of Highbanks Metro Park. The four commercial uses on the west-side of US 23 are auto-related. This area has remained largely unchanged, although the entrance of the park has been aligned with Green Meadows Drive South.

Sub Area 2 Southern Commercial Corridor – *557 acres*

This area is south of Powell Road between U.S. 23 and the Railroad. Despite the large tracts of land in this area, most are owned by the Catholic Diocese of Columbus, so there is no urgent pressure for development. The Catholic Resurrection Cemetery occupies much of the road frontage on US 23. This is good for traffic flow, since there are few curb cuts and few commercial uses. A cluster of Office, banking and health care uses are located at the US 23 and Powell Road intersection. Since the 2001 plan, the City of Columbus has approved approximately 373 single- and multi-family lots in the Olentangy Meadows subdivision. Commercial lots have been reserved between US 23 and Olentangy Meadows.

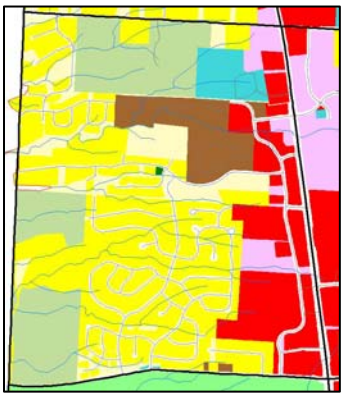
Sub Area 3 Polaris Impact Area – *2,746 acres*



This area is bounded by the railroad tracks on the west, Powell Road on the north, Genoa Township on the east, and Franklin County on the south. The majority of the land within the Polaris Impact area has been annexed to the city of Columbus or the City of Westerville. No Sub Area has seen as much development as the Polaris area. Prestwick Green has included new single-family lots while new condos include The Retreat, The Woods at Polaris, and Village at Polaris Green. Commercial development has occurred along the southern end of South Old State near its intersection with Polaris Parkway.

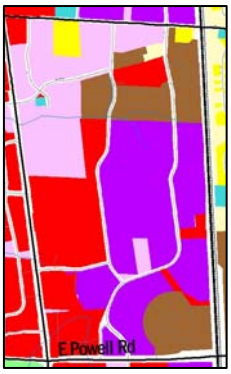
Very few pockets of undeveloped land remain. The 2001 plan acknowledges parcels exist within this district that are surrounded by the cities, and to whom annexation is a likely option.

Sub Area 4 Olentangy Valley South – *839 acres*



This area is bounded by Liberty Township on the west, U.S. 23 on the east, and West Orange Road on the north and Powell Road to the south. It contains the first large residential subdivisions in the township, Green Meadows and High Meadows. River Bend and Deep Run are mostly complete and many of the outlots along US 23 have tenants. The area between Home Depot and Meijer is still undeveloped, but an approved development plan is in place. To the south, a new entrance for special events has been added at Highbanks Park across from Highmeadows Village Drive.

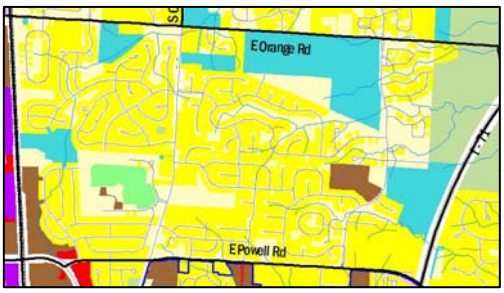
The undeveloped land that remains is unique. To the southwest, the "sheep farm" includes more than 108 acres which are impacted by ravines and extremely impacted access on Powell Road. To the north, 70 acres is owned by Edward Coughlin.



Sub Area 5 Central Commercial/Industrial Corridor – *524 acres*

The area is bounded by US 23 on the west, the railroad tracks on the east, Orange Road on the north, and Powell road on the south. Recent projects have almost fully developed this area. Orange Centre has brought new roads to the northwest corner of the Sub Area, and the last remaining 31 acres owned by JLP Orange LLC will soon follow. Otherwise, several multi-family units have been built in the northern part of the area and office condos have been built along Powell Road.

Sub Area 6 Old State Road Heartland – *1,660 acres*

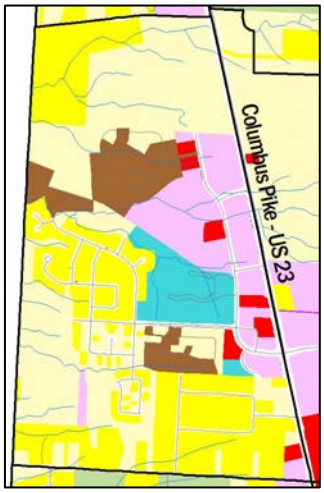


This area is bounded by Powell Road on the south, the railroad tracks on the west, I-71 on the east, and Orange road on the north. This area is the formal heartland of the suburban residential Orange Township. Much has changed in this Sub Area. There is a new Olentangy High and Middle School, Little Bear golf facility and club house, and a completed Walker Wood Blvd. The Township Hall and adjacent park facilities are also in this Sub Area.

Other subdivisions have been completed (at least from an infrastructure standpoint) and others, such as Northpointe Meadows, have also been built. Some development land exists along the slopes leading to the Alum Creek valley north of the county's wastewater treatment plant.

Sub Area 7 Lower Alum Creek Valley – *1,252 acres*

This area is bounded by Powell Road on the south, Genoa Township on the east, and I-71 on the north and west. This is a single-family area with lower densities of one unit per acre along the frontage of Africa Road to conform to existing uses. This Sub Area has experience three significant changes, all of which are condominium projects: The Village at Bale Kenyon (100 units), Regency at Highland Lakes (118 units), and Villas at Maple Creek (56 units). New single-family development is limited to Walnut Woods (37 lots).



Sub Area 8 Olentangy Valley Central – *647 acres*

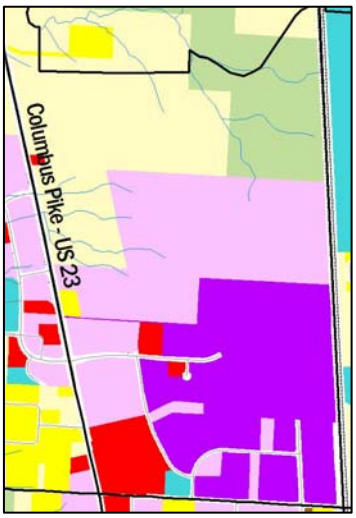
This area is bounded by West Orange Road on the south, Liberty Township on the west, US 23 on the east, and Home Road on the north. This area is divided north/south by two parallel high-tension power lines.

Almost the entire Sub Area has either been developed or planned for development. It includes the North Orange development with highway-frontage commercial and multi-family and single-family residential to the west. The Clear Creek development is approved for the corner of U.S. 23 and Home Road, although no improvements have been made. This Sub Area now includes a township Fire Station as well as North Orange Park, a pool and recreation facility in which the township has invested substantially.

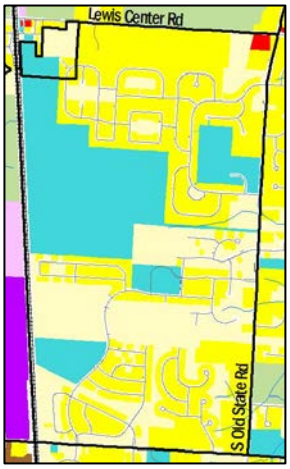
Some developable area remains between the single-family parts of North Orange and Liberty Township to the west. Additional commercial opportunities still exist south of North Orange along US 23.

Sub Area 9 US 23 Northern Corridor – *700 acres*

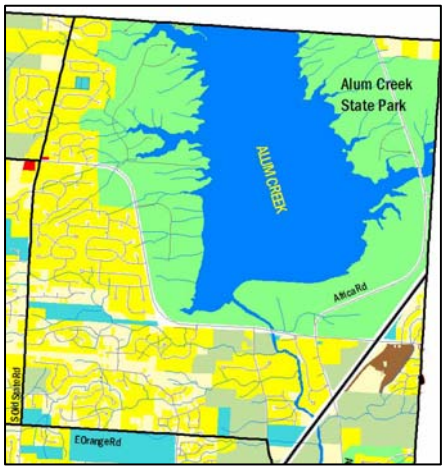
This area is bounded by US 23 on the west, the Lewis Center Village District on the north, Orange Road to the south, and the railroad tracks to the east. Much of this area, including the proposed collector road network, was part of the Cobblestone Crossing proposal. Other than some building activity in the Orange Point Commerce Center, the Sub Area remains unchanged.



Sub Area 10 The New Frontier – *983 acres*



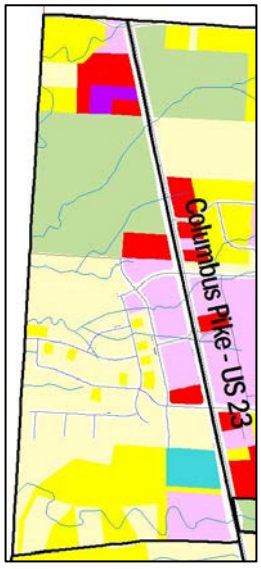
This area is bounded by the railroad tracks on the west, the Lewis Center District on the northwest, Lewis Center Road on the north, Orange Road on the south, and South Old State Road on the east. Previously titled "the New Frontier", this area is now close to build-out. Glen Oak, Estates of Glen Oak, Alum Crossing, and Village at Alum Creek nearly complete the Sub Area. As always, some small frontage lots could see further division. A significant bike path has been built along the railroad tracks as well as Ro Park and Glen Oak Park, both dedicated as part of Glen Oak. Old Lewis Center remains largely unchanged.



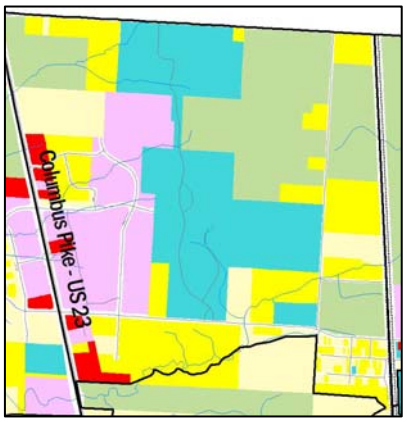
Sub Area 11 Alum Creek Resource Area – *3,940 acres*

This area is bounded by Genoa Township on the east, Berlin Township on the north, South Old State Road on the west and Orange Road and I-71 on the south. The area is dominated by the Alum Creek State Park. West and south of the reservoir is largely built-out. New developments include McCammon Chase, Lake Shore, River's Edge and completions of other prior subdivisions. Fire Station 362 at the corner of Orange and South Old State Roads has been refurbished and an expanded salt barn and maintenance building are located at the same site. A new Olentangy elementary school has been built at Orange Road and Bale-Kenyon. Some developable land still exists along Bale-Kenyon Road and Africa Road. Some progress has been made on the I-71/Big Walnut interchange study, but it is in the review process.

Sub Area 12 Olentangy Valley North – *296 acres*



This area is bounded by Liberty Township on the west, Berlin Township on the north, Home Road on the south, and U.S. 23 on the east. Much of this Sub Area has been developed as part of Olentangy Crossings and an extension of the same subdivision to the south. This development includes commercial along U.S. 23 with high-end residential development to the east. The deep ravine that runs from U.S. 23 west to the Olentangy River will likely experience little additional development. Access has been provided for further commercial development north and west of Paul's Marine.

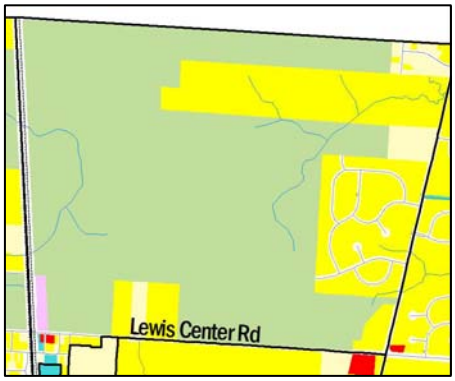


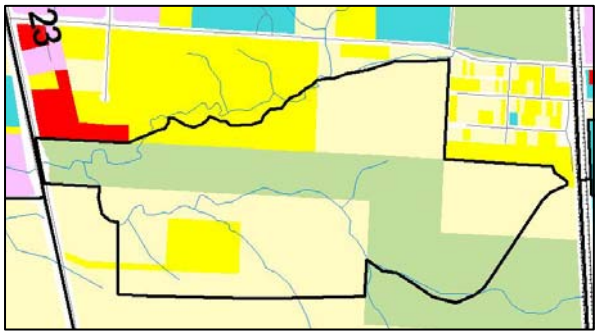
Sub Area 13 New North – *734 acres*

This area is bounded by U.S. 23 on the west, railroad tracks on the east, Berlin Township on the north, and the Lewis Center District on the south. Olentangy Crossings has brought a significant area of commercial development between the school property and U.S. 23. Several outlots, a major anchor and medical center have been built. This development includes significant commercial development and future multi-family. Linkages have been provided for further development along the highway. The township has gained a substantial park area on North Road as part of the development.

Sub Area 14 The Northlands – *722 acres*

This area is bounded by the railroad tracks on the west, Berlin Township on the north, south Old State Road on the east, and Lewis Center Road on the south. Little has changed in this Sub Area since the previous plan. Avonlea has been built along the northern edge of the township along Old State Road and the approved, but undeveloped, Meadows at Lewis Center with a planned 135 lots. A portion of the Piatt Road Extension has been planned related to Meadows at Lewis Center but that will continue to be development driven. Land adjacent to the tracks at Lewis Center Road has been approved for commercial development.





Sub Area 15 Lewis Center – *185 acres*

This area generally circumscribes the south side of Lewis Center Road, generally following the stream on the north side and the proposed Home Road extension on the south side. A small area of old Lewis Center on the east side of the tracks is also included in this Sub Area. This area has not seen any development, although the Cobblestone Crossing proposal proceeded through a significant portion of the zoning approval process. Recommended road extentions were part of the proposal, but have not been constructed.

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CHAPTER 5

Natural Resources and Conservation

The Olentangy River, southwest Orange Township

Orange Township has rugged ravines, rivers, creeks, and Alum Creek Lake. It has wetlands, woods, wildlife and some remaining farmland. These are some of the primary reasons people move to Orange Township.

Orange 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.

Topography (DALIS contours)

Orange Township has marked differences in elevations and slopes. The elevation map indicates a 240-foot difference in elevation between the highest point on S. Old State Road near the center of the township at Wilshire Subdivision and the low point where the Olentangy River exits the county and discharges into Franklin County. (See Elevation Map)

Slopes Greater than 20%

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

Figure 5.1 Elevation Map

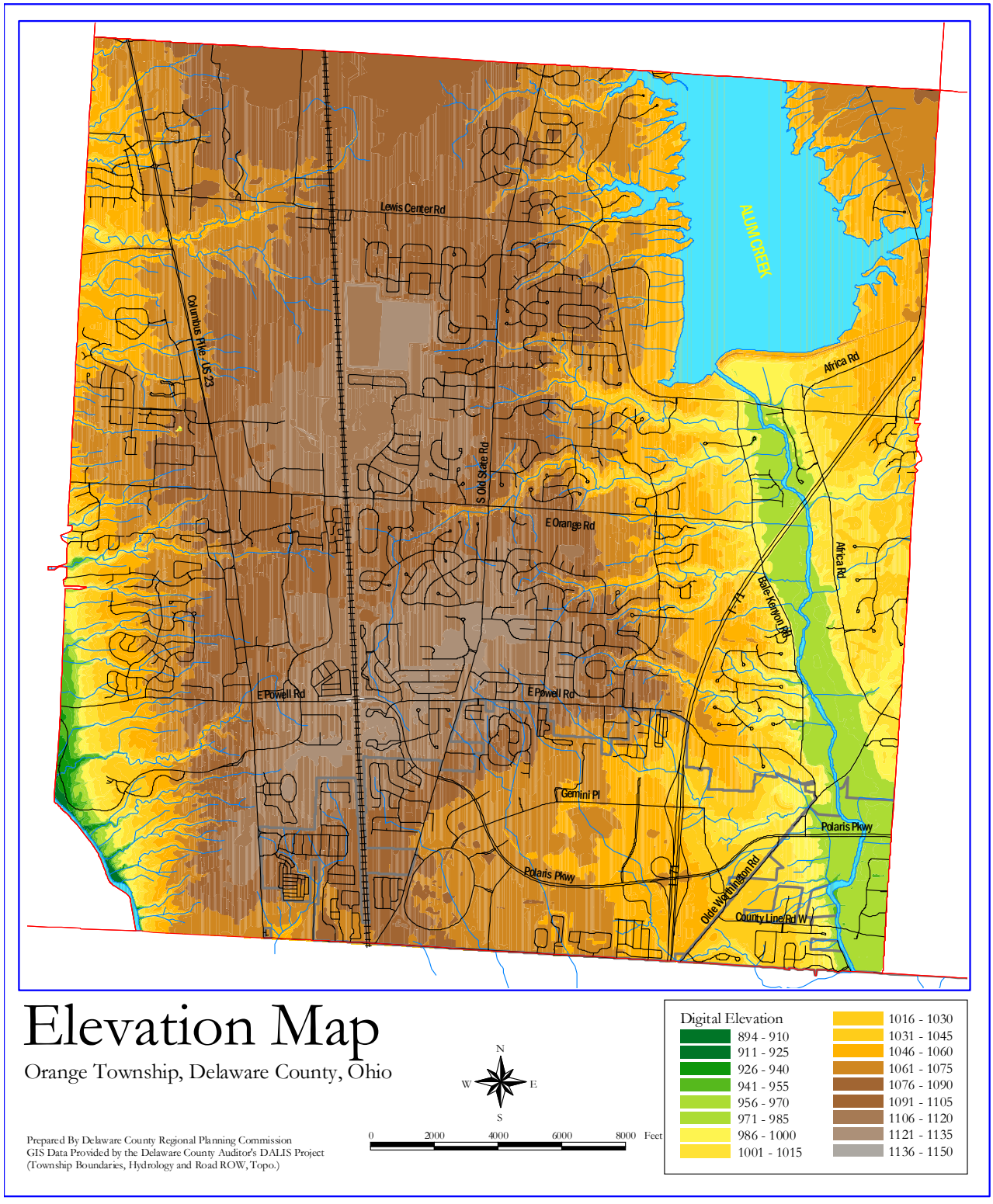
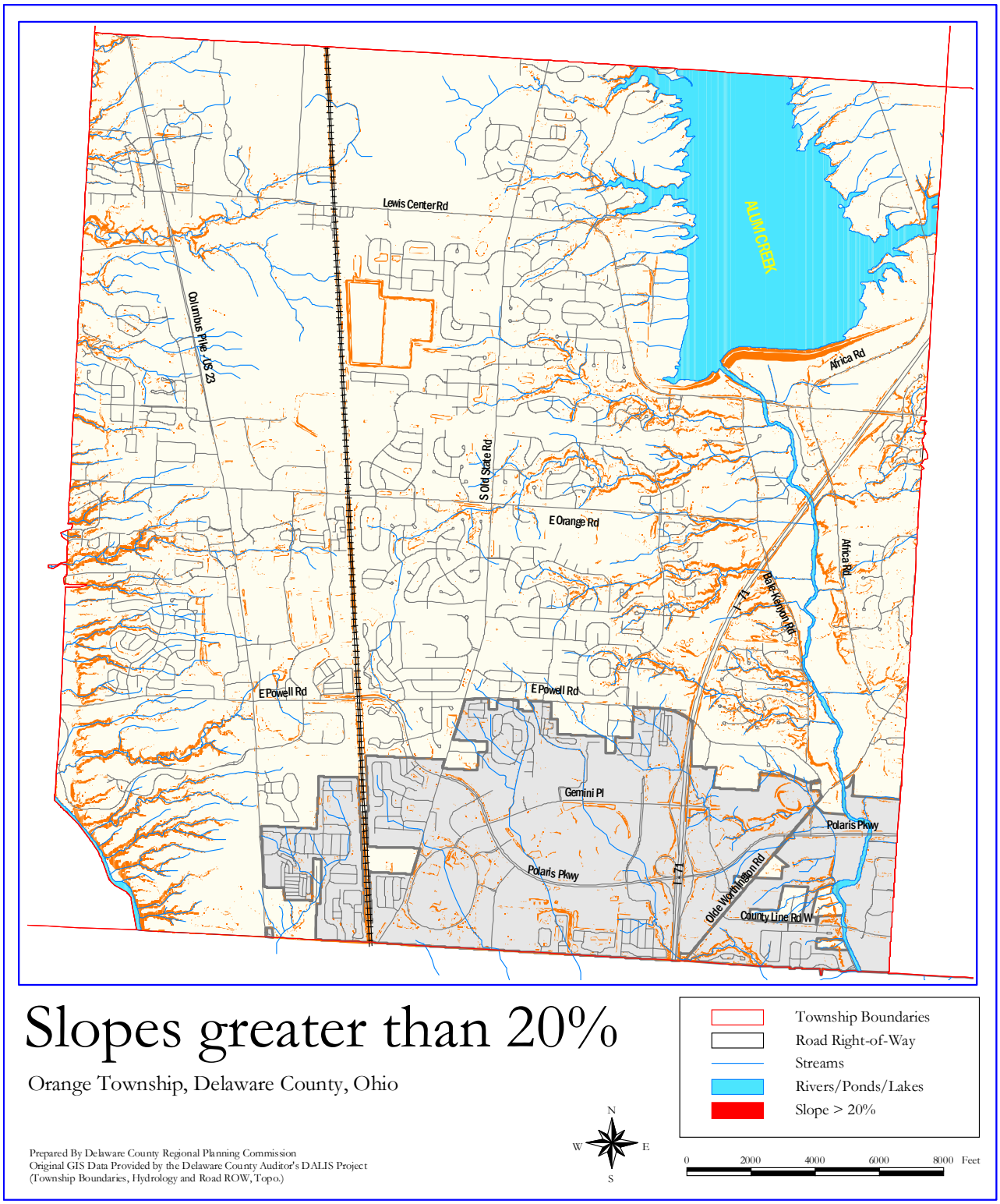


Figure 5.2 Slopes Greater than 20%



Floodplains, bodies of water and watersheds

The floodplains of the Olentangy River and Alum Creek are significant natural resource areas. The National Flood Insurance Program (in which Orange Township participates) discourages development in the 100-year floodplain and prohibits development in the 100 year floodway. These areas are mapped in fine detail by the US Army corps of Engineers for the Federal Emergency Management Agency (FEMA). For specific information see the FEMA maps at the Delaware County Building Department, 50 Channing Street, Delaware Ohio 43015, ph. (740-368-5850).

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
• 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.	• 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.	• 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.

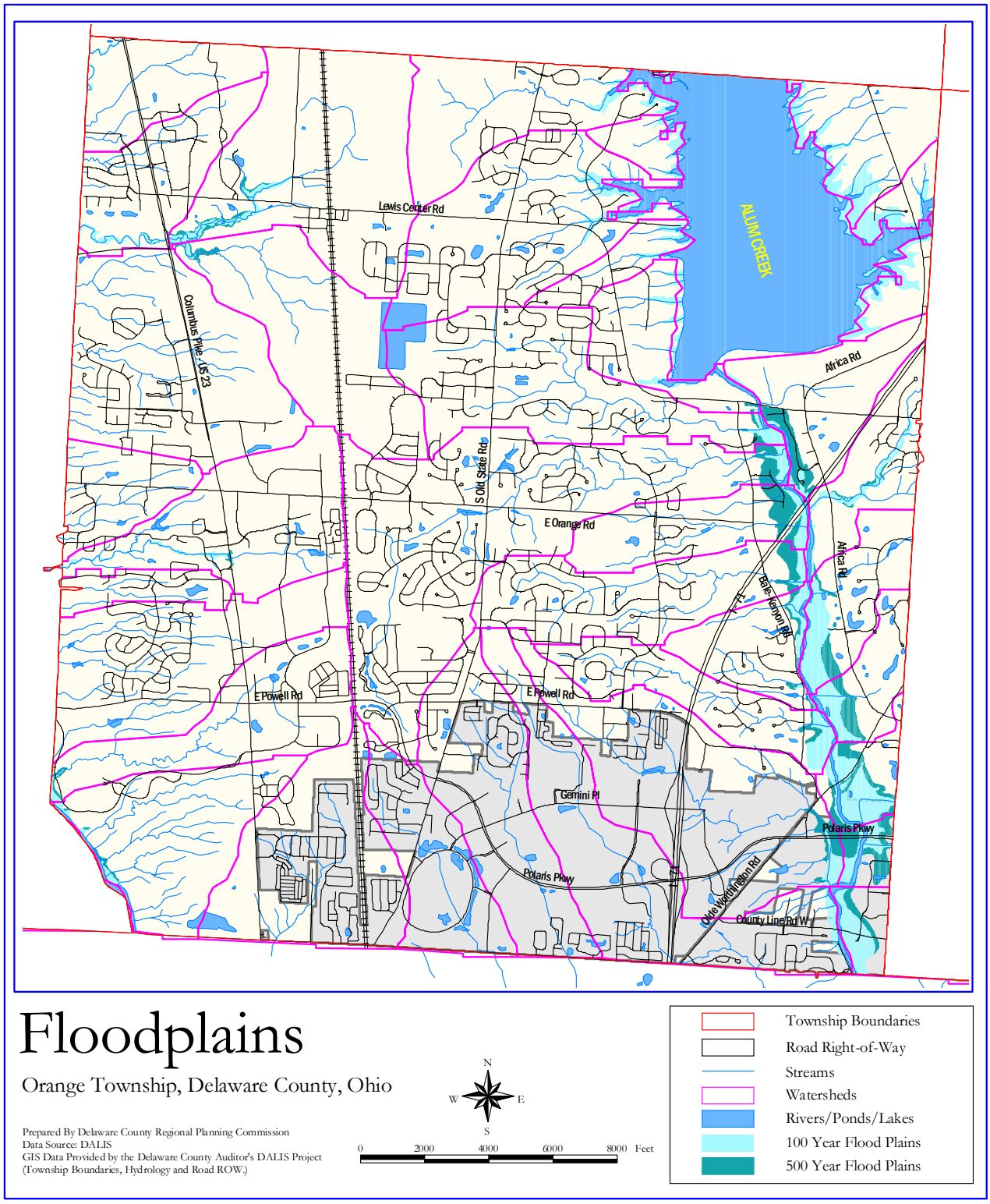
For all these reasons, the 100-year floodplains in Orange Township should be protected. Some counties have large, meandering, flat floodplains comprising a great deal of the undeveloped land of the county. In an urban county, where such land is precious, it is understandable but not advisable that some 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. In addition, the Olentangy is a state scenic river.

Because of their status as drinking water supplies, the floodplains and tributary streams of all four Delaware County rivers should be carefully protected to conserve surface and groundwater quality.

FEMA revised the Delaware County floodplain maps in April 2009. Floodplain elevations in some areas have risen for the 100-year flood. Given the critical function of floodplains, it is inappropriate to permit residential development in the 100-year floodplain.

In Figure 5.3, 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 5.3 Floodplains/Watersheds



Prime Agricultural Soils

The prime agriculture data shows that soils suited to high agricultural yields exists in Orange Township. From an economic standpoint, the land value for development so significantly exceeds its potential for agriculture in Orange Township that it is unlikely that large-scale agriculture will be sustained. However, it is the rural 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 US Department of Agriculture has a ranking system, Land Evaluation Site Assessment (LESA) for such lands.

Agriculture and its remnants will likely be most retained in the 1-5 acres lots whose owners still have small farms or large gardens. The floodplains of Alum Creek also provide an opportunity to retain agriculture as a viable, albeit limited, economic use. Truck crops, sod or landscape materials might be a form of sustainable agriculture in the floodplains. Because such agricultural land is limited in the township, no map of these lands is provided.

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 US Army Corps of Engineers is found in the Corps of Engineers' *Wetlands Delineation Manual Technical Report Y-87-1*, US 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).

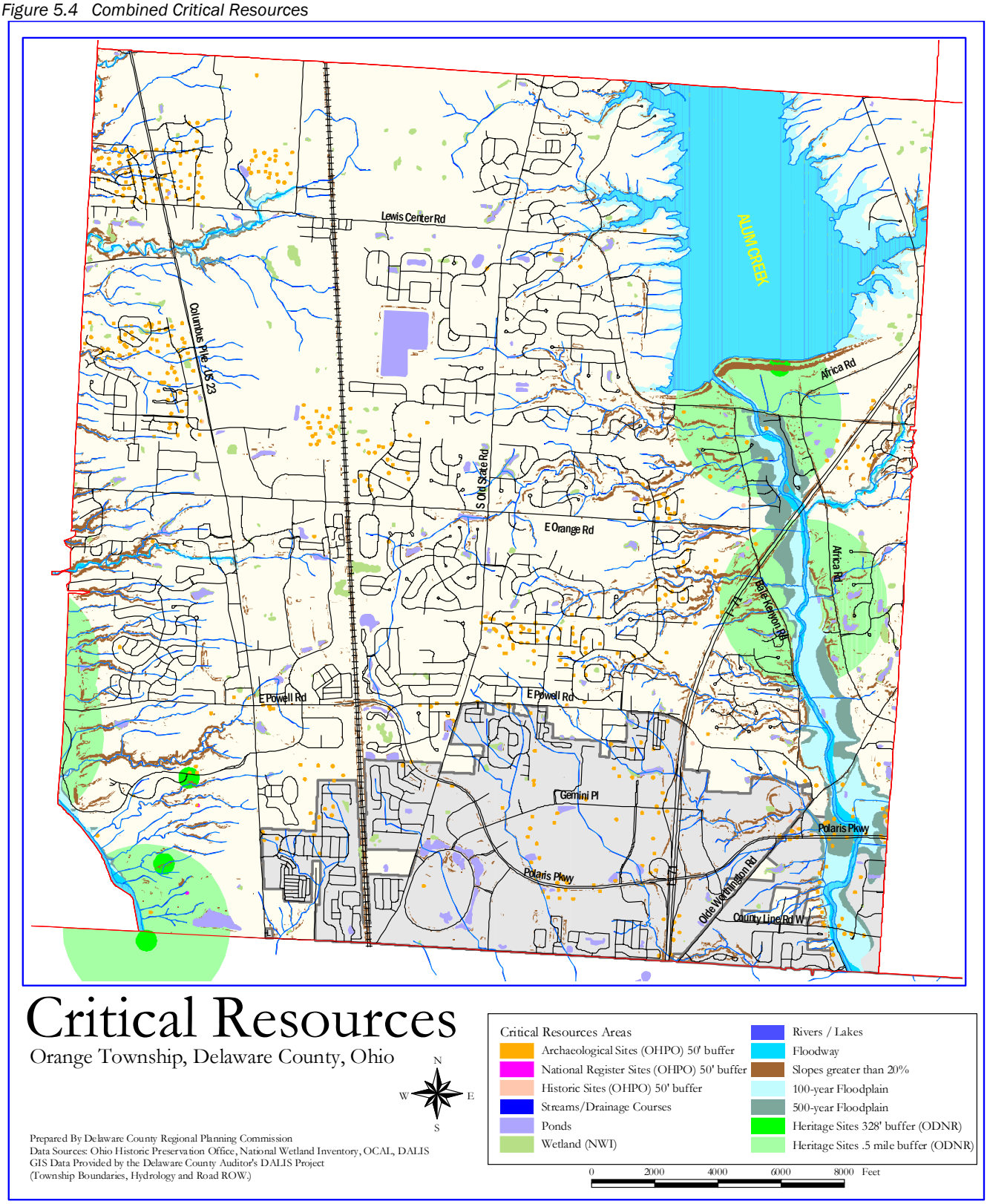
Jurisdictional wetlands serve many of the same functions as floodplains, and deserve to be protected for the same reasons. Orange Township's wetlands are mostly tiled agricultural fields, which, if tiled before 1985, are exempt from regulation unless they revert back to their natural state. Wetlands 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 wetlands data indicates potential wetlands from the Ohio Capability Analysis Program (OCAP) satellite imaging and ODNR data. They should not be too closely relied upon, but they indicate the potential locations of 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 information can be seen on the Combined Critical Resource Map.

Combined Critical Resources

The combined Critical Resources Map displays generalized floodplains, water, wetlands, prime agricultural soils and 100 foot suggested setbacks from major watercourses. It also includes symbols representing cultural and historic resources which shall be covered in future chapters. Since it is a goal to preserve the natural resources of the township, this map should be used as an evaluation tool when land is developed. (Buffers shown in Figure 5.4 are provided for visual purposes only and do not suggest related regulation.)

Figure 5.4 Combined Critical Resources



Natural Resources Goals and Means

Goal	Means
To preserve the rural and natural character of Orange Township as expressed in its open spaces, green areas, farms, natural resources (floodplains, wetlands, slopes greater than 20%, ravines, creeks and rivers) as it changes from a rural to a suburban community.	Increase the dedication of useable open space in planned developments. Identify / increase the amount of active versus passive open space that is acceptable. Identify floodplains, jurisdictional wetlands, and slopes over 20% in planned developments and to protect them.
Goal	Means
To conserve surface and ground water quality around Alum Creek reservoir	Prohibit on-stream storm water detention on streams tributary to the reservoir. Retain natural ravines and their vegetation as filter strips for surface water. Do not exceed densities of 1-2 units per acre within 1000 feet of the Alum Creek state park.
Goal	Means
To retain wildlife cover and corridors where feasible.	Retain wooded greenways along ravines, waterways and project perimeters in reviewing Planned Developments. Encourage protection, including conservation-style subdivisions on lands with significant critical resources.

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Chapter 6
Housing

Housing has been the primary index of growth in Orange Township. The township has gone from a rural community with no central water or sewer in 1980 to a suburbanizing community with water and sewer potentially available throughout the township. The growth of multi-family housing has resulted in almost one unit in five being a multi-family unit (see other statistics from Chapter 2 and 3).

The township has taken a mature approach in its housing goals to provide for a variety of residential densities and districts, and to provide for a variety of housing types. The issue of providing a wide range of housing in a developing community is complex, and fraught with legal overtones if zoning decisions imply exclusionary agendas. Orange Township has not practiced exclusionary zoning, as evidenced by its stock of multi-family condos and apartments and that it has a 216-unit low income subsidized housing apartment complex in the township. The township provides for a variety of housing types (single-family detached, single-family attached, multi-family) without restrictive minimum square footages or lot sizes. Minimum square footages for single family houses are only 1,000 square feet, or 800 square feet in older platted subdivisions (Lewis Center and Arnold Place).

As the township updates its land use plan, consideration has been given to the appropriate timing and location of housing types based upon the inventory of existing housing, conditions and relationship to the housing needs of the area.

Existing housing stock

A house-to-house windshield survey was conducted in April 1999 covering all the land in the original township, including Westerville and Columbus. A condition of each house reviewed was given based upon five criteria. At that time, it was found that 5,370 units were in either meticulous condition or in a condition that could easily be corrected by normal maintenance. This represented 99% of the housing stock at the time. Assuming that homes built in the last decade have been also well-maintained, it is unlikely that a new windshield survey would provide different results. Refer back to Figure 3.1 for an indication as to when homes were built in the township. Figure 6.1 represents the Total Market Value for homes in the township as defined by the County Auditor.

Figure 6.1 Housing Stock Coded by Total Market Value (land and building)

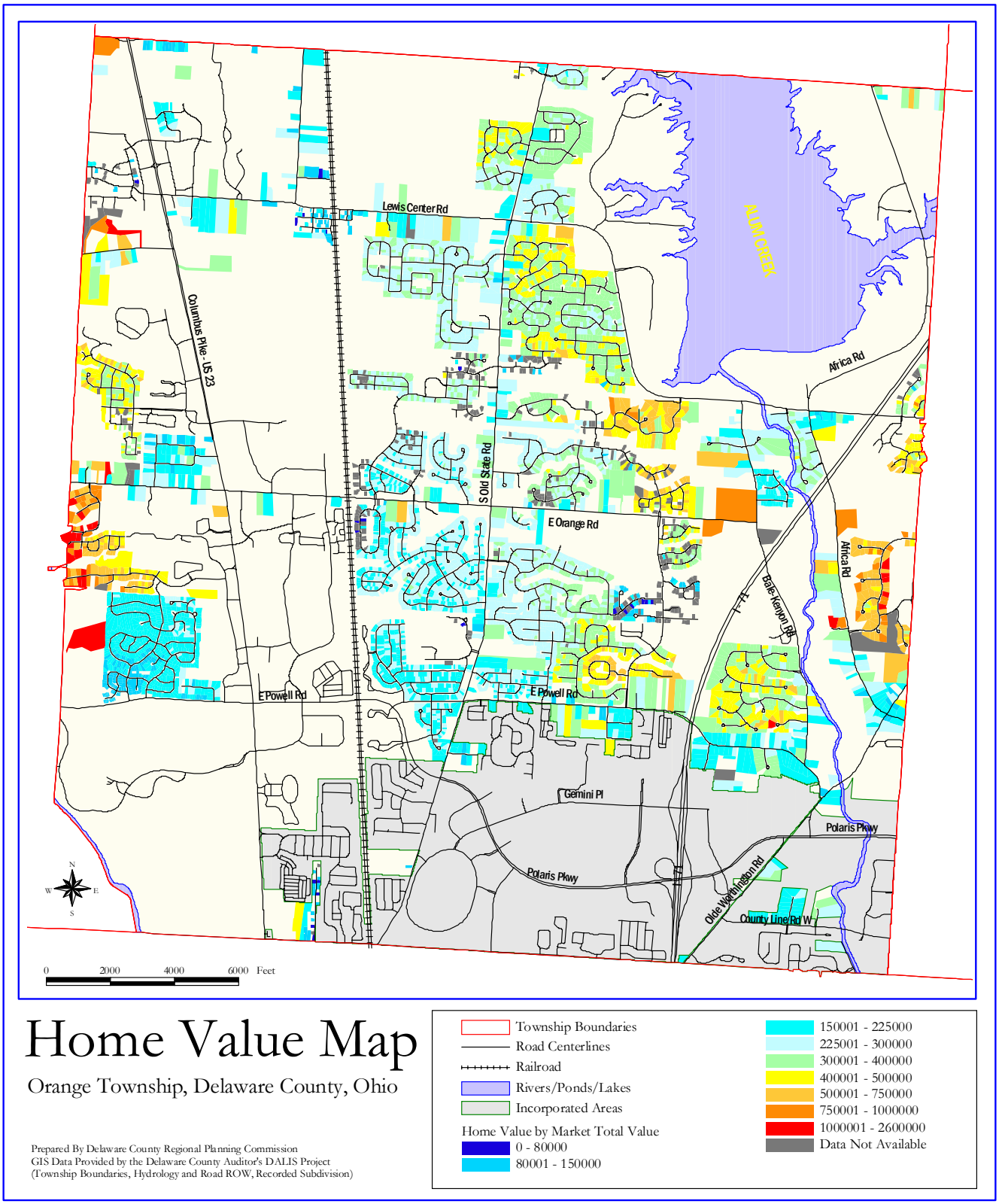

Figure 6.2 Orange Township Single-Family Home Market Value Summary

Market Value	Units	% of total
$0 - $149,999	427	6.48%
$150,000 – $249,999	2,422	36.74%
$250,000 - $349,999	2,195	33.29%
$350,000 - $499,999	1,220	18.50%
$500,000 - $749,999	263	3.99%
$750,000 - $999,999	41	0.62%
$1,000,000 and up	25	0.38%
TOTAL	6,593	100%

Housing needs

Orange Township has been the 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. Orange Township has provided 29% of the total new housing in unincorporated Delaware County in the last 21 years. Indeed, there are four townships that have provided 83% of all the housing in Delaware County in the same period. For reference, the numbers for the leading municipalities have been included.

Figure 6.3 Top Ten 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 Unincorp Delaware County 1980-1998	22,082	
City of Delaware	*5,742*	
City of Columbus	*3,233*	
City of Powell	*3,217*	

Golf Course Developments

The top four past providers, all with centralized county sewer, might have been expected to continue as the primary housing providers. 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 (three systems approved) 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 6.4 Developments Proposed with Alternative Centralized Sanitary Sewage Disposal

Development	Location	Township	Acres	# Units Approved	Density	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			**2,180**	**3,462**		

Future Housing Needs

In a high-growth area such as Delaware County, it is impossible to anticipate what the share of the state's population will be, and distribute that amount among the townships, village and cities.

Zoning battles over density sometimes occur along the edges of cities. "Fair share" allocations cannot be assessed within a township when a city may annex land and provide that housing at a higher density. Regional availability of low and moderate income housing is more indicative of fair share allocation.

A more pragmatic approach to housing distribution would be to determine how the community wants to look like when it is all built out (vision), what services it can provide, and what its reasonable and fair share of the mix of population would be. A single use, such as low density single-family housing blanketing the township would be suspect in a developing suburb. This has been the case since NAACP vs. Mount Laurel, 1975, and the "Dayton Plan" for fair share housing planning. Orange Township provides a variety of housing types and densities, and to date has provided more than its fair share of multi-family housing.

In summary, Orange Township is growing in population and has been shrinking in land area via annexation. Low and moderate-income housing is provided in the township, but is also being provided by the cities in newly annexed areas. Orange Township has attempted to be a responsible community by considering what densities can be served by county sewer, what transportation modes are available, what areas are already planned for a various housing types and what services the township can legally and economically provide.

Housing Policies

Orange Township has established goals of maintaining a diversity of housing types. Its overall density is limited by sewer capacity and the township's desire to maintain a sense of rural character, even when it is all built out. Orange Township's share of the Delaware County housing starts is likely to remain at the top in the short term, but may drop as other townships obtain sanitary sewer service from the county or develop on-site sanitary sewage disposal systems in golf course type developments. The DALIS master point file lists 6,593 single-family units and 1,837 multi-family units (includes duplex, condos, apartments, and manufactured homes). Since 1999, 1,014 multi-family housing units have been zoned by

the township with the most recent being 58 units in Little Bear and 170 in Olentangy Crossings Section 7. As other developing communities begin sharing the leadership in county new housing share, they must also share the diversity of housing types offered. As they do, this will provide relief to Orange Township, so that it may adhere to its land use mix percentages as amended in this plan.

With the development of these units of multi-family housing, Orange Township may believe it has provided its fair share of the area's multi-family housing. However, as trends continue to shift, the township will have to regularly re-evaluate their housing mix. In many cases, the term "multi-family" can refer to single-family detached condominium that may be of higher value than a comparable single-family home. Multi-family uses can also reflect a greater flexibility in building design and not necessarily result in lower-quality housing stock. Therefore, multi-family uses should not be abandoned without considering the end result of the housing type.

Housing Goals and Means

Goal	Means
To retain a primarily single family residential housing mix, but permit a diversity of housing types.	Regularly review the housing mix when reviewing rezoning requests.
Goal To provide for a variety of residential housing districts, with an overall (township –wide) density not to exceed 2 units per acre where centralized sanitary sewer exists or can be provided.	Means Permit both single family and multi-family zoning districts. Create a Lewis Center District as a Traditional Neighborhood Development with mixed residential and commercial uses at an overall density of 2 units per acre. Maintain the area east of the CSX railroad tracks as the residential heart of the township, with exclusively single family development
Goal To determine and implement an appropriate land use mix.	Means Retain (maximum) multi-family densities of five units per acre and single family densities of two units per acre with public water and sanitary sewer service. Retain densities of one unit per acre or lower, according to soil suitability, in areas without sanitary sewer service. Encourage protection, including conservation-style subdivisions in areas without sanitary sewer service to retain rural character, and preserve surface and ground water quality.
Goal To discourage over-development or premature development.	Means Do not overzone land when there is an adequate supply for the needs of the current market. Use the Comprehensive Land Use Plan as the guideline to prevent overzoning.

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Chapter 7
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 Orange Township's economy.

While the first decade of the century began with an economic downturn, productivity trended upward at a 2.6% annual rate over the next seven years. However, through 2007, 2008 and 2009, 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 Orange 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 *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 October 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 third 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 at $52,148 and Franklin is at $51,246. *Source: 2008 American Community Survey, U.S. Census.*

The Local Economy

While the national economic news has been in an ongoing recession with unemployment numbers on the rise, the local economy generally has not experienced the full effects of the poor economy.

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.

Figure 7.1 Establishments, Employment and Wages by Sector, Delaware County, 2006 (Source: Ohio Dev. Dept.)

Industrial Sector	Number of Establishments	Average Employment	Total Wages
Private Sector	**3,723**	**57,877**	**$2,527,521,560**
Goods-Producing	623	9,190	$438,893,507
Natural Resources	*20*	*346*	*$11,479,427*
Construction	*447*	*3,125*	*$134,614,888*
Manufacturing	*156*	*5,719*	*$292,799,192*
Service-Producing	3,100	48,687	$2,088,628,053
Trade, Transportation and Utilities	*881*	*14,185*	*$441,567,455*
Information	*68*	*1,116*	*$65,574,595*
Financial Services	*424*	*5,361*	*$367,814,128*
Professional and Business Services	*762*	*11,247*	*$837,370,926*
Education and Health Services	*293*	*5,324*	*$192,414,087*
Leisure and Hospitality	*374*	*9,622*	*$140,439,172*
Other Services	*287*	*1,806*	*$42,948,511*
Unclassified	*13*	*26*	*$499,179*
Federal Government		**287**	**$12,139,379**
State Government		**130**	**$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 7.2 Top 20 Major Employers, Delaware County (Delaware County Auditor 2008)

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 Univ.	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
Meijer	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, 49.2% have a bachelor's degree and 17% have a graduate or professional 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 MSA Housing Market

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.

Orange Township Economy

Orange Township has greater balance in its local economy than any other township in Delaware County. This is primarily due to its strategic location on US 23, the availability of water and sewer, the township's approach to development policies, its proximity to Franklin County and the City of Columbus, and the Polaris I-71 interchange and the Polaris Parkway corridor to US 23 at Powell Road and to S.R. 3 at Maxtown Road.

Polaris

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 Orange Township.

- Polaris Towne Center opened in the fall of 1998 with 115,000 square feet of retail development;
- Polaris Fashion Place opened in 2001 and features over 150 specialty stores, five anchors, more than four 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) has been the new I-71 interchange and road construction linking east-west and north-south traffic. The completion of Polaris area roads is a key to its future success;
- 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. Orange Township's residential property is valued at $813,857,960, slightly under Genoa Township's $897,640,110. Its commercial, industrial, and utility is valued at $176,948,210, far ahead of all other Delaware County townships. Adding farm uses, utilities and personal tangible value, the total for the township is $1,023,084,530 which is the highest followed by Genoa, Liberty, Concord and Berlin.

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. The township's tax rates include .04 mills for the library, 6.30 for

the county, 9.30 for the township, 70.72 for schools, and 3.20 for JVS for a total of 89.56, or an effective rate of 61.7728 for residential and 61.5117 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. With Orange Township completely within the Olentangy district, the tax rate is the same throughout the unincorporated township. 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 US 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, the City of Delaware Enterprise Zone, the Orange Township Enterprise Zone and the Village of Sunbury Enterprise Zone. Orange Township's zone begins at the southern border of the county at Lazelle Road, and runs north along US 23 to Shanahan Road. The eastern border is the rail line and the western border is approximately one-quarter mile to the west of 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.

Orange Township has a local enterprise zone with tax abatements to the following industries. This has proven to be an engine of growth.

Figure 7.3 Orange Township Enterprise District

Firm	# jobs created	Real Property	Personal Property	Projected Payroll
BKP BT USA	30	$2,550,000	$3,700,000	$600,000
Colorifics	8	$600,000	$197,600	$162,240
Fisher Backup us	8	$536,000	$50,000	$100,000
Sheridan Assoc.	4	$525,000	0	$46,000
Totals	**50**	**$4,211,000**	**$3,947,600**	**$908,240**

The following businesses have completed their tax abatement period with the county: Airwaves, Digital Storage, Sarcom, and Volvo.

Green Meadows Drive

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). 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 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 and personal property tax to a debt retirement fund. A portion of the real property tax on improvements to a site, up to 75% for 10 years, can be paid into a special fund, 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 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. There are three TIFs in the Orange Township area. One is within the Polaris area and represents $221,699,110 of property value and one is a Polaris expansion with a $9,770,000 value. Within Orange Township, there is an Olentangy Crossings TIF, representing $1,766,160 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.

Northpointe Plaza Outlots

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 harbinger of 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 Texas, Colorado, California, the Northwest (Seattle, Washington), New England, Las Vegas, Florida and the Southwest. Although the county has experienced a cycle in new housing activity, real estate price fluctuations have not been referred to as a boom-bust cycle 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 Orange Township's Comprehensive Plan appears to be economically attainable in the long term, assuming the local, state and national economy continue to improve.

E. The only caution is to **avoid over-zoning** and over-platting before there is an apparent housing need, since that could lead to gross oversupply, and the possibility of price deflation in a real estate recession. Phasing of large projects also helps the incremental absorption of the land costs to the developer and avoids oversupply of product.

Economic Goals and Means

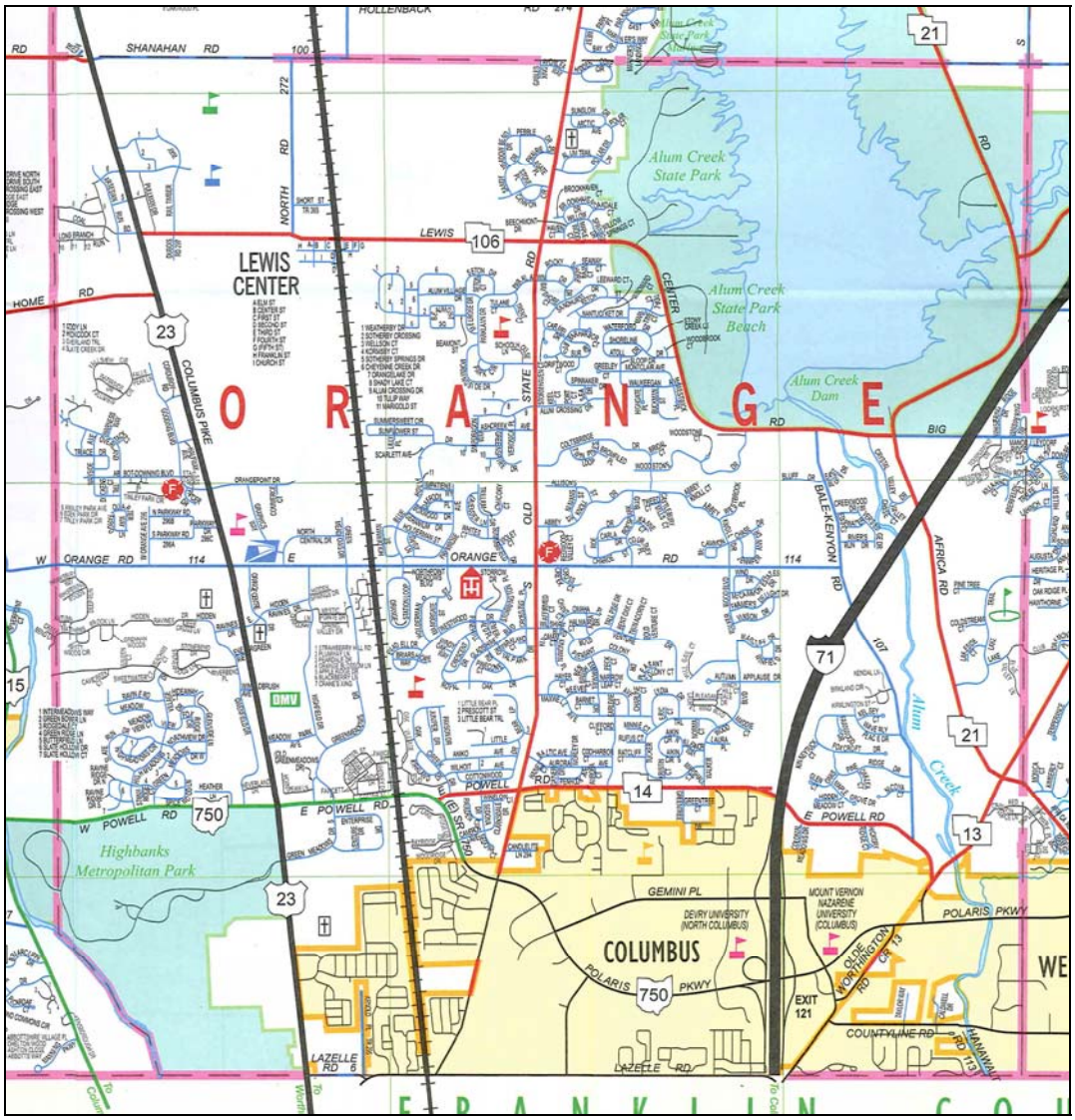
Goal	Means
To provide for a variety of residential housing districts, with an overall (township –wide) density not to exceed 2 units per acre where centralized sanitary sewer exists or can be provided.	Create a Lewis Center District as a Traditional Neighborhood Development with mixed residential and commercial uses at an overall density of 2 units per acre.
To broaden the jobs and tax base, and to prevent property taxes from rising faster than the growth in the township tax base.	Expand the Planned Commercial and Industrial districts on the west side of the CSX Railroad Tracks in the US 23 corridor. Provide for Planned Office districts as in-fill to the Columbus annexations on S. Old State Road's west side. Provide for Planned Office districts as in-fill to Columbus and Westerville annexations on Worthington Road. Encourage a historic looking storefront commercial as part of the redevelopment of Lewis Center between the Railroad and the northerly extension of 4th Street on the north side of Lewis Center Road.
To provide for dense landscape buffering between incompatible land uses.	Create a landscaping detail(s) to be used between incompatible land uses. Review the zoning code to ensure appropriate standards for landscape buffer detail between certain residential and non-residential land uses.

Chapter 8
Roads and Transportation

Introduction

Automobiles are the primary means of transportation in Orange Township in 2010. US 23, a four-lane limited access road that serves as a major commercial corridor benefiting the entire county, traverses the western portion of the township. Many of the state, county and original township roads were laid out in the 1800s for farm-to-market usage. These roads have changed function as the area has become a suburban community. Roadway improvements are needed both to increase capacity and safety, as well as to reduce congestion, which is a significant problem at rush hour on certain major arterial streets. Figure 8.1 delineates roads and streets in Orange Township as of the end of 2008.

Figure 8.1 Orange Township in the Delaware County Engineer's Road Map



Federal and State Roads

U.S. 23 (Columbus Pike): Orange Township has approximately 5.5 miles of U.S. 23 passing through it from north to south. This is a four-lane divided highway with limited access. Access rights were purchased for most of the corridor by the Ohio Department of Transportation in the 1950s. This limits access along the corridor to the access management policies adopted by ODOT. It is possible to upgrade access rights from agricultural or residential driveways to commercial use, but the access rights must be repurchased from ODOT based upon the market value of the property if it were used commercially.

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 by interstate trucks and passenger vehicles. In recent years, commercial development has resulted in the addition of new traffic lights. This slows traffic, which has caused ODOT to finance the Access Management Plan which helped the 2001 Comprehensive Plan in its road and access recommendations.

The U.S. 23 corridor offers an important commercial tax base to Orange Township. There has been a desire to plan and zone some of these frontages for commercial use. Any such commercial use should be subservient to the needs for U.S. 23 to carry high speed 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 roads to control left turns across traffic a mandatory feature. This has been successful at Owenfield Drive and Gooding Blvd.

The Orange Village Centre and the Kohl's/Wal-Mart Complex have parallel access roads for out lots which front along U.S. 23. Good access management practices should continue to be used along all of U.S. 23 due to the future traffic loads anticipated.

Ohio 750 (West Powell Road): S.R. 750 extends from the Polaris Parkway extension to U.S. 23 and then west on West Powell Road to the Olentangy River and Liberty Township. This is a major east-west two-lane arterial, carrying traffic volumes reported by ODOT to be 32,000 vehicles per day at the U.S. 23 intersection, which is at LOS F or "Failure" from congestion. Long backups across the Olentangy River are common at peak hours, frustrating local commuters and long distance haulers. The south side of West Powell Road is Highbanks Metro Park, which means it will probably not be developed which would add more traffic. It also means that roadway expansion, even one lane into the park land, is difficult and unlikely. Steep hillsides with a sharp curve are hazards descending into the valley from U.S. 23.

Interstate 71: The Interstate is three lanes in both directions from the Franklin County line to U.S. 36 in Berkshire Township. I-71 traffic has had a significant impact on Orange Township since the opening of the Polaris Parkway, Gemini Place and the Polaris Interchange. An interchange at Big Walnut and I-71 is proposed in the 2001 Delaware County Thoroughfare Plan. ODOT is reviewing the justification of such a project. With Polaris Parkway extension across Alum Creek east into Westerville (the former Maxtown Road), and the extension of Hanawalt Road to Cleveland Avenue in Westerville there is greater east-west linkage of roads and traffic movements. This has exacerbated the already congested conditions on Powell Road. Future commercial development will likely occur in the Polaris area and near S.R. 750. The

S.R. 315 and S.R. 750 intersection is paralyzed at rush hour, causing traffic to seek alternative routes. ODOT cannot easily widen S.R. 750 over the Olentangy River because of its status as a state scenic river, and the narrowness of the ascent to the Village of Powell on the west-side of S.R. 315. This congestion may be acting as somewhat of a growth control by annoying commuters to the point of deflecting travel decisions to other roads, or more drastically, deferring home buying decisions based on the avoidance of congested roads.

ODOT is looking at possible solutions to the traffic on S.R. 750. On December 3, 2008, the public was invited to view several proposals for a new project at the intersection. The proposed project will stabilize two sections of S.R. 315 just north of Jewett Road and north of Powell Road. Several stabilization options include adding turn lanes on both the south-bound and north-bound legs of the intersection.

County Roads

The Delaware County Engineer maintains six county roads in Orange Township. There is a great deal of information available from the Delaware County Engineer and ODOT on road inventory, conditions, and so forth. 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 LOS of local farm to market roads. Under current Ohio law, upgrades cannot be required of a land developer for roads that do not abut its 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 traffic impacts, this may be a factor for the township to consider in the rezoning request.

Figure 8.2 County Roads and Conditions in Orange Township, 1999 (ODOT survey)

#	Road Name	Surface Width	Road Width	Surface Type
10	S. Old State	24	26	Mixed bituminous with surface over 7 inches
13	Worthington	18 - 24	22 - 36	Bituminous concrete sheet asphalt or rock asphalt
14	East Powell	19 - 25	25 - 26	Bituminous concrete sheet asphalt or rock asphalt
21	Africa	22 - 24	26 - 40	Bituminous concrete sheet asphalt or rock asphalt
106	Lewis Center	20 - 24	26 - 40	Bituminous concrete sheet asphalt or rock asphalt
124	Home	16	22	Bituminous concrete sheet asphalt or rock asphalt

Road Maintenance

Orange 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 approximately 92 miles of township roads.
- 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 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 8.3.

Figure 8.3 Dwelling Unit Density Per Acre and the Equivalent Population per Square Mile

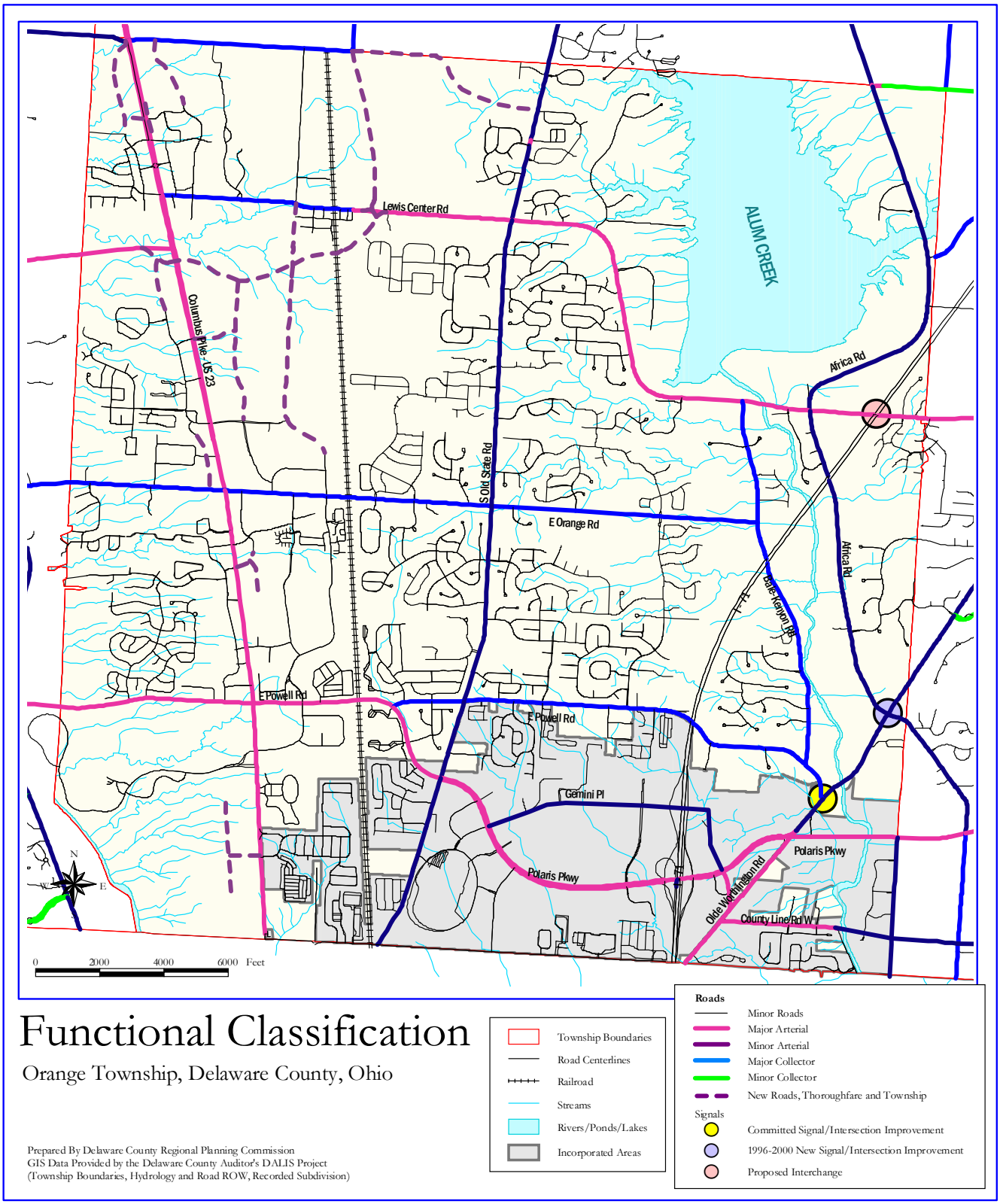
# Units/acre multiplied by	#Persons/unit multiplied by	% Developable/ac multiplied by	Acres/ Square Mile equals	Population per Square Mile
.2 (5 acres lots)	2.7	95 %	640	328
.5 (2 acre lots)	2.7	90 %	640	778
1	2.7	90 %	640	1555
1.25	2.7	85 %	640	1836
1.5	2.7	85 %	640	2203
2	2.7	85 %	640	2938
3	2.7	80 %	640	4147
4	2.7	80 %	640	5530

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 LOS C or better. When average densities reach three dwelling units per acre, four-lane arterial roads are needed to maintain LOS 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.

Figure 8.4 Functional Classification of Roads and New Roads



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 Orange Township: West Powell Road, Home Road, U.S. 23, Lewis Center Road (east of Lewis Center), Polaris Parkway, Olde Worthington Road and Big Walnut Road.
>
> **Minor Arterial** roads in Orange Township: South Old State Road, Worthington Road, Africa Road, and Hyatts 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. ADT typically ranges from 1,500 to 3,500 vehicles, with AM peak hour traffic about 7-8% of that total and PM peak hour of 10% of the total.

> **Major Collector** roads in Orange Township are Lewis Center Road (from U.S. 23 to Lewis Center), East Powell Road, Orange Road, Bale-Kenyon Road, and Shanahan Road.
>
> **Minor Collector** road in Orange Township is Plumb Road.

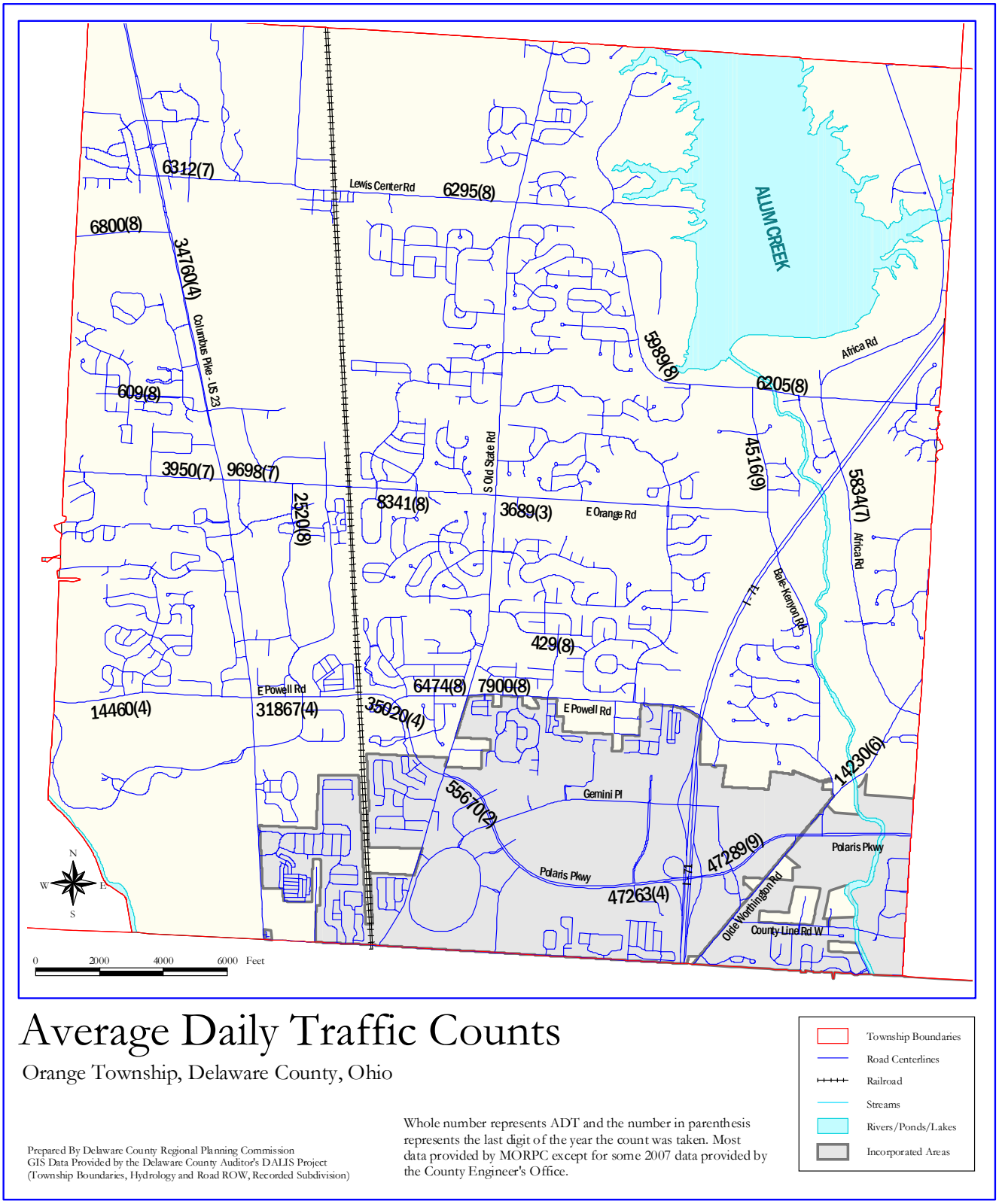
Local Streets represent the lowest category. Their primary function is to serve abutting land use. Typical ADTs range from 100 to 1,500 vehicles. Local streets are further classified as Loop, Through and Cul-de-sac.

Traffic Counts

Traffic counts indicate the ADT in both directions on a road. These counts can be used to determine if the LOS is acceptable or unacceptable. LOS 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 (MORPC) 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. On the following figure, additional counts have been added with information from the Delaware County Engineer's Office.

Figure 8.5 Orange Township Traffic Counts



Average Daily Traffic Counts

Orange Township, Delaware County, Ohio

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

Whole number represents ADT and the number in parenthesis represents the last digit of the year the count was taken. Most data provided by MORPC except for some 2007 data provided by the County Engineer's Office.

Prepared By Delaware County Regional Planning Commission
GIS Data Provided by the Delaware County Auditor's DALIS Project
(Township Boundaries, Hydrology and Road ROW, Recorded Subdivision)

Access Management

An access management study was completed shortly before the Thoroughfare Plan was complete. ODOT has requested that Orange Township review the current plan's implementation and make any recommended changes. The study 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 or 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 corridor offers potential additional commercial tax base to Orange Township. When new sites are zoned for commercial use, coordination with ODOT to implement the U.S. 23 Access Management Plan 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 Orange Township:

A new interchange is proposed on I-71 at Big Walnut/Lewis Center Roads. (Network Alternative M)
This is a project that is currently being studied by the County Engineer's office and ODOT. The Federal Government has strict regulations limiting a project's impact on an existing Interstate. Some projections have shown that a new interchange would require new lanes to be added between Big Walnut and Gemini Parkway, adding to the overall cost. The project remains under review.

Piatt Road is recommended to be extended south to Lewis Center (Network Alternative K)
This project has been included in the development plan of Meadows at Lewis Center, a subdivision which has Preliminary Subdivision approval but has not begun improvements. Some preliminary engineering for the road extension has been done, but completion will be developer-driven.

The Home Road-Lewis Center bypass is recommended (Network Alternative J)
This project is part of the development plan for Clear Creek and was part of the Rezoning application for Cobblestone Crossing. Clear Creek is not currently progressing and the Cobblestone project was withdrawn, so no further work is currently being contemplated.

Extension of Cleveland Avenue north from Polaris Road to Worthington Road (Network Alternative R)
This Alternative was considered during the zoning phase for the Villas at Maple Creek condo development. At that time, the road extension was not required to be built through the development. Since that time, the Estates at Polaris Village (Westerville) dedicated an additional 480 feet of right-of-way north of the stub street. It is still possible that a connection could be made when the nursery property (Paul Reiner) develops.

The Thoroughfare Plan also recommended several "build-out" modification recommendations:
South Old State Road upgrade to 5-lane, county line to Lewis Center;
South Old State Road upgrade to 3-lane, Lewis Center to Cheshire;
Lewis Center Road upgrade to 5-lane;
Worthington Road upgrade to 5-lane, county line to Africa;
Worthington Road upgrade to 3-lane, Africa to Big Walnut;
Africa Road upgrade to 3-lane, Lewis Center to Cheshire;
Orange Road and Bale-Kenyon Road, resurface and improve.

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 following is a list of projects that impact Orange Township:

South Old State and Lewis Center Intersection Improvements	$2,311,000	Completion Nov. 2009
Orange Road Bridge over the Olentangy River	$4,600,000	Completion Aug. 2009
East Orange Road Widening and Intersection Improvements	$4,455,000	Utility work

Transit

Delaware Area Transit Agency (DATA) is the public transit system for Delaware County. 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. 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. Known as the Green Route, it is depicted on the Leisure Trail and Sidewalk Map. The service makes numerous stops throughout the day (consult the DATA website for current information).

Stop 5 – **Kroger** (Delaware)
Southbnd **5:38**a, **6:38**a, **12:11**p
Northbnd **1:17**p, **5:47**p, **6:56**p

Stop 6 – **Dooley's Orchard**
Southbnd **12:25**p
Northbnd **1:03**p

Stop 7 – **Super Walmart** (Lewis Center)
Southbnd **5:51**a, **6:51**a, **12:29**p, **4:45**p, **6:20**p
Northbnd **6:16**a, **7:17**a, **12:59**p, **5:27**p, **6:45**p

Stop 8 – **Macy's** (Polaris Mall)
Southbnd **12:38**p
Northbnd **5:19**p

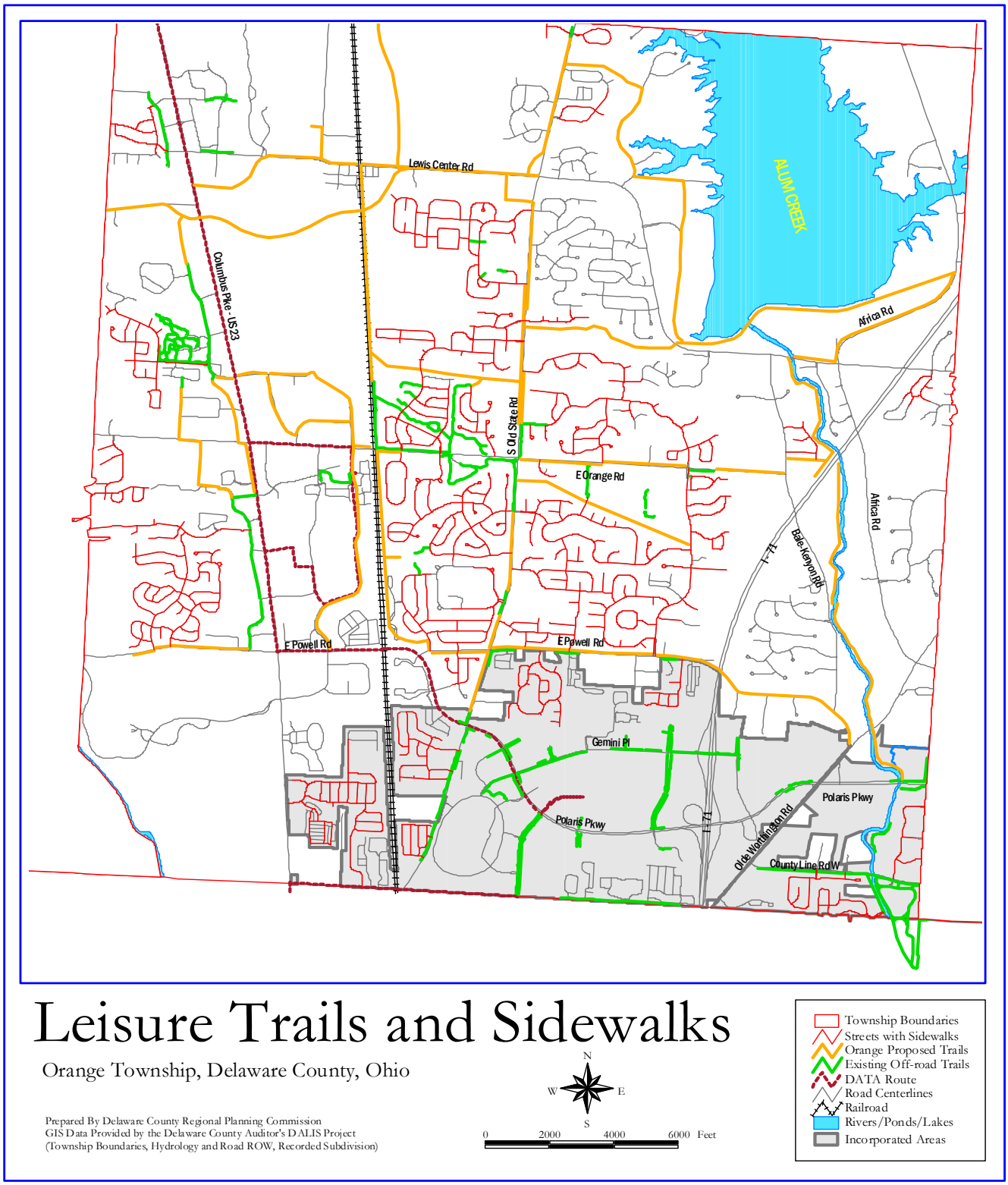
Stop 9 – **Crosswoods Park-n-Ride**
Arrive **6:02**a, **7:02**a, **12:46**p, **4:55**p, **6:30**p
Depart **6:05**a, **7:06**a, **12:50**p, **5:08**p, **6:33**p

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 (June, 2009) an average of 3,000 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.

Leisure Trails

Prior to 2001, the only bikeways or bikelanes in the township consisted of one bike lane developed in Polaris which connects to a bike path in the city of Westerville along the east side of Alum Creek. The township's Comprehensive Plan led to a Parks Board and levy for the parks. Out of the desire for more recreational opportunities for the township, 6.5 miles of leisure trails have been built with another 12.5 miles planned. The following map depicts the current and future trail plans, as well as major future roadways on which such trails will be planned. More detail is provided in the Parks and Recreation chapter.

Figure 8.6 Township Current and Future Leisure 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.

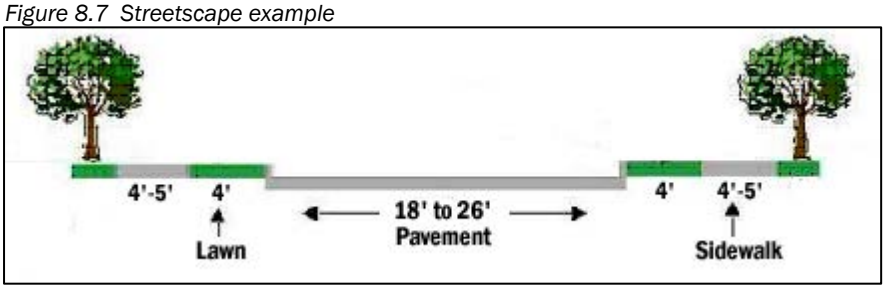
Traffic Impact – New development proposals should be assessed for their trip generation. As a general rule, if the trip generation is more than 1000 vehicles per day, a traffic study should be performed to determine the impact and mitigation measures needed. Current LOS and post-development LOS should 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 Offsite Traffic 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.

Light Rail – A proposed light rail extension from Franklin County north to Orange Road would provide an opportunity to reduce traffic. The proposed light rail station would be east of the existing tracks on the north side of Orange Road.

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.

Figure 8.7 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 can reduce crashes, flow more traffic than traffic signals, cost less and require less pavement than signalized intersections. 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, with several planned for East Orange Road.

Figure 8.8 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 leisure trail 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.

Transportation Goals and Means

Goal	Means
To create a "heart" of the township at Lewis Center with mixed uses.	Work with ODOT and County Engineer to lay out the Home Road-to-Lewis Center Road by-pass "D" south of Lewis Center. Require this road to be built with developer and state and county dollars as part of new development to provide a safe grade separation at the railroad. Ask the County Engineer to use road and bridges sales tax money to construct the grade separation crossing of the railroad tracks on the Lewis Center bypass
Goal To avoid traffic congestion on local, county, and state roads.	Means Use access management controls to minimize highway congestion. Refer to the 2001 Delaware County Thoroughfare Plan as it relates to new and improved roads in Orange Township. Refer to the 2001 ODOT U.S. 23 Access Management Plan as it relates to Orange Township and work with ODOT to prevent the deterioration of U.S. 23 through traffic. Require developer-funded access roads as referenced on the Comprehensive Plan Map as part of new developments. Encourage construction of a Lewis Center extension to Home Road. Extend Shanahan Road easterly to S. Old State Road with limited access as part of new developments as shown on the Comprehensive Plan Map. Connect Piatt Road at the Berlin Township line with the Lewis Center bypass with limited access as shown on the Comprehensive Plan Map as part of new developments. Work with COTA, MORPC, Delaware County Commissioners and ODOT to create a park and ride light rail commuter stop at Lewis Center Road for a Delaware-to-Columbus light rail service or reserve space for one until such time as it is needed. Encourage continued efforts by the County Engineer and ODOT to create a new non-commercial interchange at Big Walnut Road and Interstate 71.

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Chapter 9
Utilities

Del-Co Water

The Del-Co Water Company, a cooperatively owned private water company with a total combined capacity of 34 million gallons per day, serves Orange 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 served the northeastern portions of Delaware County with a capacity of 4 million gallons.

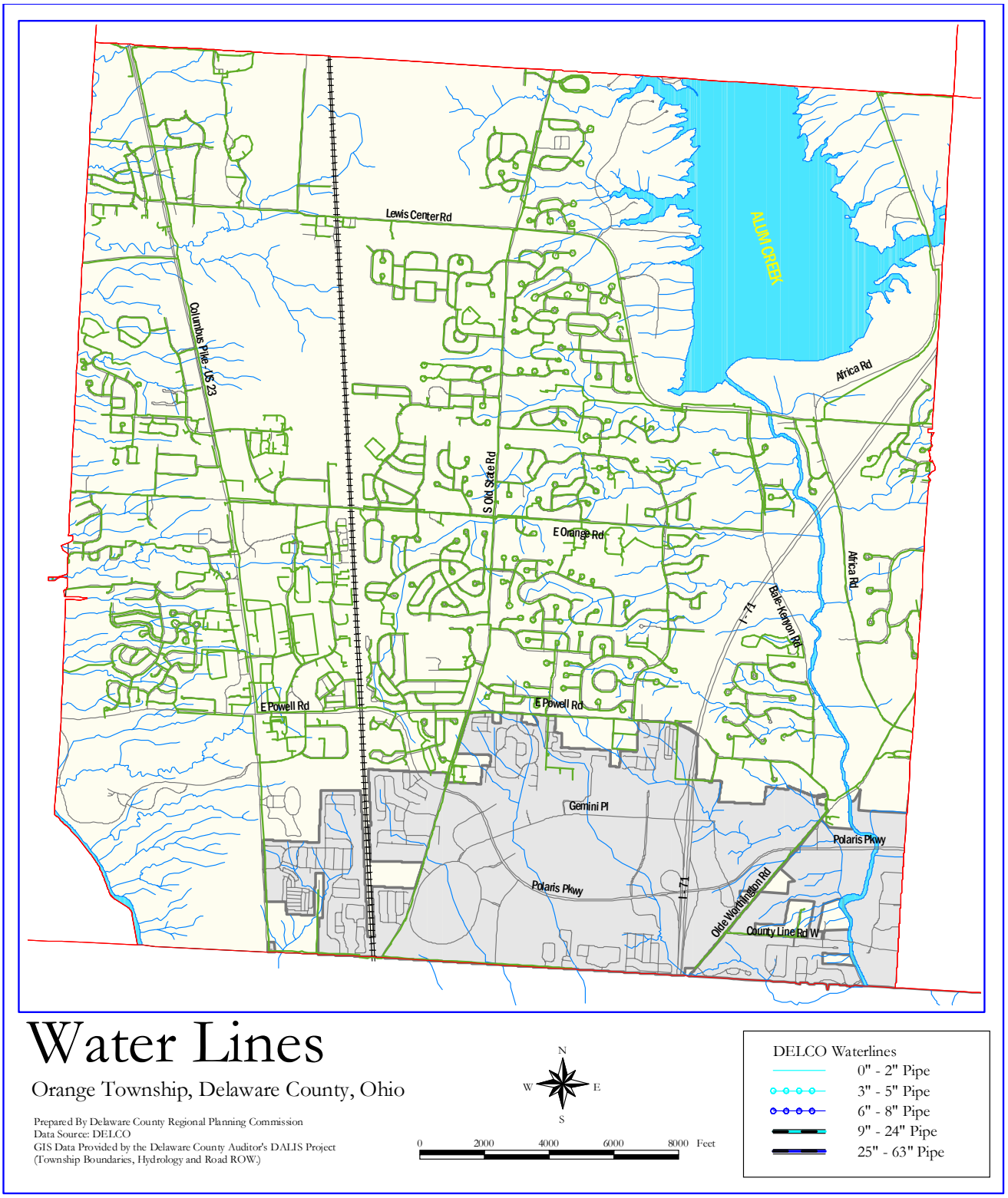
A new billion-gallon up-ground reservoir has been constructed along Liberty Road to bring total storage capacity to 1,660,000,000 gallons. The rapid growth of Delaware County strains water treatment capabilities during summer months. Del-Co regularly issues sprinkling regulations during dry summer periods. 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 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 for Orange 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.

Figure 9.1 Waterlines



Sanitary Sewer Service Area

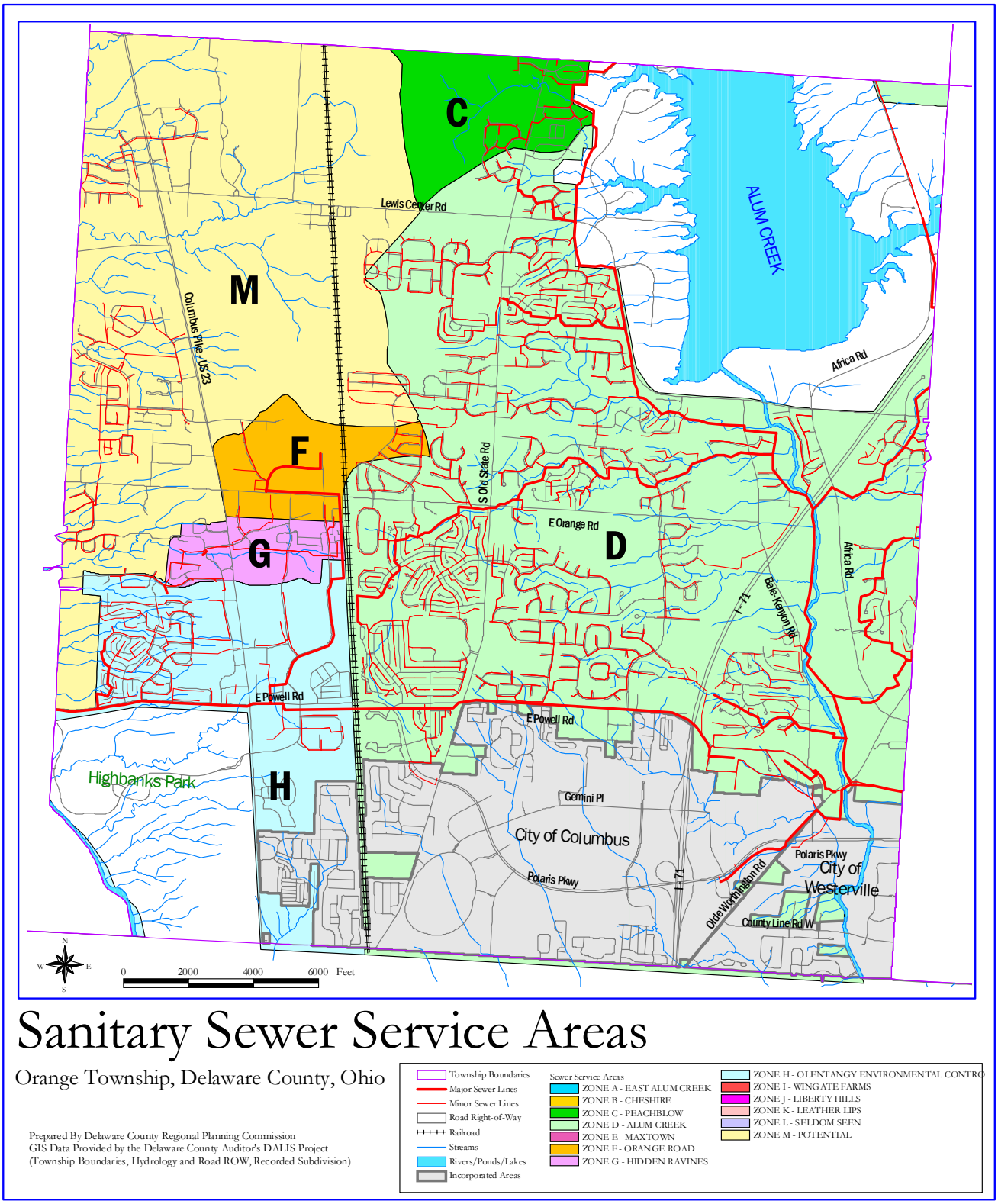
All of Orange Township is located within the current Region 1-A sanitary service area. This means that sanitary sewer service is available; however sanitary sewers may not be readily accessible at all locations. The Region 1-A service area can be further divided into the service areas shown on the following map. Currently, Orange Township has sanitary sewer service in the six sewer service areas C, D, F, G, H, and M shown on the sewer service area map. There is limited service to the Highbanks Metro Park.

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, 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. Other smaller plants managed by the county are located at Tartan Fields, Scioto Reserve, Scioto Hills, Hoover Woods, Bent Tree and Northstar.

Both the OECC and ACWRF plants serve Orange Township. The highest point of the township is the dividing line between the east and west watershed or drainage areas. The dividing line generally follows the Conrail railroad tracks. Areas west of the Conrail tracks drain to the OECC, while areas east generally drain to the ACWRF.

The OECC is currently running at approximately 55% of design capacity. The ACWRF is running at approximately 43% of the design capacity.

Figure 9.2 Sanitary Sewer Service Area, Orange Township



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 Orange Township
1. Alum Creek Pump Station
2. Orange Road Pump Station
3. Peachblow 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. Currently, the design capacity assumes new development to occur at a maximum of 2 units per acre, based on complete build-out. 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 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.

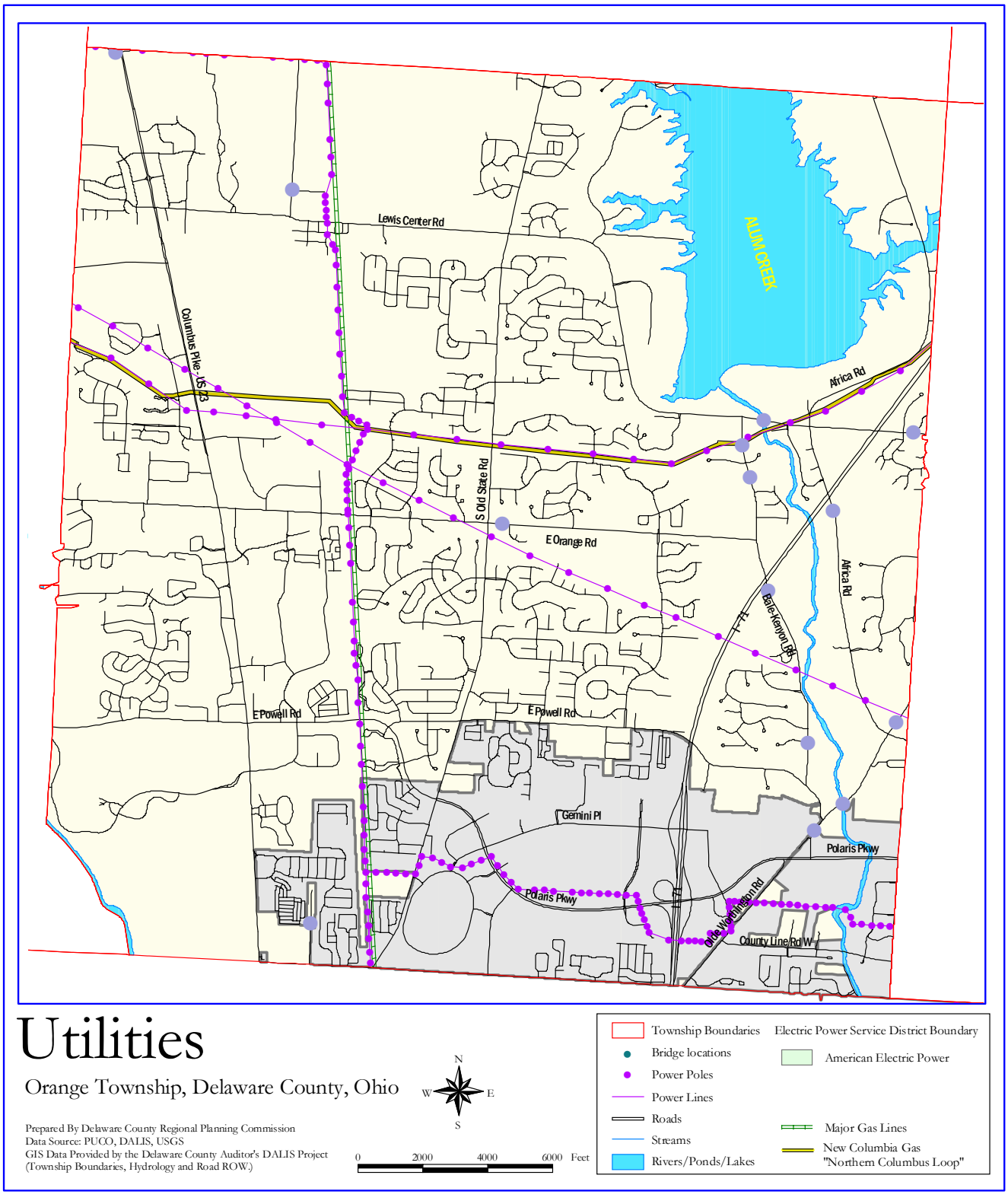
There will come a time when there are more subdivisions approved on paper than there is treatment plant capacity. Since not all subdivisions get built, new subdivisions will continue to be accepted for approval until the full 16 mgd of treatment plant capacity has been purchased in tap fees. Those who 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 Orange Township by American Electric Power. The Electrical Service Provider Jurisdiction Map shows the service area. Major electric transmission lines also cross Orange 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 area with all the power it needs. This substation is located adjacent to the Orange Point Commerce Park.

Figure 9.3 Electric, Gas & Bridges, Orange Township



Natural Gas

Orange 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,

Telecommunications/cellular

Under current state and federal laws, telecommunications towers are permitted in all 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 118 projects on county ditch maintenance.

Figure 9.4 Drainage Structures on Maintenance in Orange Township (Source DCSWCD, 01/09)

Number of Projects	118
Miles of Open Ditch	1.19
Miles of Storm Tile	51.7
Retention/Detention Basins	122
Total value of improvements	$16,207,000

Utilities Goals and Means

Goal	Means
Relate land use and density to land suitability, utility availability and adjacent existing land uses; limit development to the carrying capacity of the land infrastructure.	Consider the impact on roads, and capacity of water and sewer systems, to encourage and limit development to the carrying capacity of the infrastructure, using the densities and land uses on the Comprehensive Land Use Plan as a guide.
Goal Expand township services at a rate to ensure public health and safety.	Means Review development proposals with appropriate officials and keep them abreast of growing service needs.
Goal Determine and implement an appropriate land use mix.	Means Avoid development of uses or densities that cannot be serviced by available or imminent infrastructure, unless such development mitigates its unplanned infrastructure impacts. Encourage development that preserves surface and ground water quality.

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Chapter 10
Community Facilities

Schools - Enrollment Growth

Olentangy Orange High School

All of Orange Township is within the 110 square mile Olentangy School District. The district also includes all of Berlin, most of Liberty, and portions of Concord, Genoa, Berkshire and Delaware Townships.

The rapid population growth in the Olentangy School District has provided its greatest challenge. When the last Orange 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.

The 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:

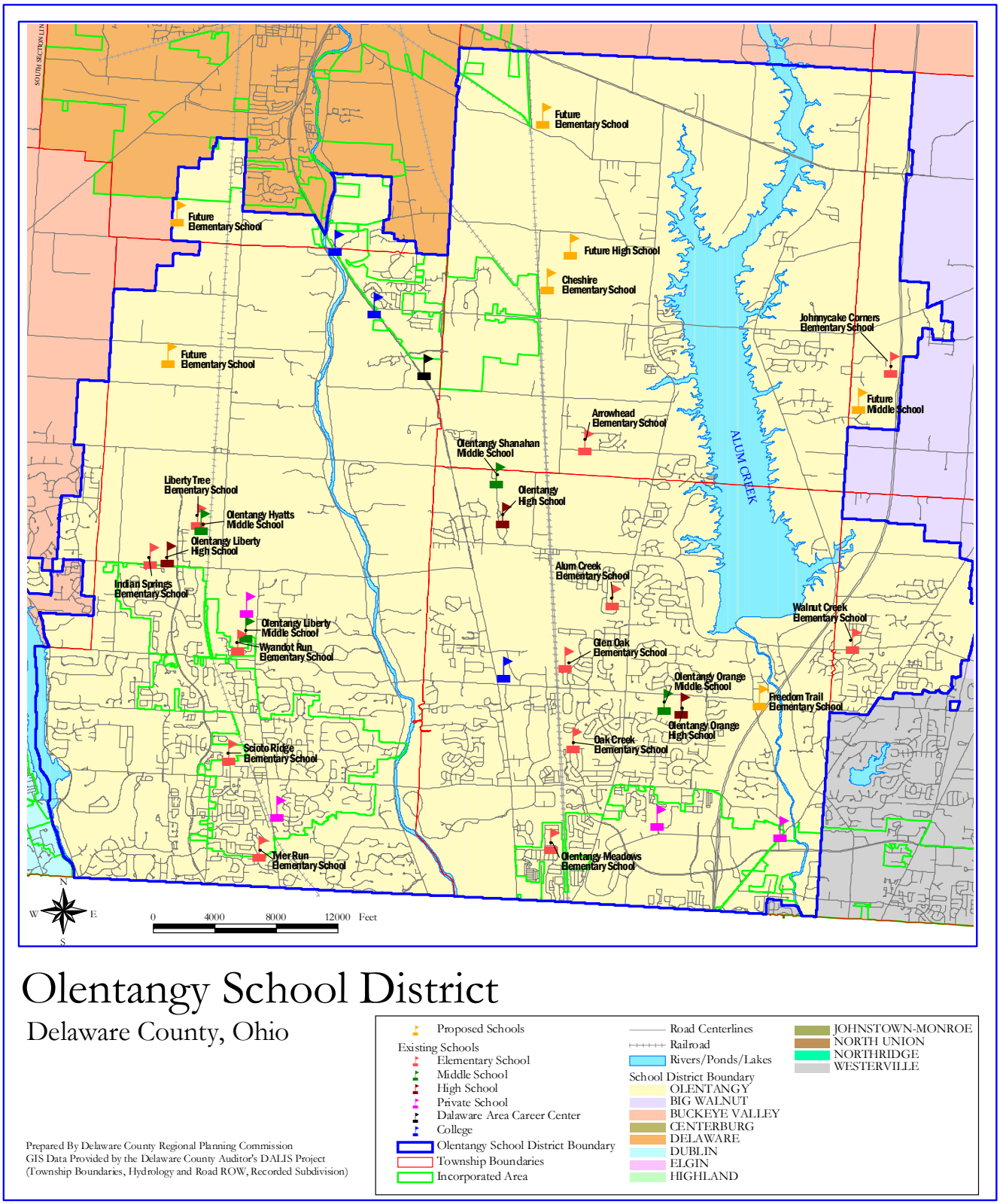
Figure 10.1 Olentangy District Projected Enrollments

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 10.2 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 feet addition was completed in early 1997. A project during the summer of 2009 added a new 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.

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

Freedom Trail Elementary opened in the fall of 2009 and had 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 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 (ODE) 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 mil 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: Census 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. Planning Bd. of Town of Ramapo (1972) 409 U.S. 1003, 93 S.Ct. 440, 34 L.Ed.2d 294. 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 upon 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)

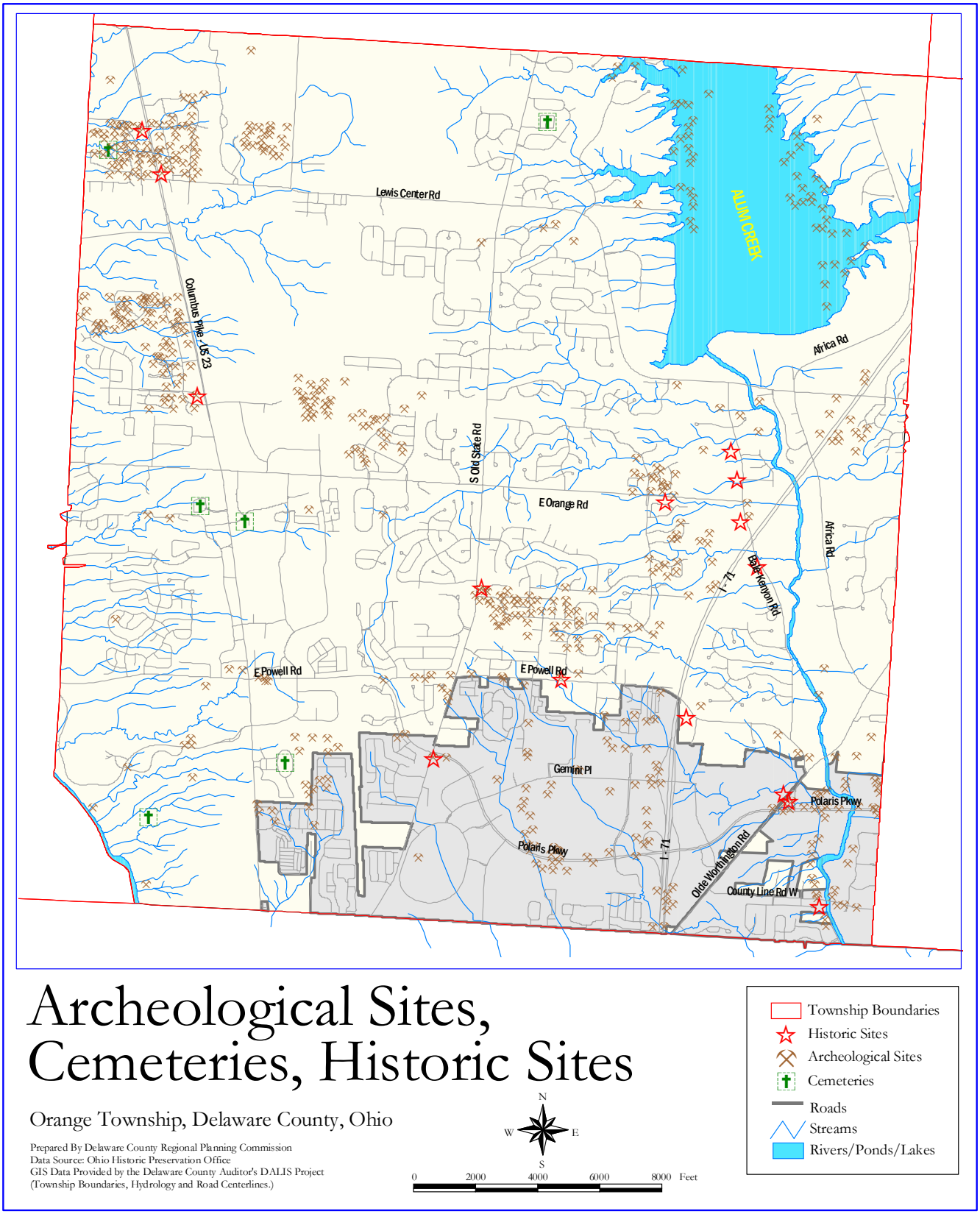
Townships do not have the same home rule authority in Ohio as villages and cities. Currently, Ohio townships do not have the authority to impose impact fees. Their only recourse to overly rapid growth is to control the timing of zoning. For example, if the community is over-zoned for residential use (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.

Olentangy School District has solved its short term funding problem with its most recent levy. Orange 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 State of Ohio maintains an OCAP data layer of potential archeological sites, which is described in Chapter 5 and noted on the Critical Resources map. In many cases, these "sites" are the result of construction activity which required that an archeological survey be performed.

Figure 10.3 Archeological Sites, Cemeteries and Historic Sites, Orange Township



Cemeteries

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

Figure 10.4 Cemeteries

Site	Location	Detail
Unknown	Olentangy Crossings west	
Kingswood Memorial Park	8230 U.S. 23	Public
Williamsville Cemetery	Orange Centre	Township Trustees (Historic)
Highbanks Cemetery	Highbanks Metro Park	Poole Family Plot
Resurrection Cemetery	9571 U.S. 23	Public/Catholic
Africa Cemetery	5175 S. Old State Road	Township Trustees (Private)

Source: Ohio Historical Society GIS data

Historic Sites

The National Register of Historic Places identifies at least two prehistoric mounds at Highbanks Metro Park in Orange Township.

The Lewis Center area was platted in 1850 as a rail stop along the St. Louis, Chicago & Columbus railroad. It has a collection of older structures, some of which may be appropriate for preservation and restoration. The Ohio Historical Society maintains a listing of Historic Sites within the township. Note that the original Township Hall which has been moved but remains at the corner of Orange and South Old State Roads, is not included on the state's list. The following table describes the data as presented by the Ohio Historical Society (OHS):

Figure 10.5 Historic Properties

Site	Location	Detail
O. Johnson Farm	1650' north of Lewis Center and 23	Now west Olentangy Crossings
CP Elsbree Farm	6463 U.S. 23	Now east Olentangy Crossings
George Gooding Tavern	7630 U.S. 23	Preserved, offices, National Register (1825)
Historic Complex (barns)	Southeast corner of Old State and Polaris	Removed/CVS
Joseph Phinney House	7959 S. Old State Road	Existing (1850)
Paul McCammon House	3350 E. Orange Road	Removed
George Phinney House	2353 E. Powell Road	Existing (1890)
Cyrus Chambers House	6464 Bale-Kenyon Road	Existing (1830)
J. McCammon House	6624 Bale-Kenyon Road	Existing (1910)
Hurlbert Hammond House	6844 Bale-Kenyon Road	Existing (1825), Bicentennial barn
David Bale House	7046 Bale-Kenyon Road	Existing (1880)
Julia and Mary Baker Prop.	3170 E. Powell Road	Existing (1926)
Clymer House	8240 Worthington Road	Amphitheatre parking
No detail	8253 Worthington Road	(1925)

Source: Ohio Historical Society GIS data

Libraries

Currently there are no public libraries in Orange Township. The Delaware County District Library has its downtown library at 84 East Winter Street, Delaware, and branch libraries in the City of Powell at 460 S. Liberty Street, and Ostrander at 75 North 4th Street.

The District Library employs 30 people or 24 full time equivalents. Its annual budget is approximately $2 million, which is used for staff salaries and materials, maintenance, and operating expenses. Ninety-six percent of the operating budget is provided through the Library and Local Government Support Fund and the remaining four percent is generated by fines and fees, donations and interest on investments.

There are 75,000 residents in the Delaware District Library service area and 42,000 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 145,000 volumes. The "old" rule of thumb is that there should be 3 volumes per capita. This shortfall is not considered a problem because libraries in general have evolved to offer other resources for patrons and the Internet provides vast sources of information and research. The District's long range plan is to monitor the growth area and provide service to the expanding population, expand facilities if necessary, and promote home based programs.

The Community Library is a separate library system, at 44 Burrer Drive, Sunbury Ohio. It is funded by state income tax set aside for libraries. Its primary mission is to serve the Big Walnut School District, but any resident of the State of Ohio may obtain a library card and use the library.

A community library located close to the population center of Lewis Center or S. Old State Road would be an asset to the community, especially if it were incorporated into a planned residential community or a community-wide plan. This new community library could also be a meeting place for community/social groups and citizens groups. Recently, the District Library planned to locate a new facility in Orange Township and purchased land between Gooding Boulevard and U.S. 23. A levy to assist in the construction of the facility was approved by voters in the fall of 2009 and construction began during the spring of 2010.

Township Facilities

Orange Township Hall

The Orange Township Hall was converted in 2000 to serve as the centralized home for Township government. The building is occupied by the offices and meeting rooms of the Orange Township Trustees, Fiscal Officer, Zoning Inspector, Zoning Commission and Board of Zoning Appeals. The meeting rooms can be reserved on a limited basis for use by civic groups and individuals provided they reside in Orange Township.

Orange Township Hall

The Moffett Room (east meeting room) comfortably seats 80-100 people with tables or 100-150 people without tables. The Thompson Room (west meeting room) comfortably seats 30-40 people with tables or 50-60 people without tables.

Community Room

The Community Room is located at 7560 Gooding Blvd., inside the North Orange Park Aquatic Center. It is available for rent, on a first-come/first-serve basis, to individuals and groups. The room is approximately 30 feet by 35 feet and the maximum capacity is seventy people. Tables and chairs are included. There is a refrigerator and microwave but cooking is prohibited.

Hospitals

There are no hospitals located within Orange Township. Grady Memorial Hospital is located on Central Avenue in the City of Delaware. Grady Hospital provides 125 beds for general surgery, and orthopedics, urology and ophthalmology, as well as emergency care. Cardiac surgery and neurosurgery are referred to other hospitals. A new facility is expected to open in the summer of 2010 south of the City of Delaware at Ohio Health Blvd and Glenn Parkway.

Ohio Health recently opened a new facility at the corner of Africa Road and Polaris Parkway that offers numerous doctor offices, a full-service lab, and other services. Emergency hospital service to Orange Township is most frequently distributed among Grady, Riverside Methodist Hospital in Columbus, and St. Ann's Hospital in Westerville.

America's Urgent Care is located at Hidden Ravines Drive and provides care for a variety of conditions, with walk-in service as well as preventative services. A new Ohio State University Medical Center including a number of medical offices and services is planned in the Olentangy Crossings center. Numerous other health facilities are available in the Polaris area and along Cleveland Avenue in Westerville.

Fire Protection

The Orange Township Fire Department was established as a volunteer fire department in 1952. The growth of the township resulted in the department becoming a full-time facility in 2000. In 2002, OTFD purchased a medic truck from the County, bought a new grass fire truck and a Chief's vehicle. That same year, Fire Station 362 on South Old State Road underwent renovations. Ground was broken for Station 361 on Gooding Boulevard in 2003 and the station was completed in 2004. Each station now includes 7 full-time firefighters on duty daily and part-time firefighters scheduled as needed.

Fire Station 361, Gooding Boulevard

The Fire Department has the following equipment for emergency responses:

Station 361 (Gooding Boulevard)

1992 Achilles Inflatable Boat
2006 Sutphen 2000 Engine Truck
2007 Sutphen Aerial Platform Ladder Truck
2006 Horton Medic
2007 Ford F-250 (Prevention)
2009 Ford Explorer (Prevention)
2009 Fire Prevention Investigation Trailer
2009 Fire Prevention Educational Trailer
2005 Ford Explorer (Fire Chief)
2007 Dodge Durango (Asst. Fire Chief)
2007 F-250 Utility Vehicle

Station 362 (South Old State Road)

2005 Rescue One Connector Boat
2006 Sutphen 2000 Engine Truck
2001 Ford F-350 Grass Truck
2006 Pierce Rescue
2008 Horton Medic
1997 Foam Trailer
1993 Tanker
1999 Fire Safety Trailer

In an effort to keep up with the increasing changes within the fire service, the Orange Township Fire Department has been increasing their involvement in the Emergency Medical Services (EMS). Although changes have been occurring for several years, the Fire Department has seen the most dramatic increase in the past five years, continuously adding EMS personnel, equipment and supplies during that time.

The majority of the personnel are certified as paramedics. All personnel are required to maintain a certain amount of training in order to keep their certification. A detailed protocol set forth by the medical director details procedures, policy and techniques that each EMT must follow.

Orange Township Fire Department provides patient transport the majority of the time, Delaware County supplements the Fire Department by also having a transport vehicle. The EMS department purchased a newer transport vehicle in 2008. In addition, the first responding fire engines ladder and rescue are stocked with advanced life support equipment.

The Orange Township Fire Department service area includes all of Orange Township (about 20 sq. miles) except for Polaris (Columbus) and Westerville. Orange Township supports a mutual aid system with other area fire departments.

Known as "County Line Fire Station", the City of Columbus's Station 33 is a four-bay station located on the north side of Lazelle Road, west of Sancus, for service to the Polaris area. In 2008, the station made 4,076 runs. The station maintains the following equipment:

2005 Sutphen 2000 Engine Truck
2008 International/Horton Medic
2005 Sutphen Ladder Truck

Police

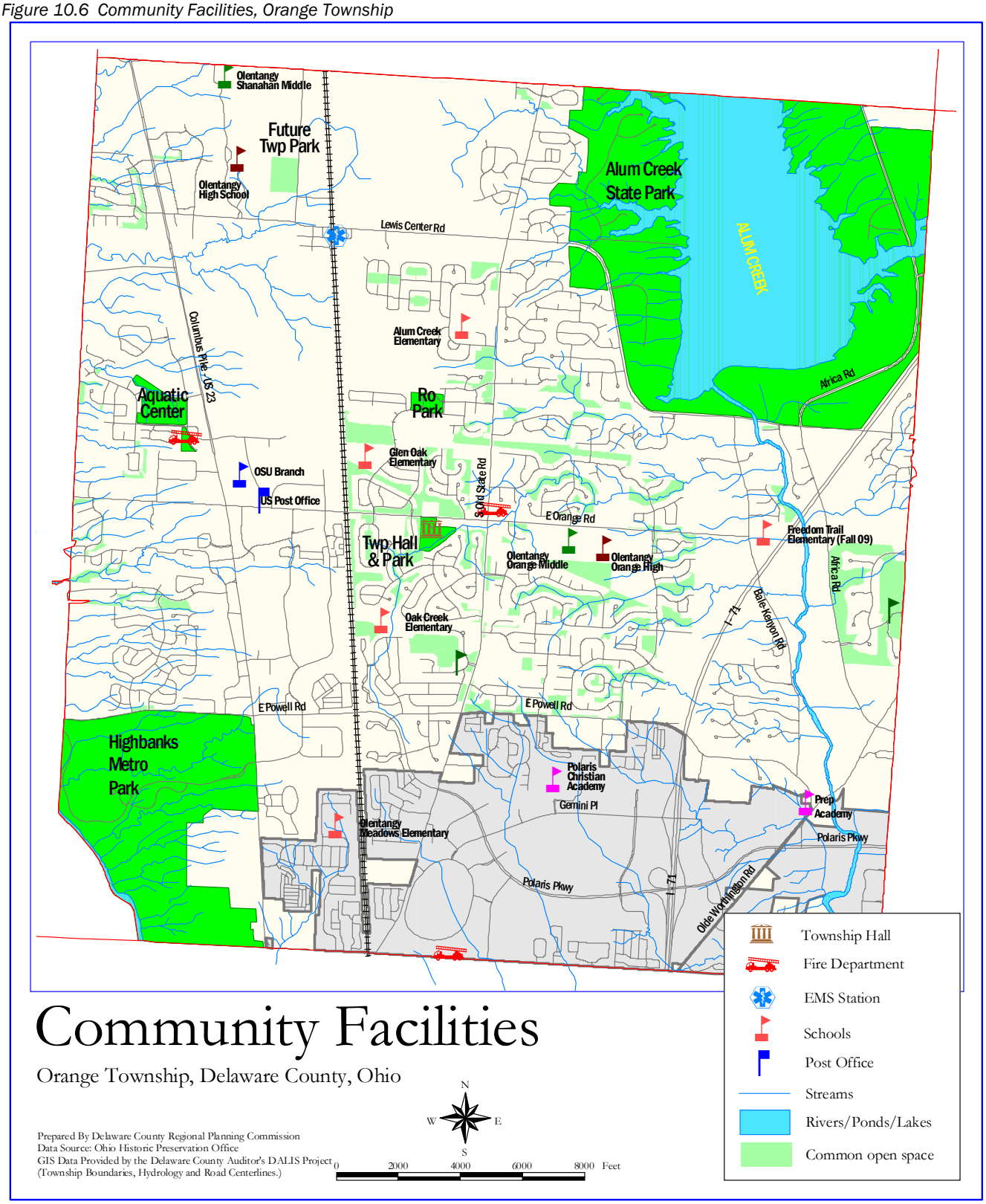
Orange Township is policed by the Delaware County Sheriff's Office (DCSO), which is headquartered in Delaware on S.R. 42. The Sheriff's Office currently has 92 deputies including command staff and approximately 60 cars. Fourteen deputies are on duty per shift. Each vehicle covers an average of 390 miles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

Figure 10.5 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

Based on its large population and share of commercial development, the township needs additional security support. Sheriff deputies serving Orange Township are located at the Alum Creek Water Reclamation facility on Walker Wood Boulevard. Two cars are typically on duty with staggered shifts. The township specifically funds several shifts throughout the week and pays for occasional Special Duty hours, such as speed control on specific streets as warranted. The township pays the deputies' base salary and limited overtime hours but does not directly support operation of the substation.

Figure 10.6 Community Facilities, Orange Township



Community Facilities Goals and Means

Goal	Means
Retain vestiges of agriculture.	Retain appropriate farm structures for reuse in new developments.
Goal	Means
Acquire suitable land for the township and school future needs.	Acquire, by donation, lease or purchase, lands for township parks with active recreation. Support the school district in identifying potential school sites in large planned residential developments.
Goal	Means
Expand township services at a rate to ensure public health and safety.	Acquire by donation, lease or purchase appropriate new sites for township facilities, including fire, police.

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Chapter 11
Open Space and Recreation

Introduction


The park at Orange Township Hall

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 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. Orange Township has supported parks and recreation both in creating an advisory parks board of township residents and through several ballot initiatives. 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, State University of New Jersey, 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

- Separates areas 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."*

> *"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."*

Regional Parks

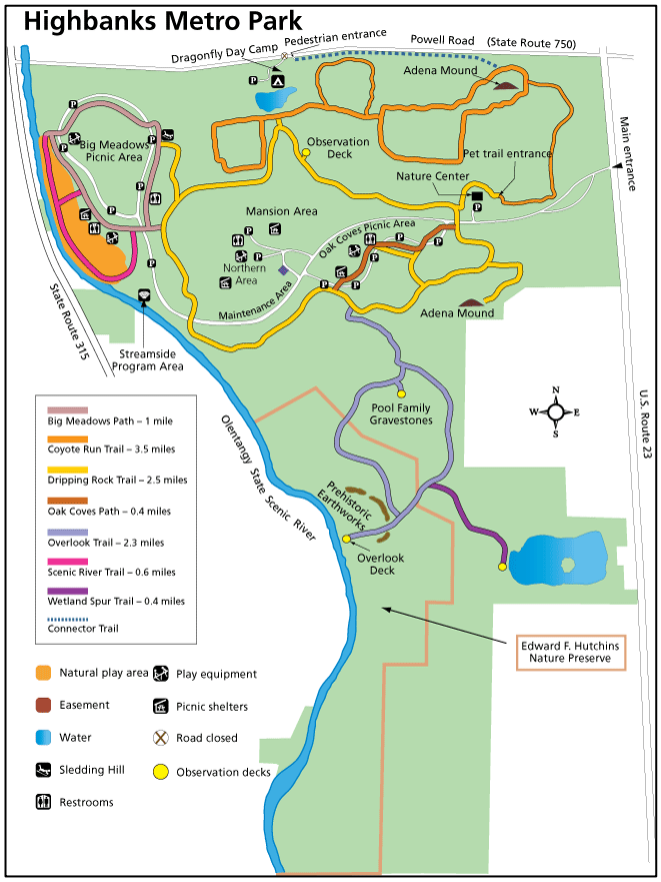
Orange Township is blessed with two large parks that provide passive (undeveloped) open space and active (developed) open space in the southwest and northeast corners of the township. They do not, however, provide recreational fields for organized sports.

Highbanks Metro Park

Highbanks Metro Park is located at the southwest corner of Powell Road and US 23. Automobile access is the only way to conveniently use the park. Access to the main entrance was made easier in 2007 when the entrance was moved to align with Green Meadows Drive. A new access was added in 2008 at the Highmeadows Village Drive/Powell Road signal. This entrance is limited to certain times for automobile access, but is a pedestrian entrance during regular park hours. Highbanks is part of the Franklin County Metro Parks District.

Highbanks consists of 1,159 acres of rolling land in the southwest corner of the township. Its land starts at the top of the Olentangy plateau along the US 23 corridor and then drops steeply into the valley of the Olentangy River. It also offers a nature center, streamside study site, large playfields and playground equipment. There is also a conference and resource room, ranger station and naturalist's office.

Figure 11.1 Highbanks Features



The park offers passive open space, two large picnic areas with 9 shelters enclosed on three sides and 4 open shelters and grills. There are seven hiking trails that total eleven miles, observation decks, fishing and canoeing on the river, a sledding hill and 3.5 miles of cross country ski trail (used as a pet trail during the warmer months).

The park also contains two Adena Indian burial mounds and a 1500-foot horseshoe-shaped prehistoric earthwork. Highbanks is also known for its geology, particularly within the Edward F. Hutchins State Nature Preserve. Exposed bedrock is Ohio shale, a sedimentary rock formed 350 million years ago when Ohio was covered by sea. Concretions are a unique feature of Ohio shale. These are rocks that form around an organic object, as small as a fist or as large as a car. The area has been designated a National Natural Landmark. Additionally one wetland and view shelter overlooking the wetland has been set aside within the park.

Highbanks has no facilities for organized active sports.

Alum Creek State Park

Alum Creek Reservoir Dam

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 Orange Township comprises an area of 2,338 acres, of which 1,050 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.

Recreational opportunities at Alum Creek are shown on the US corps of Engineers Map, and may be itemized as follows:

Land (entire park) – 4,630 acres

286 electric campsites with 3 full-servie 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;

Lake – 4,244 acres

4 Boat Launching Ramps;

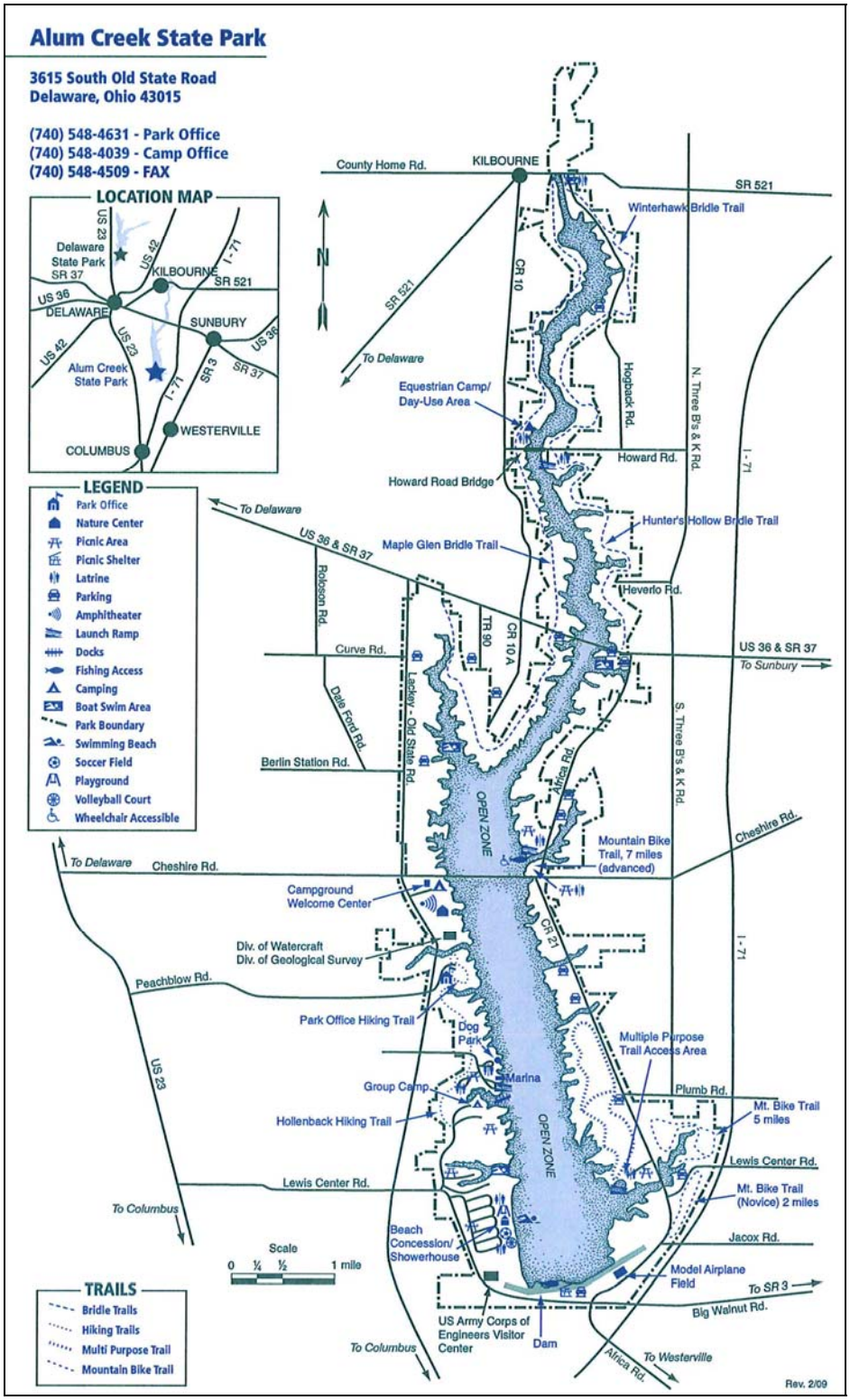
South of Cheshire Road allows unlimited horsepower for boats, north has a speed limitation;

Swimming Beach – 3000 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 11.2 Alum Creek Lake Opportunities



Township Recreational Needs

In response to a growing awareness of the rapidly vanishing acreage and need for parks, Township Trustees created a community advisory committee in early 1999. Composed of township residents interested in parks and recreational issues, this volunteer organization was begun as a committee and later became an ongoing citizen advisory board. In the years since, the board has solicited input on several occasions from the community as to what facilities and activities they would like the township to provide.

Initially, the board explored both active (high intensive use) and passive (low intensive use) recreational needs in light of what the township had to offer at the time. The 2001 Comprehensive Plan noted several recommendations made by the Olentangy Youth Athletic Association (OYAA) and made recommendations based on Listokin and Walker's NRPA model, "which surveys the service area population to determine demand for different activities."

Significant accomplishments include the donation of 41 acres of green space as part of the North Orange development in the Spring of 2000. Later that year a 2.8 mil levy passed for the development of the land which is now the North Orange Park and Aquatic Center.

Current Township Park Inventory

The township maintains the following parks in its inventory:

Ro Park at Glen Oak

Ro Park at Glen Oak: Ro Park is a 14-acre neighborhood park located in the Glen Oak development. The park offers a variety of activities for the neighborhood including two baseball fields, a picnic shelter, a playground, a restroom facility, and wooded trails. Ro Park is now considered a typical park for the "neighborhood"-size parks.

North Orange Park: North Orange Park is a 36-acre community park facility that features four small soccer fields, one large soccer field, basketball courts, a sledding hill, an accessible playground, a large picnic shelter, walking trails, and the community pool complex. The pool complex features an 8,500 square foot outdoor swimming pool which includes a zero depth entry and water slides. A new pool addition was completed in 2009. There is also a community room available for public use in the pool complex.

Township Hall and Park: The park consists of about 18 acres and has been expanded through improvements to an adjoining 6-acre property in the Villages of Oak Creek Development. The grounds of the park features several trails with overlooks, two ponds, a gazebo, and a basketball court. The park also serves as a symbolic center of the residential township, enhanced through entrance features at the intersection of South Old State and East Orange Roads. The park is also the location of the township hall.

Future Development and Implementation

The **Orange Township Parks, Trails & Greenways Master Plan** was updated in Ocober, 2008, with the following over-arching goals:

1. Connect all parks by developing a number of bike routes;
2. Provide a north/south connection through the center of the township by completing a trail along South Old State Road and provide a trail along the railroad tracks to East Powell Road;
3. Plan major leisure trails and routes that connect the Orange Township Trail System to outside trail systems and parks, including Alum Creek State Park, Highbanks, Westerville and other county trails;
4. Require developers to construct leisure trails and trail improvements;
5. Construct leisure and pedestrian trails along with roadway improvements;
6. Create trail hubs along community trails to provide parking and facilities for trail users;
7. Develop Glen Oak property as a neighborhood park;
8. Investigate opportunities for more neighborhood parks;

Shelter and playground at North Orange Park.

9. Study North Road property for development as a community park with active recreation;
10. Investigate the need for a community center – consider North Road property as a potential site;
11. Implement a park system strategy that will acquire and construct park facilities east of South Old State Road;
12. Study the potential for expansion of the North Orange Aquatic Center;
13. Adopt an open space dedication policy that prefers scenic open spaces, open spaces along roads, and the potential for Homeowner Association-owned facilities;
14. Preserve and/or acquire floodplain property for open space and trails;
15. Develop standards for park amenities.

According to the Master Plan, the following is the implementation timeline, subject to funding and other changes:

To be implemented in 2009

Pool addition, Glen Oak Park Phase I, Owenfield Trail, Highmeadows Trail marking, South Old State to High School (Orange Road Trail), Lewis Center Multi-Use Trail (Lewis Center Rail Trail) North, Gooding Blvd trail extension to Home Road property.

To be implemented in 2010

Loveland Pond (Oak Creek School Pond Junction), Lewis Center Rail Trail south to Oak Creek School Pond Junction, Orange Road Trail from High School to Bale-Kenyon, Kingwood Multi-Use Trail, North Road Property development, Alum Creek Freedom Trail easements, Glen Oak Park Phase II.

To be implemented in 2011

West Orange route to North Orange Park, Rail Road Crossings at East Orange Road and Lewis Center, Orange Road Commerce Center Trail, East Powell Loop from Gladshire to Oak Creek School Pond Junction, Alum Creek Freedom Trail

To be implemented in 2012

Alum Creek Freedom Trail South, Bridge over Route 23,

To be implemented in 2013

Community Center, South Old State Trail - Abbey Knoll to Lewis Center Road, South Old State Trail - Trails within Alum Creek.

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 hikers a safe and attractive path. The township has begun an aggressive plan to build leisure trails as noted in Chapter 8 and shown on Figure 8.6.

Greenway/Bike Path near the Township Hall

Greenways can connect disjointed areas of the township and in so doing unify the community. Greenways can be used in both in 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 are have common ownership/oversight across multiple developments.

Parks and Open Space Goals and Means

Goal	Means
Preserve the rural and natural character of Orange Township as expressed in its open spaces, green areas, farms, natural resources (floodplains, wetlands, steep slopes, ravines, creeks and rivers) as it continues to develop.	Increase the dedication of useable open space in planned developments. In open space that is managed by Homeowners' Associations, encourage a mix of active versus passive open space in each neighborhood. Set landscape and architectural design standards for planned developments that stipulate the kinds of centralized green spaces envisioned. Require the linkage of planned developments by bike paths or walking paths in greenways so that new neighborhoods are all pedestrian-oriented and residents can move safely between neighborhoods. Require natural landscaping for developments that front on original township roads.
Goal	Means
Provide passive and active recreational areas as the township grows.	Support the Parks and Trails Master Plan by requiring proposed trails to be built as part of new developments. Consult the Parks and Trails Master Plan when zoning large Planned Districts to achieve the plan's goals for neighborhood parks as well as larger active recreation areas.
Goal	Means
Preserve scenic views.	Consider secondary conservation areas (scenic views, open space along the road) as part of the open space design of new PRDs.

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Chapter 12
Development Patterns

Introduction - Community Choices

One of Orange 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 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 30% of Orange Township was still open lands, in agriculture or woods, and areas of the township still have a rural "feel". Agricultural lands are quickly converting 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 Orange Township, large-lot splits along township roads are rarely used now that sewer is available to most of the township. However, 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 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.

When the township first started to be developed, conventional subdivisions were commonly used (right), creating nothing but 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 utilitiarian purposes and not treated as an amenity.

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

- **Open Space** - required open space is 10-20% of the gross area (right). 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, in some parts of the county, though not necessarily in Orange Township, 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 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.

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:

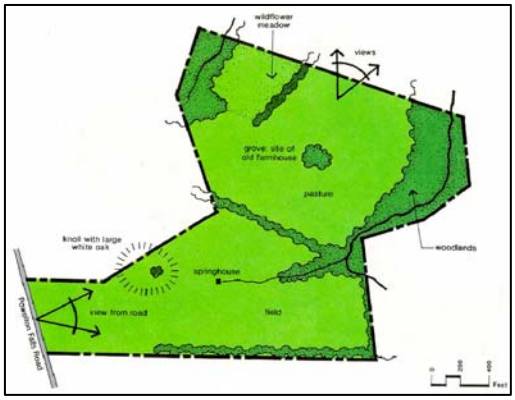
- 50% or more of the buildable land area is designated as undivided permanent open space.
- The overall number of dwellings allowed is the same as would be permitted in a conventional subdivision layout based on an alternative "yield plan".
- Primary Conservation Areas are protected as open space and 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 Orange 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 Polaris Parkway as well 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.
- There are small playgrounds accessible to every dwelling — not more than a tenth of a mile away.


Streetscape at Easton.

- 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.

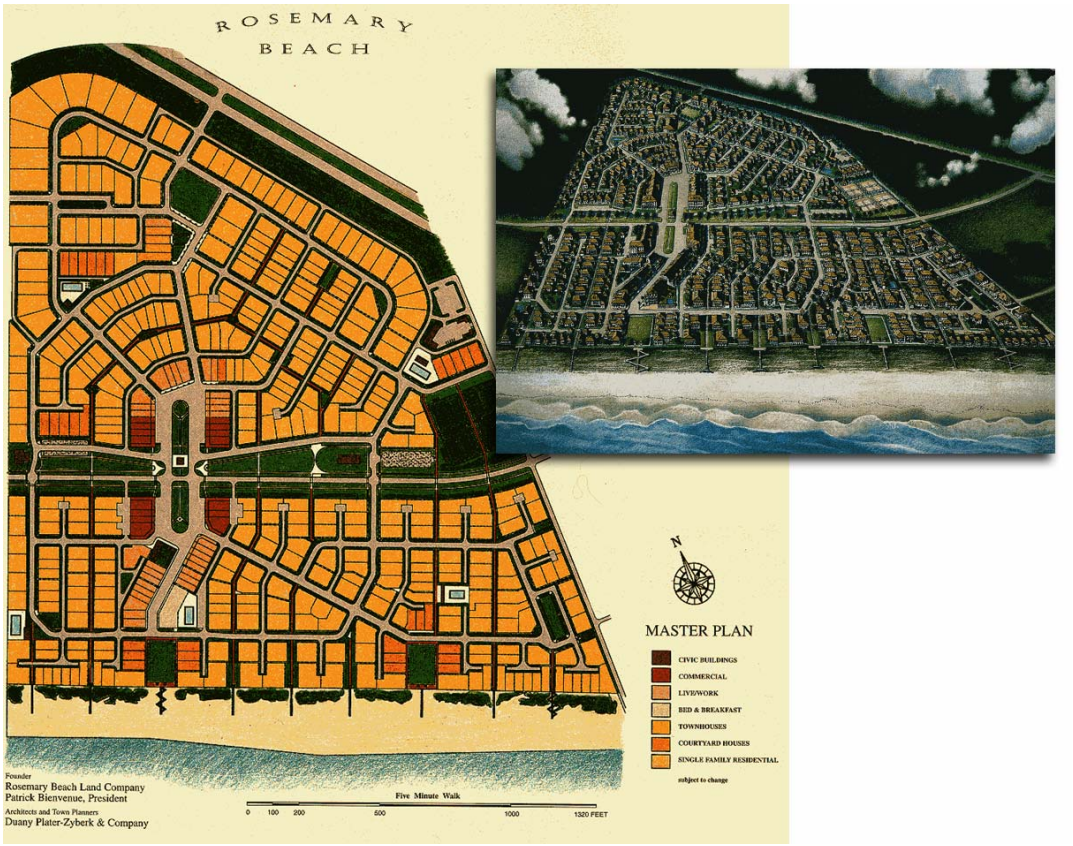
- Parking lots and garage doors rarely front the street. Parking is to the rear of buildings, accessed by alleys.

- 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.

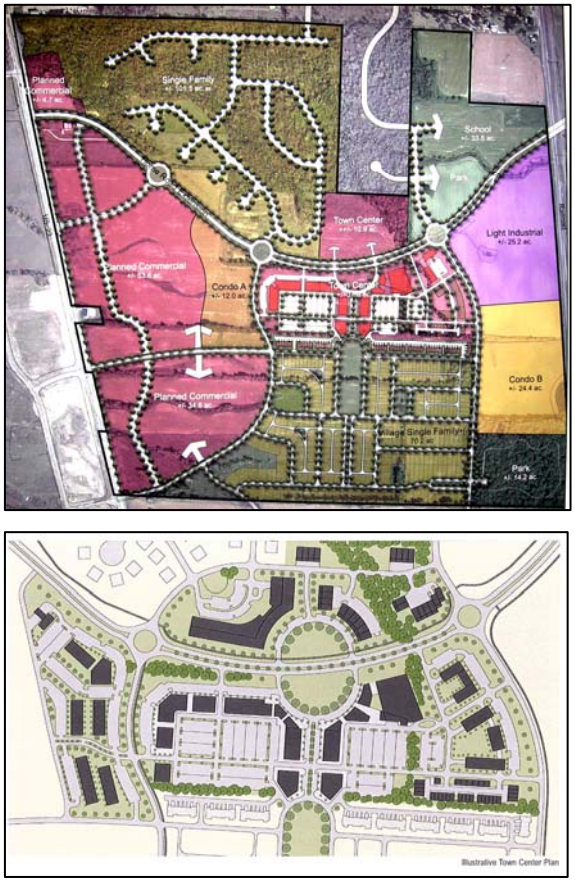


Images of Rosemary Beach: site plan (left), and bird's eye view (right).

Images of Rosemary Beach: Downtown civic buildings and shops (left) beach house fronting a public green (right).

Cobblestone Crossing – a Local Case Study

A recent example of Traditional Neighborhood Design in Orange Township was the proposed rezoning effort to create Cobblestone Crossing. This was a 452-acre project that included 66 acres of Town Center TND-style development. The TND portion was a mix of retail, office and residential uses as well as potential civic buildings and open spaces. Surrounding the town center was single-family, multi-family, planned industrial and planned commercial and office uses. The proposal connected all previously planned road 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 "veneer" 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, the 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.

Figure 10.1 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).

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, Orange Township has the opportunity to develop a significant commercial property tax base on US 23, and Polaris Parkway. 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 10, 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 costs versus revenues of a project before it is zoned or built. A fiscal impact analysis (cost of services needed versus revenues generated) may help determine one aspect of how the development might affect the general welfare of the township.

The Community Vision for Orange 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.

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.

In general, sustainability covers a wide range of topics, from energy production to neighborhood design to environmental health and natural hazard mitigation, to name just a few. Local governments can directly impact or influence many of these sustainability concerns. In some cases, the easiest response is to remove the obstacles that are created (sometimes inadvertently) which discourage such practices. 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 adeherence.

The Rocky Mountain Land Use Institute has established a development code framework that is a menu of possible standards and incentives that communities can use to encourage sustainability. They include requiring bicycle racks, incentives for "green" roofs, shared parking standards, allowing live-work units, adopting "complete streets" standards, encouraging farmers' markets, preservation of historic buildings, establishing a list of low-water plants for residential and commercial landscaping, requiring a variety of unit sizes in multi-family buildings, requiring a percentage of homes in subdivisions be solar-oriented, encouraging creative practices for stormwater detention, etc.

Design Best Management Practices

Best Management Practices (BMPs) 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 US 23, BMPs 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.

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

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 US 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.

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. If a ground sign is to be used, the monument-style is mandated. 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 four 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 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.

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

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.

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

If landscaping is used as screening for trash receptacles should have a minimum opaqueness 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 a redevelopment exercise. 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 fast food businesses provides the main entrance for this redevelopment (right).

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).

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

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

Other than the recent addition of the identity feature at the intersection of South Old State Road and Orange Road, there is little that identifies Orange Township along major routes and no clear "entrance" to Delaware County or the township. Other than the placement of standard small green highway signs marking the county line, that location does not offer the best location for an entry feature.

The intersection of Powell Road and US 23 is a high-visibility location that offers a logical break where a gateway feature would establish the identity of both the county and the township. Existing commercial signage could be integrated into the identity feature. The sign could be uplit for clear visibility.

Current view of the northwest corner of Powell Road and U.S. 23 (top) and with the addition of a gateway feature (bottom).

Additionally, a second, northern entrance feature could be established for entry into the township from the north at Shanahan/Hyatts Road and U.S. 23.

Development Patterns Goals and Means

Goal	Means
To provide for a variety of residential housing districts, with an overall (township –wide) density not to exceed 2 units per acre where centralized sanitary sewer exists or can be provided.	Retain single family zoning at one unit per 1.98 acres in non-sewered areas, or as 20,000 square foot lots with sanitary sewer. Permit Planned Residential Developments in sewer service areas at a maximum density of 2 units per acre. Permit both single family and multi-family zoning districts. Create a Lewis Center District as a Traditional Neighborhood Development with mixed residential and commercial uses at an overall density of 2 units per acre. Maintain the area east of the CSX railroad tracks as the residential heart of the township, with exclusively single family development, except for areas adjacent to Old Lewis Center.
Goal	Means
To broaden the jobs and tax base, and to prevent property taxes from rising faster than the growth in the township tax base.	Provide for Planned Office districts as in-fill to the Columbus annexations on S. Old State Road's west side. Encourage historic-looking storefront commercial as part of the redevelopment of Lewis Center between the Railroad and the northerly extension of 4th Street on the north side of Lewis Center Road.
Goal	Means
To provide for dense landscape buffering between incompatible land uses.	Create a landscaping detail(s) to be used between incompatible land uses.

	Amend the zoning text to require the appropriate landscaping buffer detail between certain residential and non-residential land uses. Use existing topography as buffers.
Goal To create a "heart" of the township at Lewis Center with mixed uses.	Means Encourage creation of a mixed use development as the "heart" of the township utilizing the current zoning text with divergences, such development having a density of approximately 2 units per acre in single-family or condominium homes and local commercial uses with traditional neighborhood design adjacent to original platted Lewis center. Work with ODOT and County Engineer to lay out the Home Road-to-Lewis Center Road by-pass "D" south of Lewis Center. Require this road to be built with developer and state and county dollars as part of new development to provide a safe grade separation at the railroad.
Goal To determine and implement an appropriate land use mix.	Means Consider the impact on roads, the capacity of water and sewer systems, to encourage and limit development to the carrying capacity of the infrastructure, using the densities and land uses on the Orange Township Comprehensive Land Use Plan as a guide. Avoid development of uses or densities that cannot be serviced by currently available or imminently planned infrastructure, unless such development mitigates its unplanned infrastructure impacts. Retain (maximum) multi-family densities of five units per acre and single family densities of two units per acre with public water and sanitary sewer service. Retain densities of one unit per acre or lower, according to soil suitability, in areas without sanitary sewer service.
Goal To seek road connections and significant collector and arterial roads as part of new developments.	Means Require developer-funded access roads "A", "B", "C", and "M" as part of new developments in exchange for up-zonings. Encourage construction of a Lewis Center by-pass "D" in exchange for appropriate rezonings. Extend Shanahan Road easterly to S. Old State Road as part of new developments as shown by new road "F" Connect Piatt Road at the Berlin Township line with the Lewis Center bypass as shown by proposed new road "H" as part of new developments.
Goal To implement and maintain the land use plan.	Means Revise the zoning text and map in accordance with the comprehensive plan. Develop policies for service provision that comport with the comprehensive plan. Provide for 5 year updates and revisions to the plan.

Chapter 13
Recommendations

The 2010 Orange Township Comprehensive Land Use Plan uses the sum of all the previous chapters as background material to inform the following recommendations. The following recommendations and Sub-Area descriptions are to be used in conjunction with the Comprehensive Land Use Map. 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.

Southern Gateway - Sub Area 1

Land area: 910 acres
Undeveloped area: 140 acres
Current population: 3 (1 unit)

Southern Gateway is dominated by Highbanks Metro Park, which is permanent open space. The existing commercial uses on the west-side of US 23 are automobile-related.

1-1. The four undeveloped large tracts of land on the west-side of US 23 may some day become part of the park; if not, they are recommended for Planned Office. The west-side of the road is the "morning side", meaning southbound traffic is greater in the a.m. hours than northbound. Offices are preferred on the west-side of US 23; commercial on the east side.

1-2. Utilize frontage outlots to mask parking and larger uses to rear.

1-3. Office uses are a better transition to Highbanks Metro Park than retail.

1-4. If office uses are economically unfeasible within the planning period (2010-2020), then planned commercial would be the alternate proposed use.

1-5. Access management principles should be used to keep traffic speeds at current posted 45 mph in this segment. No additional traffic signals are currently anticipated in this area. If a major office complex were constructed on the Butts lands, it should align with the existing signal.

1-6. An Orange Township sign and landscaping detail should be developed.

1-7. Cross-easements or road connections should be sought for adjacent properties to gain access to the signal at U.S. 23.

Southern Commercial Corridor - Sub Area 2

Land area: 315 acres
Undeveloped area: 48 acres
Current population: 67 (23 units)

Despite the large tracts of land in this area, most are owned by the Catholic Diocese of Columbus, so there is no urgent pressure for development. The Catholic Resurrection Cemetery occupies much of the road frontage on US 23. This is good for traffic flow, since there are few curb cuts and few commercial uses. A cluster of Office, banking and health care uses are located at the US 23 and Powell Road intersection.

2-1. Vacant tracts are recommended for Planned Commercial with access management practices.

2-2. An Orange Township sign and landscape detail should be developed.

2-3. Cemetery property is recommended to remain FR-1.

Polaris Impact Area - Sub Area 3

Land area: 436 acres
Undeveloped area: 42 acres
Current population: 1,890 (645 units)

This area is bounded by the railroad tracks on the west, Powell Road on the north, Genoa Township on the east, and the Franklin County on the south.

The majority of the land within the Polaris Impact area has been annexed to the city of Columbus or the City of Westerville. With the exception of pockets of undeveloped parcels, the area is fully developed or has approved plans for development. The plan acknowledges parcels exist within this district that are surrounded by the cities, and to whom annexation is a likely option.

Approximately 50 acres at the northwest corner of Lazelle Road and I-71 (including Fox Haven Court) are currently used for large lot single family residential in the township. This land is faced by a church to the south, multi-family to the west, I-71 to the east and commercial to the north. These lots could develop as multi-family. Water service is limited. Recommend multi-family at 4 units per acre.

3-1. Recommend planned office use for all remaining infill parcels on Worthington Road. These parcels may be enticed to stay in the township and can be served with sewer from Delaware County.

3-2. North side of County Line Road, Taylor Way and Caldwell Drive – recommend single family at one unit per acre to hold the line and protect this established neighborhood.

3-3. East side of Worthington Road north of Laurel Health Care and east of Powell Road, recommend planned office use.

3-4. West side of South Old State Road opposite J.P. Morgan/Chase office complex, recommend planned office.

3-5. Single family established uses on the south side of Powell Road and the NW corner of Powell and S. Old State, recommend that these areas remain single family at one unit per acre, or 2 units per acre with sewer to protect the existing larger lot homes. This is a transitional edge into Orange Township's residential core.

3-6. Remainder areas - recommend land use consistent with existing zoning.

Olentangy Valley South - Sub Area 4

Land area: 839 acres
Undeveloped area: 35 acres
Current population: 3,097 (1,057 units)

This area is bounded by Liberty Township on the west, US 23 on the east, and West Orange Road on the north. It contains the first large residential subdivisions in the township, Green Meadows and High Meadows.

4-1. Recommend one unit per acre single family, or 2 units per acre with sewer for the Klingbiel sheep farm adjacent to Liberty Township. Protect ravines leading to Olentangy River as open space in developments.

4-2. Maintain Heather Lane at two units per acre.

4-3. Orange Township "detail" for commercial entrance landscaping, signs and colors in planned commercial districts. Avoid "franchise" architecture and signage by using stone, brick, and neutral split face block. Prohibit garish colors to create a cohesive Orange Township super-block of attractive and uncluttered commercial uses.

4-4. South side of Orange Road, recommend single family at one unit per acre or 2 units per acre with sewer.

4-5. Work with County Engineer to save as much rural edge to Orange Road as possible while keeping it maintained or upgraded to be safe. Save as many trees along edge of road as possible.

4-6. Owen property (11.5 acres south of Riverbend Ave. and west of Owenfield Dr.) should remain as residential, possibly multi-family at a low density while retaining existing natural features of the site.

4-7. Corner of Orange and U.S. 23 is recommended to be Planned Commercial and Office with main access from Orange Road, providing cross-access to the current kennel property to the south.

4-8. Maintain utilization of frontage outlots to mask parking and larger uses to rear.

Central Commercial/Industrial Corridor - Sub Area 5

Land area: 523 acres
Undeveloped area: 43 acres
Current population: 1,403 (479 units)

The area is bounded by US 23 on the west, the railroad tracks on the east, Orange Road on the north, and Powell road on the south.

5-1. Planned commercial and office as in-fill to all existing commercial zoning.

5-2. Access management techniques to prevent left turns across traffic on US 23 except at signalized intersections.

5-3. Orange Township "detail" for commercial entrance landscaping, signs and colors in planned commercial districts. Avoid "franchise" architecture and signage by using stone, brick, and neutral split face block. Prohibit garish colors to create a cohesive Orange Township super-block of attractive and uncluttered commercial uses.

5-4. Maintain access road concept by extending Orange Centre Drive to the south, turning toward a limited access with U.S. 23. Additional access should be provided to adjacent properties. Outlots should be used to buffer large-scale development to the east.

5-5. Utilize frontage outlots to mask parking and larger uses to rear.

Old State Road Heartland - Sub Area 6

Land area: 1,660 acres
Undeveloped area: 130 acres
Current population: 7,404 (2,527 units)

This area is bounded by Powell Road on the south, the railroad tracks on the west, I-71 on the east, and Orange road on the north. This area is the formal heartland of the suburban residential Orange Township.

6-1. Single family development throughout, with the exception of multi-family zoning already in place.

6-2. Multi-family condominiums for empty nester or exclusive elderly housing may fill in some small pockets that are too oddly-configured for single-family homes.

6-3. Recommended densities generally of 2 units per acre with centralized sanitary sewer.

6-4. Preserve the deep ravines as common open space as part of planned developments.

6-5. Work with County Engineer to save as much rural edge to East Orange Road as possible while keeping it maintained or upgraded to be safe. Save as many trees as possible along edge of road.

Lower Alum Creek Valley - Sub Area 7

Land area: 1,252 acres
Undeveloped area: 200 acres
Current population: 1,653 (564 units)

This area is bounded by Powell Road on the south, Genoa Township on the east, and I-71 on the north and west. This is a single-family area with lower densities of one unit per acre along the frontage of Africa Road to conform to existing uses.

7-1. Densities of one unit per acre without sanitary sewer or 2 units per acre with centralized sanitary sewer.

7-2. Work with the County Engineer to save as much rural edge to Bale-Kenyon Road and Africa Road as possible while keeping them maintained or upgraded to be safe. Retain a two-lane road with shoulders, at least 20 feet of pavement, possibly adding a bike lane. Save as many trees as possible along the edge of the road.

7-3. Seek federal, state, and county funding to design and construct a new rural interchange at Big Walnut and I-71. This should be identified as the entrance to Alum Creek State Park to enhance tourism and reduce meandering lost travelers looking for the beach and boat ramps. No commercial or high-density development adjacent to the interchange. Keep the NW quadrant of the land adjacent to the interchange as undisturbed parkland and the other three quadrants rural residential uses with on-off ramps.

7-4. No residential development (new homes) within the 100 year floodplain of Alum Creek.

7-5. Preserve the deep ravines as common open space as part of planned developments.

Olentangy Valley Central - Sub Area 8

Land area: 647 acres

Undeveloped area: 73 acres

Current population: 1,210 (413 units)

This area is bounded by West Orange Road on the south, Liberty Township on the west, US 23 on the east, and Home Road on the north. This area is divided north/south by two parallel high-tension power lines.

8-1. Retain single-family with 1-acre minimum lot sizes on the immediate north side of West Orange Road.

8-2. Preserve the deep ravines that run to the Olentangy River as common open space in planned developments.

8-3. Encourage developers to continue backage road Pacer Drive to the south to connect to W. Orange Road. Continue backage road Gooding Blvd. north to connect to a re-aligned Home Road.

8-4. Work with the County Engineer to improve Home Road as an arterial street, still keeping its rural character. Relocate the east-end of Home road 900 feet to the south to align with Lewis Center Bypass "D". Relocate traffic light also. Abandon 800 feet of "old" Home Road west of U.S. 23 except as needed to access new development sites as approved by an approved development plan.

8-5. Land on the west side of Gooding Blvd. and approximately 1,500 feet south of Home Road is recommended to be single-family development or condominiums at 2 units per acre with centralized sanitary sewer. Provide for road extension to ridge tops in Liberty Township, have cooperative agreement for road maintenance.

8-6. Land on the west side of Gooding Blvd. within 1,500 feet of Home Road is recommended to be residential at 2 units per acre or for office uses, as approved in the Clear Creek Development Plan.

8-7. East side of Gooding Blvd. first choice is planned office use as transition to residential, second choice is appropriate planned commercial uses which are suitable as transitional to single family. No single-use big box retail in this Subarea.

8-8. Create landscape detail to effectively buffer the office/commercial from the residential.

8-9. Support access management techniques to prevent left turns across traffic on US 23 except at signalized intersections.

8-10. Orange Township "detail" for commercial entrance landscaping, signs and colors in planned commercial districts. Avoid "franchise" architecture and signage by using stone, brick, and neutral split face block.

Prohibit garish colors in order to create a cohesive Orange Township super-block of attractive and uncluttered commercial uses.

8-11. Condominiums for empty nester or exclusive elderly housing may fill in some small pockets that are too oddly configured for single family homes.

8-12. Utilize frontage outlots to mask parking and larger uses to rear.

US 23 Northern Corridor - Sub Area 9

Land area: 648 acres
Undeveloped area: 352 acres
Current population: 0 (0 units)

This area is bounded by US 23 on the west, the Lewis Center Village District on the north, Orange Road to the south, and the railroad tracks to the east.

9-1. Continue planned commercial uses along the frontage of US 23 with strict access management controls. Where allowed, align new right-in/right-out access points with existing right-in/right-out access.

9-2. Utilize frontage outlots to mask parking and larger uses to rear.

9-3. Utilize Orange Township "detail" for commercial entrance landscaping, signs and colors in planned commercial districts. Avoid "franchise" architecture and signage by using stone, brick, and neutral split face block. Prohibit garish colors to create a cohesive Orange Township super-block of attractive and uncluttered commercial uses.

9-4. Encourage extension of Green Meadows Drive to new road "E" to be built by developers around the AEP power substation on the west side of the railroad tracks.

9-5. Continue planned industrial development north from Orange Point to the Lewis Center Village District.

9-6. Encourage extension of new road "C", by developers of commercial/industrial lands, to new Bypass "D".

9-7. Encourage construction new Lewis Center Bypass "D" from Home Road to east of Lewis center. Encourage developers of commercial and industrial lands to extend the bypass from Home Road to the railroad tracks.

9-8. Work with the County Engineer to construct a grade separation crossing of the railroad tracks and extension of Bypass "D" to Lewis Center Road using any funding mechanisms available.

Central Residential Heartland - Sub Area 10

Land area: 986 acres
Undeveloped area: 21 acres
Current population: 3,077 (1,050 units)

This area is bounded by the railroad tracks on the west, the Lewis Center District on the northwest, Lewis Center Road on the north, Orange Road on the south, and South Old State Road on the east.

10-1. Continue large lots of one acre or more fronting on Orange, Lewis Center and South Old State Roads.

10-2. In-fill remaining lands with planned developments at 2 units per acre if served by centralized sanitary sewer.

10-3. Support a leisure path within or adjacent to the railroad easement to connect the Township Hall on Orange Road and the Lewis Center District.

10-4. Work with Del-Co water to obtain right of way for the Lewis Center Bypass "D".

Alum Creek Resource Area - Sub Area 11

Land area: 3,940 acres
Undeveloped area: 249 acres
Current population: 4,360 (1,488 units)

This area is bounded by Genoa Township on the east, Berlin Township on the north, South Old State Road on the west and Orange Road and I-71 on the south. The area is dominated by the Alum Creek State Park.

11-1. East of the Alum Creek Lake, low density residential at one unit per acre.

11-2. Preserve floodplains of Alum Creek, allow no encroachment or fill except for bridges or culverts.

11-3. Single-family in-fill remainder areas at one unit per acre without centralized sewer or 2 units per acre with centralized sewer.

11-4. Work with ODOT and the County Engineer to secure the I-71 interchange at Big Walnut Road.

11-5. Preserve the area around the interchange as non-commercial to preserve the flow of traffic.

Olentangy Valley North - Sub Area 12

Land area: 295 acres

Undeveloped area: 67 acres

Current population: 97 (33 units)

This area is bounded by Liberty Township on the west, Berlin Township on the north, Home Road on the south, and Lewis Center District and US 23 on the east.

12-1. Preserve deep ravine that runs from US 23 west to Olentangy River.

12-2. Maintain one acre lots along the road frontage of Home Road.

12-3. Encourage planned offices as first choice of development along west-side of US 23,planned commercial as second choice, but no big box retail west of US 23.

12-4. Create landscape detail to effectively buffer the office/commercial from the residential.

12-5. Encourage access management techniques to prevent left turns across traffic on US 23 except at signalized intersections.

12-6. Utilize Orange Township "detail" for commercial entrance landscaping, signs and colors in planned commercial districts. Avoid "franchise" architecture and signage by using stone, brick, and neutral split face block. Prohibit garish colors to create a cohesive Orange Township super-block of attractive and uncluttered commercial uses.

12-7. If access to Preservation Parks within Orange Township is necessary, it should be from Artesian Run and not from a new curb-cut on US 23.

12-8. Encourage consolidation of access points on existing businesses along US 23 north of the park property.

12-9. Utilize frontage outlots to mask parking and larger uses to rear.

New North - Sub Area 13

Land area: 706 acres

Undeveloped area: 304 acres

Current population: 182 (62 units)

This area is bounded by US 23 on the west, railroad tracks on the east, Berlin Township on the north, and the Lewis Center District on the south.

13-1. Maintain large lot single family on south side of Lewis Center Road.

13-2. Planned office, planned commercial or multi-family at 2 units per acre south of Shanahan Road and west of schools. Significant buffering between north and south side of Lewis Center Road. Avoid commercial access opposite residential.

13-3. Balance of sub area to be large lot single family residential, one acre lots without sanitary sewer, 2 units per acre with sanitary sewer.

13-4. Utilize frontage outlots to mask parking and larger uses to rear.

The Northlands - Sub Area 14

Land area: 711 acres
Undeveloped area: 523 acres
Current population: 381 (130 units)

This area is bounded by the railroad tracks on the west, Berlin Township on the north, south Old State Road on the east, and Lewis Center Road on the south.

14-1. Encourage the County Engineer to improve Lewis Center Road as an arterial street.

14-2. Encourage the construction new road "H" as part of new development to connect Lewis Center to Piatt Rd.

14-3. Encourage the construction new road "F" as part of new developments to extend Shanahan Road to Old State Road.

14-4. Single family development at one unit per acre without central sanitary sewer, or 2 units per acre with sanitary sewer.

14-5. Develop a traditional downtown with 0-foot setbacks, shops and stores on the sidewalks, and angle parking in front on the north side of Lewis Center Road, east of the railroad tracks. Develop a new text for this mixed use district with decorative street lighting, restrictive sign code, architectural standards for materials, scale and mass.

14-6. Work with COTA and/or private interests to creat a park-and-ride lot for possible light rail access on the east side of the railroad north of Lewis Center Road.

Old Lewis Center - Sub Area 15

Land area: 42 acres
Undeveloped area: 0 acres
Current population: 120 (41 units)

This area represents the old platted portion of Lewis Center on the south side of Lewis Center Road only and between North Road and 1740 Lewis Center Road.

15-1. Rehabilitation and reuse of existing structures should be encouraged. New, infill development could include a low-impact mix of uses which is primarily residential with some live/work units. Infill structures should maintain the same character of existing buildings including setbacks and massing.

15-2. Develop a traditional downtown with 0-foot setbacks, shops and stores on the sidewalks, on Lewis Center Road, east of the railroad tracks. Develop a new text for this mixed use district with decorative street lighting, restrictive sign code, architectural standards for materials, scale and mass.

New Lewis Center - Sub Area 16

Land area: 229 acres
Undeveloped area: 219 acres
Current population: 3 (1 unit)

This area generally circumscribes the area southwest side of old Lewis Center as indicated on the map.

16-1. Create a "New" Lewis Center District with mixed uses, grid streets, parks and recreation, single family, attached or detached, at 2 units per acre with sanitary sewer. Emulate a Traditional Neighborhood Development utilizing TND elements listed in Chapter 12 and the Design Best Management Practices as demonstrated in the same chapter.

16-2. Extend new road "L" from Lewis Center Road to bypass "D".

16-3. Work with the County Engineer to construct a grade separation crossing of the railroad tracks and extension of Bypass "D" to Lewis Center Road using any funding mechanisms available.

16-4. Retain a pocket park at the entrance to the Lewis Center Bypass.

General Recommendations

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

17-1. Continue to work with the township parks committee and encourage development of parks and leisure trails as part of new developments.

17-2. Continue to require sidewalks within and pedestrian connections between residential developments.

17-3. Encourage pedestrian-oriented commercial development and seek pedestrian connections between commercial and residential developments.

17-4. Seek usable open space in developments.

17-5. Consider the overall housing mix when reviewing rezoning requests as the township continues to develop.

17-6. 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 SFPRD and MFPRD zoning language.

17-7. Seek multiple entrances to developments and the interconnection of subdivisions to improve safety, reduce travel times and lower maintenance costs.

17-8. Seek street connections or cross-easements between commercial uses.

17-9. Support access management along state routes as well as along existing and proposed arterial roads, referencing the ODOT goals for US 23.

17-10. Support the County Engineer by encouraging best practices for stormwater management and by encouraging development that preserves surface and ground water quality.

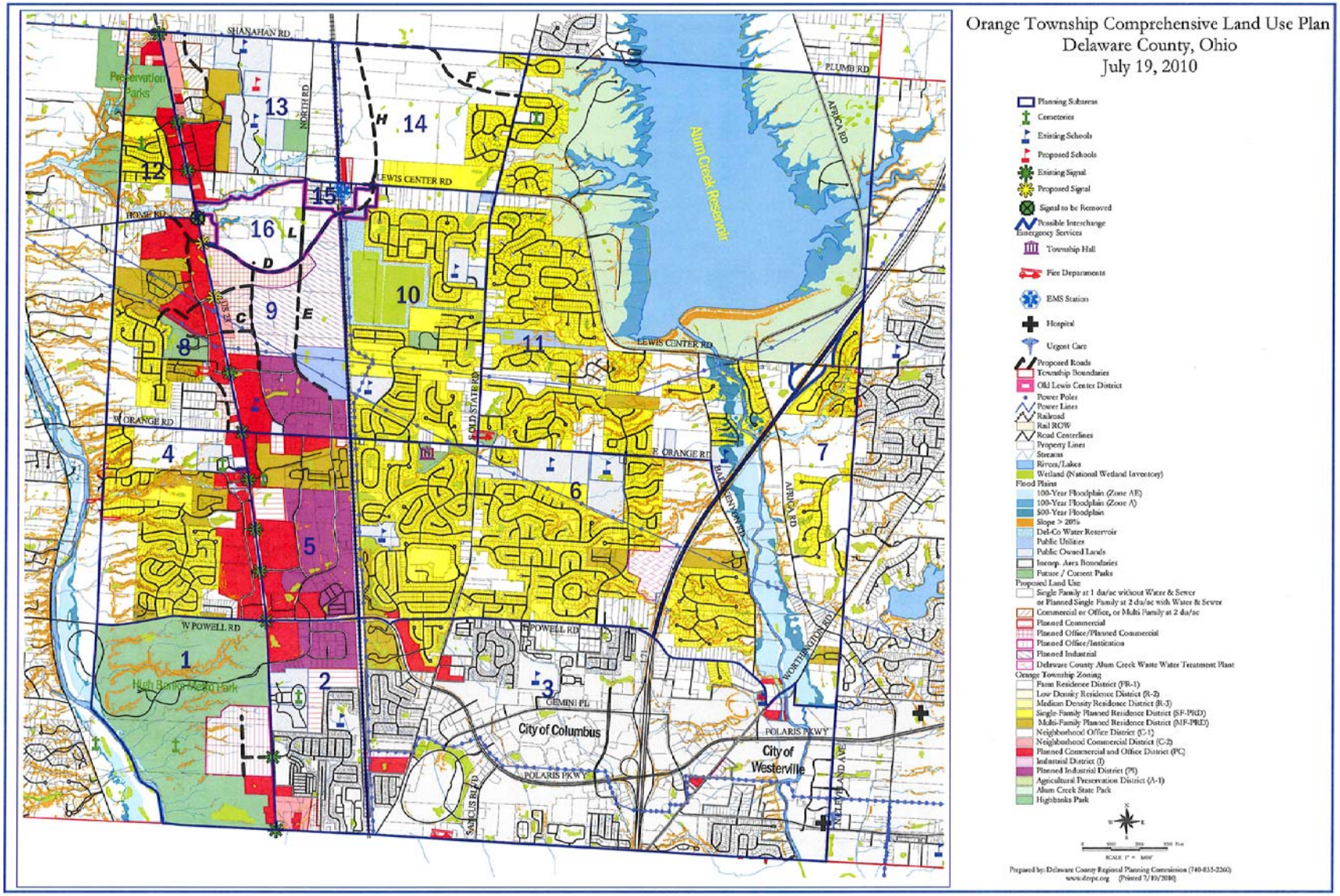
17-11. Keep local agencies informed throughout the development process so they can plan for future service.

17-12. Work with agencies to identify new sites for township facilities.

17-13. Provide for updates to the Comprehensive Land Use Plan within 5-10 years.

Orange Township 2010 Comprehensive Land Use Plan

The Orange 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.


Orange Township Comprehensive Land Use Plan
Delaware County, Ohio
July 19, 2010
SHANAHAN RD
NORTH RD
LEWIS CENTER RD
HOME RD
W ORANGE RD
E ORANGE RD
W POWELL RD
E POWELL RD
GEMINI PL
POLARIS PKWY
SOLD STATE RD
SAWMILL RD
PLUMB RD
AFRICA RD
Alum Creek Reservoir
BALLENGER RD
WORTHINGTON RD
CLEVELAND AVE
Preservation Parks
High Banks Metro Park
City of Columbus
City of Westerville
Planning Subareas
Cemeteries
Existing Schools
Proposed Schools
Existing Signal
Proposed Signal
Signal to be Removed
Possible Interchange
Emergency Services
Township Hall
Fire Departments
EMS Station
Hospital
Urgent Care
Proposed Roads
Township Boundaries
Old Lewis Center District
Power Poles
Power Lines
Railroad
Rail ROW
Road Centerlines
Property Lines
Streams
Rivers/Lakes
Wetland (National Wetland Inventory)
Flood Plains
100-Year Floodplain (Zone AE)
100-Year Floodplain (Zone A)
500-Year Floodplain
Slope > 20%
Del-Co Water Reservoir
Public Utilities
Public Owned Lands
Incorp. Area Boundaries
Future / Current Parks
Proposed Land Use
Single Family at 1 du/ac without Water & Sewer or Planned Single Family at 2 du/ac with Water & Sewer
Commercial or Office, or Multi Family at 2 du/ac
Planned Commercial
Planned Office/Planned Commercial
Planned Office/Institution
Planned Industrial
Delaware County Alum Creek Waste Water Treatment Plant
Orange Township Zoning
Farm Residence District (FR-1)
Low Density Residence District (R-2)
Medium Density Residence District (R-3)
Single-Family Planned Residence District (SF-PRD)
Multi-Family Planned Residence District (MF-PRD)
Neighborhood Office District (C-1)
Neighborhood Commercial District (C-2)
Planned Commercial and Office District (PC)
Industrial District (I)
Planned Industrial District (PI)
Agricultural Preservation District (A-1)
Alum Creek State Park
Highbanks Park
Prepared by: Delaware County Regional Planning Commission (740-833-2260)
www.dcrpc.org (Printed 7/19/2010)

Orange Township 2010 Comprehensive Build-out Land Use Mix

The 2010 Orange Township Comprehensive Plan makes site-specific recommendations for every parcel of land in the township. The following table projects the result of the land use recommendedations of the Land Use Map.

Figure 13.1 Comparison of Existing Land Use Acreage and Build-Out Acreage

	2010		Build-out	
Land Use Type				
Agriculture	**1,715.43**	**10.27%**	**0**	**0%**
Total Residential	**3,818.27**	**22.87%**	**5,502.93**	**32.96%**
Single Family	3,491.75	20.91%	5,041.83	30.20%
Multi-family	326.51	1.96%	461.10	2.76%
Total Comm. & Industrial	**939.09**	**5.62%**	**1,467.37**	**8.79%**
Commercial	573.36	3.43%	1,094.87	6.56%
Industrial	365.73	2.19%	372.50	2.23%
Institution	**777.25**	**4.66%**	**861.73**	**5.16%**
Rivers/Lakes/Seasonal Swales	**1,466.32**	**8.78%**	**1,466.32**	**8.78%**
Highway/Rail/Right-of-Way	**1,257.96**	**7.53%**	**2,121.45**	**12.71%**
Golf/Parks	**2,139.29**	**12.81%**	**2,723.21**	**16.31%**
Agricultural Vacant Land	**0**	**0%**	**0**	**0%**
Residential Vacant Land	**1,525.00**	**9.13%**	**0**	**0%**
Industrial Vacant Land	**67.69**	**.42%**	**0**	**0%**
Commercial Vacant	**436.73**	**2.62%**	**0**	**0%**
Incorporated Areas*	**2,553.46**	**15.29%**	**2,553.46**	**15.29%**
Total Acreage	**16,696.53**	**100%**	**16,696.53**	**100%**
(Total Township)	14,143.07		14,143.07	

With a complete build-out scenario, there is no agricultural land left. The township is the location of two regional parks, Highbanks Metro and Alum Creek State Park comprising 14% of the township. For this reason, the amount of parkland far exceeds the more typical 6%.

**Includes land which has been annexed but remains in the township with certain taxing and service implications.*

Figure 13.2 Build-out Population by Sub-Area

Zoning District	2010 Est.	Build-out
1 – Southern Gateway	3	3
2 – Southern Commercial Corridor	67	141
3 – Polaris Impact Area	1,890	1,934
4 – Olentangy Valley South	3,097	3,841
5 – Central Commercial/Industrial Corridor	1,403	1,787
6 – Old State Road Heartland	7,404	8,523
7 – Lower Alum Creek Valley	1,653	2,845
8 – Olentangy Valley Central	1,210	2,452
9 – US 23 Northern Corridor	0	0
10 – Central Residential Heartland	3,077	3,721
11 – Alum Creek Resource Area	4,360	5,629
12 – Olentagy Valley North	97	492
13 – New North	182	1,137
14 – The Northlands	381	3,267
15 – Old Lewis Center	120	340
16 – New Lewis Center	3	929
Current and Future Build-Out Population	**24,943**	**37,038**

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 overlayed, 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 2/2010. 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.

Appendix

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 US 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.

1917 ACPI established, Kansas City.

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 US 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 US 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 taking 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 US 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 US 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 US 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 US 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.