

Land Use Profile

Introduction

Land use is the modification of natural environments into man-made or built environments. The delineation of land use typically references the human activity, (e.g. shopping), or function, (e.g. commercial sales and services), of a region or parcel. It may also include delineation of relatively undisturbed areas by their vegetative cover, (e.g. crops or forest).

Land use data is only one aspect of the inventory phase of planning; however it is an extremely important one. Trends in the amount, location, timing, and intensity of community development, indicate how a community has changed or is changing the landscape in which its lives. The analysis enables planners to evaluate current policies and adjust them, as needed, to strengthen guidance and regulation of future development, plan for additional public service needs, and manage environmental impacts. In Pennsylvania, planned land use policies and patterns ultimately provide the basis for zoning and land development regulations.

Existing Land Use Patterns

Land Use Delineation Methodology

The method used to designate land uses for this study was based on data from the Lebanon County Assessment Office. The Assessment Office maintains an extensive database of information related to each property or parcel located in Lebanon County for the purposes of property-based taxation. A detailed description of the land use designation method was prepared in the Land Use Delineation Development and Maintenance Manual (2006). This methodology was developed and documented in the manual to instruct the county in maintaining the land use database for future analysis and reporting.

Land uses have traditionally been categorized as either “developed” or “undeveloped”. Developed uses referred to the built environment – residential, commercial, industrial, and similar uses, while undeveloped referred to agricultural, forest and natural areas. In recent years, the term “developed” has been applied to agricultural, forest and natural areas in recognition of the function and value these lands have for the economy as well as for environmental quality. The terms “working lands” and “open space” have been applied to these uses. The term “undeveloped” remains applicable to parcels or portions of parcels planned for intensively built areas of communities and is used in this way for the remainder of the land use profile.

In brief, the land use field of the county’s computer-assisted mass appraisal (CAMA) database provided the baseline inventory of land use or land cover status. This database was joined to the spatial data of the county’s parcels provided by the Lebanon City/County Geographic Information System Department. The land use field for each parcel was correlated with the numeric functional schema of the American Planning Association’s land-based classification system to generate land use designations appropriate for planning. Land use was given precedence over land cover. For example, a wooded residential parcel was classified as residential. Spatial data, indicating the location of public and quasi-public institutions, was overlaid to specify “institutional” parcels from CAMA’s “exempt” classification. Additional analysis of parcels with building densities of four units per acre or more resulted in reclassification of parcels from low density to high density residential parcels. In order to more accurately delineate undeveloped portions of relatively large urban and rural parcels for use in the build-out analysis, U.S. Census Bureau-designated urbanized areas were used to define urban areas from rural areas. Parcels larger than one acre within the urban areas were reviewed to delineate undeveloped portions of one-half acre or more from otherwise developed parcels. Parcels larger than six acres in rural areas were reviewed to delineate undeveloped portions of parcels three acres or more from otherwise developed parcels. As a result of this methodology, land use categories, their total acreages and the total county acreage vary from figures reported in previous county planning documents. The 2006 Land Use/Cover Map illustrates the land use pattern in Lebanon County as of March 1, 2006.

Countywide Land Use Pattern

Lebanon County's land use pattern reflects an open space landscape interspersed with concentrated, intensively developed communities and low density development. The county is dominated by agriculture and forests, which together account for 169,537 acres or approximately 72.4% of the county's total land area. The high density development is mostly found along Route 422. The areas north and south of Route 422 are largely agricultural and low-density residential areas. Areas north of I-81 contain most of the county's forested lands, with the remaining large forest blocks being concentrated on the southern mountains along the Lancaster County border.

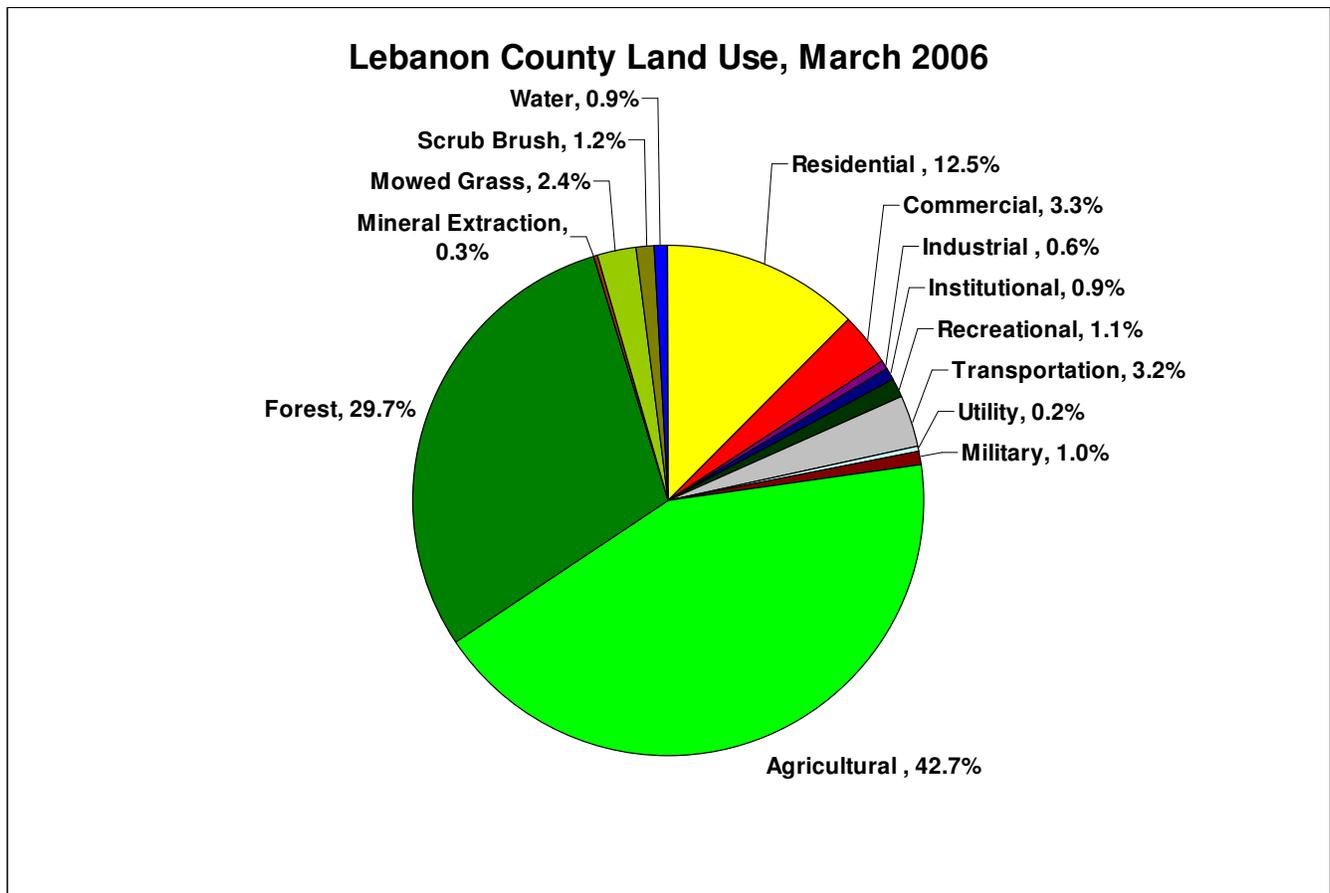
Total acreages for each major land use type are shown in Table 9-1 and Figure 9-1 and discussed below. Developed uses are discussed first, followed by working and open space lands and water.

Table 9-1 2006 Land Use/Cover Distribution

Land Use/Cover	Acres	Percent of County
Residential	29,353	12.5%
Commercial	7,738	3.3%
Industrial	1,321	0.6%
Institutional	2,164	0.9%
Recreational	2,669	1.1%
Transportation	7,395	3.2%
Utility	531	0.2%
Military	2,427	1.0%
Agricultural	99,996	42.7%
Forest	69,541	29.7%
Mineral Extraction	598	0.3%
Mowed Grass	5,665	2.4%
Scrub Brush	2,713	1.2%
Water	2,109	0.9%
Total	234,222	100.0%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

Figure 9-1 Land Use/Cover Distribution, March 2006



Residential Lands

Residential lands are the third largest land use group yet comprise only 29,353 acres or 12.6% of the county’s total land area, far behind agriculture at 42.8% and forested lands at 29.7%. Of that total, approximately 5,935 acres are high density residential, 22,720 acres are low-density residential, 264 acres are a residential/commercial mix, and 464 are seasonal residential lands.

Reflecting its sheer size at nearly 40% of the county, the Northern Lebanon School District contains the highest number of residential acres (8,080 acres), which is still the smallest percentage of school district lands (8.6%). The Cornwall-Lebanon School District contains the second highest number of residential acres (6,967 acres).

Percentages of residential lands within a municipality range from 8.9% in Union Township to 42.1% in Palmyra Borough; Cold Spring Township is excepted at 0.3%. The Lebanon School District contains less than one percent of the county’s residential lands but a significant 29.3% of school district lands. The Palmyra Area contains the second highest percentage of residential lands within its school district borders (17.5%).

Table 9-2 presents the distribution of total residential land uses in Lebanon County. The acreage and relative percentages of high density, low density, residential / commercial mix, and seasonal residential properties are shown in Tables 9-3 through 9-6. This information was drawn from the land use geodatabase and, in some instances, varies from data published by the U.S. Census Bureau, which is based on housing units, not acreage.

High Density Residential Lands

- Only 2.5% of the total land in the county is used for residential uses at a density of 4 units per acre or more, termed high density in the remainder of the profile. Acreages are shown in Table 9-3 and shown on the March 2006 Land Use Map. High density residential development is predominantly concentrated along the Route 422 corridor and in its associated urban areas: Palmyra Borough, Annville Township, Cleona Borough, West Lebanon Township, Lebanon City, and Myerstown Borough; 75% or more of their

Table 9-2 Distribution of Residential Land

	Residential Acreage	% of Municipal or SD Area	% of County Residential	% of County
Lebanon County	29,353	n/a	100.0%	12.5%
Annville-Cleona SD	3,312	13.2%	11.3%	1.4%
Annville	279	26.8%	1.0%	0.1%
Cleona	162	30.0%	0.6%	0.1%
North Annville	1,179	10.7%	4.0%	0.5%
South Annville	1,691	13.6%	5.8%	0.7%
Cornwall-Lebanon SD	6,967	16.4%	23.7%	3.0%
Cornwall	1,383	22.2%	4.7%	0.6%
Mount Gretna	30	24.4%	0.1%	0.0%
North Cornwall	1,136	18.7%	3.9%	0.5%
North Lebanon	2,256	21.1%	7.7%	1.0%
South Lebanon	1,494	10.9%	5.1%	0.6%
West Cornwall	668	12.1%	2.3%	0.3%
ELCO SD	6,002	13.2%	20.4%	2.6%
Heidelberg	2,152	13.9%	7.3%	0.9%
Jackson	2,247	14.6%	7.7%	1.0%
Millcreek	1,212	9.3%	4.1%	0.5%
Myerstown	196	35.8%	0.7%	0.1%
Richland	195	21.9%	0.7%	0.1%
Lebanon SD	855	29.3%	2.9%	0.4%
Lebanon City	813	30.5%	2.8%	0.3%
West Lebanon	42	16.5%	0.1%	0.0%
Northern Lebanon SD	8,080	8.6%	27.5%	3.5%
Bethel	2,325	10.4%	7.9%	1.0%
Cold Spring	50	0.3%	0.2%	0.0%
East Hanover	2,131	10.2%	7.3%	0.9%
Jonestown	127	31.7%	0.4%	0.1%
Swatara	1,760	13.2%	6.0%	0.8%
Union	1,687	8.9%	5.7%	0.7%
Palmyra Area SD	4,137	17.5%	14.1%	1.8%
North Londonderry	1,561	22.7%	5.3%	0.7%
Palmyra	520	42.1%	1.8%	0.2%
South Londonderry	2,056	13.2%	7.0%	0.9%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

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residential lands are high density residential. Palmyra Borough has the highest percentage of high density residential land in its school district region (33.1%), followed by Myerstown Borough (28.9%) and the City of Lebanon (28.1%). The City of Lebanon has the greatest number of acres (749) used for high density residential development, followed by North Lebanon Township (488) and Palmyra Borough (409). There are also pockets of high density residential development in the boroughs including Jonestown Borough, Mount Gretna Borough, and Richland Borough, as well as in the villages of Newmanstown, Campbelltown, Schaefferstown, and Quentin, and in portions of the townships that abut the City of Lebanon.

Table 9-3 High Density Residential Land Use Analysis

	Total Acreage	Total Residential Acreage	High Density Residential (HDR)				
			HDR Acreage	% of Municipal or SD Residential	% of Municipal or SD Total	% of County Residential	% of County Total
Lebanon County	234,222	29,353	5,935	n/a	n/a	20.2%	2.53%
Annville-Cleona SD	25,093	3,312	790	23.9%	3.1%	2.7%	0.34%
Annville	1,043	279	211	75.4%	20.2%	0.7%	0.09%
Cleona	540	162	122	75.5%	22.7%	0.4%	0.05%
North Annville	11,056	1,179	196	16.6%	1.8%	0.7%	0.08%
South Annville	12,454	1,691	262	15.5%	2.1%	0.9%	0.11%
Cornwall-Lebanon SD	42,522	6,967	1,473	21.1%	3.5%	5.0%	0.63%
Cornwall	6,237	1,383	103	7.4%	1.6%	0.3%	0.04%
Mount Gretna	92	30	9	31.1%	10.1%	0.0%	0.00%
North Cornwall	6,077	1,136	257	22.6%	4.2%	0.9%	0.11%
North Lebanon	10,704	2,256	488	21.6%	4.6%	1.7%	0.21%
South Lebanon	13,902	1,494	391	26.2%	2.8%	1.3%	0.17%
West Cornwall	5,510	668	226	33.8%	4.1%	0.8%	0.10%
ELCO SD	45,366	6,002	1,086	18.1%	2.4%	3.7%	0.46%
Heidelberg	15,439	2,152	265	12.3%	1.7%	0.9%	0.11%
Jackson	15,422	2,247	368	16.4%	2.4%	1.3%	0.16%
Millcreek	13,069	1,212	193	15.9%	1.5%	0.7%	0.08%
Myerstown	548	196	159	80.8%	28.9%	0.5%	0.07%
Richland	887	195	102	52.4%	11.5%	0.3%	0.04%
Lebanon SD	2,920	855	788	92.1%	27.0%	2.7%	0.34%
Lebanon City	2,667	813	749	92.0%	28.1%	2.6%	0.32%
West Lebanon	253	42	39	93.3%	15.4%	0.1%	0.02%
Northern Lebanon SD	94,674	8,080	814	10.1%	0.9%	2.8%	0.35%
Bethel	22,269	2,325	77	3.3%	0.3%	0.3%	0.03%
Cold Spring	18,161	50	4	7.8%	0.0%	0.0%	0.00%
East Hanover	20,883	2,131	219	10.3%	1.0%	0.7%	0.09%
Jonestown	401	127	45	35.6%	11.3%	0.2%	0.02%
Swatara	13,937	1,760	230	13.1%	1.7%	0.8%	0.10%
Union	19,023	1,687	239	14.1%	1.3%	0.8%	0.10%
Palmyra Area SD	23,647	4,137	984	23.8%	4.2%	3.4%	0.42%
North Londonderry	6,876	1,561	265	17.0%	3.8%	0.9%	0.11%
Palmyra	1,235	520	409	78.6%	33.1%	1.4%	0.17%
South Londonderry	15,536	2,056	310	15.1%	2.0%	1.1%	0.13%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

- The Cornwall-Lebanon School District region has the highest percentage of high density residential lands (5.0%) of the county's total high density residential lands, followed by the ELCO (3.7%) and Palmyra Area School Districts (3.4%). High density residential housing accounts for 92.1% of all of the residential land in the Lebanon School District, compared to 23.9% in the Annville-Cleona School District and 23.8% in the Palmyra Area School District.

Low Density Residential Lands

- Nearly 10% of the total land in the county is being used for low density residential land (less than 4 units per acre), compared to the 2.5% that is being used for high density residential uses. Acreages are shown in Table 9-4 and shown on the March 2006 Land Use Map.
- Locally, low density residential lands dominate residential land use types; low density residential lands comprise more than 75% of residential lands in 15 of the 26 municipalities. Furthermore, low density residential development accounts for the largest percentage of total municipal land in Mount Gretna (22.3%) and Cornwall (20.3%), followed by Jonestown (20.2%), North Londonderry Township (18.5%), and North Lebanon Township (16.3%). Bethel Township has the greatest number of acres (2,163) considered to be low density residential development.
- Low density residential uses are dispersed throughout the county in planned subdivisions and in strip patterns along roadways. This pattern is most noticeable in North and South Londonderry Townships, in Heidelberg and Jackson Townships, in Bethel and East Hanover Townships and North Lebanon Township. With the exception of North Londonderry, these municipalities each have more than 2,000 acres and 20% of total lands in their respective school district regions.
- The Cornwall-Lebanon and ELCO School Districts have the highest percentages of low density residential development. In the Cornwall-Lebanon School District, low density residential land uses account for 77.8% of all residential land in the district and 12.78% of all land in the district. In the ELCO School District, low density residential land accounts for 79.38% of the residential uses in the district and 10.5% of all of the land in the district.

Residential/Commercial

- Residential/Commercial lands contain both uses and total 264 acres or 0.9% of the county lands. Acreages are shown in Table 9-5 and shown on the March 2006 Land Use Map.
- Jackson Township has the greatest number of acres (34) considered to be used for Residential/Commercial mix, followed by Bethel Township (30). Myerstown Borough has the highest relative percentage of Residential/Commercial land (1.0%) followed by Annville Township (0.9%).

Seasonal Residential Lands

- Seasonal residential lands comprise 434 acres or 0.25% of Lebanon County. Acreages are shown in Table 9-6 and shown on the March 2006 Land Use Map.
- Seasonal residential lands total 16.7% of all residential lands in the county's most rural municipality, Cold Spring Township. With this exception noted, Union Township has the greatest number of acres considered seasonal residential lands (130), and the greatest relative percentage of seasonal housing among all residential types (7.7%).
- The Northern Lebanon and ELCO School Districts have the highest percentages of seasonal residential among their residential lands, which is not surprising considering their more rural environments and the acreages noted above for Cold Spring and Union Townships. Seasonal housing is also present in Mt. Gretna, South Lebanon, and West Cornwall in the Cornwall-Lebanon School District along South Mountain, though it occupies a much smaller number of acres.
- Comparison of land use data (in acres) with seasonal housing unit data (in units) from the U.S. Census Bureau indicates that seasonal residential properties includes small parcels as well as larger tracts. For example, in North Annville, there are 11 seasonal units and 3 total acres of seasonal property, while in Millcreek Township; there are six units on 48 acres. In some instances, seasonal properties of such small size in close proximity to one another have been classified as high density residential. This explains why the seasonal residential acreage in Lebanon City, Mt. Gretna, Palmyra, and West Cornwall is reported as '0', when seasonal units are known to exist in these municipalities. It may seem exaggerated to classify these units as high density; however, since their occupancy is not regulated, these units could easily be used year-round and require year-round public services.

Table 9-4 Low Density Residential Land Use Analysis

	Total Acreage	Total Residential Acreage	Low Density Residential				
			LDR Acreage	% of Municipal or SD Residential	% of Municipal or SD Total	% of County Residential	% of County Total
Lebanon County	234,222	29,353	22,720	n/a	n/a	77.4%	9.7%
Annville-Cleona SD	25,093	3,312	2,472	74.6%	9.8%	8.4%	1.1%
Annville	1,043	279	59	21.3%	5.7%	0.2%	0.0%
Cleona	540	162	39	24.0%	7.2%	0.1%	0.0%
North Annville	11,056	1,179	972	82.4%	8.8%	3.3%	0.4%
South Annville	12,454	1,691	1,402	82.9%	11.3%	4.8%	0.6%
Cornwall-Lebanon SD	42,522	6,967	5,420	77.8%	12.7%	18.5%	2.3%
Cornwall	6,237	1,383	1,268	91.6%	20.3%	4.3%	0.5%
Mount Gretna	92	30	20	68.9%	22.3%	0.1%	0.0%
North Cornwall	6,077	1,136	874	76.9%	14.4%	3.0%	0.4%
North Lebanon	10,704	2,256	1,750	77.5%	16.3%	6.0%	0.7%
South Lebanon	13,902	1,494	1,071	71.7%	7.7%	3.6%	0.5%
West Cornwall	5,510	668	438	65.5%	7.9%	1.5%	0.2%
ELCO SD	45,366	6,002	4,764	79.4%	10.5%	16.2%	2.0%
Heidelberg	15,439	2,152	1,848	85.8%	12.0%	6.3%	0.8%
Jackson	15,422	2,247	1,845	82.1%	12.0%	6.3%	0.8%
Millcreek	13,069	1,212	951	78.5%	7.3%	3.2%	0.4%
Myerstown	548	196	32	16.4%	5.9%	0.1%	0.0%
Richland	887	195	89	45.6%	10.0%	0.3%	0.0%
Lebanon SD	2,920	855	56	6.6%	1.9%	0.2%	0.0%
Lebanon City	2,667	813	54	6.6%	2.0%	0.2%	0.0%
West Lebanon	253	42	3	6.5%	1.1%	0.0%	0.0%
Northern Lebanon SD	94,674	8,080	6,923	85.7%	7.3%	23.6%	3.0%
Bethel	22,269	2,325	2,163	93.0%	9.7%	7.4%	0.9%
Cold Spring	18,161	50	38	75.5%	0.2%	0.1%	0.0%
East Hanover	20,883	2,131	1,863	87.4%	8.9%	6.3%	0.8%
Jonestown	401	127	81	63.7%	20.2%	0.3%	0.0%
Swatara	13,937	1,760	1,477	83.9%	10.6%	5.0%	0.6%
Union	19,023	1,687	1,301	77.1%	6.8%	4.4%	0.6%
Palmyra Area SD	23,647	4,137	3,085	74.6%	13.0%	10.5%	1.3%
North Londonderry	6,876	1,561	1,275	81.7%	18.5%	4.3%	0.5%
Palmyra	1,235	520	104	19.9%	8.4%	0.4%	0.0%
South Londonderry	15,536	2,056	1,706	83.0%	11.0%	5.8%	0.7%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

Table 9-5 Residential/Commercial Mix Land Use Analysis

	Total Acreage	Total Residential Acreage	Residential/Commercial Mix				
			R/C Acreage	% of Municipal or SD Residential	% of Municipal or SD Total	% of County Residential	% of County Total
Lebanon County	234,222	29,353	264	n/a	n/a	0.9%	0.1%
Annville-Cleona SD	25,093	3,312	27	0.8%	0.1%	0.1%	0.0%
Annville	1,043	279	9	3.3%	0.9%	0.0%	0.0%
Cleona	540	162	1	0.4%	0.1%	0.0%	0.0%
North Annville	11,056	1,179	8	0.7%	0.1%	0.0%	0.0%
South Annville	12,454	1,691	9	0.5%	0.1%	0.0%	0.0%
Cornwall-Lebanon SD	42,522	6,967	50	0.7%	0.1%	0.2%	0.0%
Cornwall	6,237	1,383	8	0.6%	0.1%	0.0%	0.0%
Mount Gretna	92	30	0	0.0%	0.0%	0.0%	0.0%
North Cornwall	6,077	1,136	6	0.5%	0.1%	0.0%	0.0%
North Lebanon	10,704	2,256	18	0.8%	0.2%	0.1%	0.0%
South Lebanon	13,902	1,494	13	0.9%	0.1%	0.0%	0.0%
West Cornwall	5,510	668	5	0.7%	0.1%	0.0%	0.0%
ELCO SD	45,366	6,002	78	1.3%	0.2%	0.3%	0.0%
Heidelberg	15,439	2,152	14	0.7%	0.1%	0.0%	0.0%
Jackson	15,422	2,247	34	1.5%	0.2%	0.1%	0.0%
Millcreek	13,069	1,212	20	1.6%	0.2%	0.1%	0.0%
Myerstown	548	196	6	2.8%	1.0%	0.0%	0.0%
Richland	887	195	4	2.1%	0.5%	0.0%	0.0%
Lebanon SD	2,920	855	11	1.3%	0.4%	0.0%	0.0%
Lebanon City	2,667	813	11	1.4%	0.4%	0.0%	0.0%
West Lebanon	253	42	0	0.3%	0.0%	0.0%	0.0%
Northern Lebanon SD	94,674	8,080	62	0.8%	0.1%	0.2%	0.0%
Bethel	22,269	2,325	30	1.3%	0.1%	0.1%	0.0%
Cold Spring	18,161	50	0	0.0%	0.0%	0.0%	0.0%
East Hanover	20,883	2,131	8	0.4%	0.0%	0.0%	0.0%
Jonestown	401	127	1	0.8%	0.2%	0.0%	0.0%
Swatara	13,937	1,760	5	0.3%	0.0%	0.0%	0.0%
Union	19,023	1,687	18	1.1%	0.1%	0.1%	0.0%
Palmyra Area SD	23,647	4,137	36	0.9%	0.2%	0.1%	0.0%
North Londonderry	6,876	1,561	17	1.1%	0.2%	0.1%	0.0%
Palmyra	1,235	520	8	1.4%	0.6%	0.0%	0.0%
South Londonderry	15,536	2,056	12	0.6%	0.1%	0.0%	0.0%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

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Table 9-6 Seasonal Residential Land Use Analysis

	Total Acreage	Total Residential Acreage	Seasonal Residential					Seasonal, Recreational, or Occasional Housing Units	Seasonal Residential parcels classified as High Density Residential
			SR Acreage	% of Municipal or SD Residential	% of Municipal or SD Total	% of County Residential	% of County Total		
Lebanon County	234,222	29,353	434	n/a	n/a	1.5%	0.2%	458	300
Annville-Cleona SD	25,093	3,312	23	0.7%	0.1%	0.1%	0.0%	34	14
Annville	1,043	279	0	0.0%	0.0%	0.0%	0.0%	9	9
Cleona	540	162	0	0.0%	0.0%	0.0%	0.0%	0	0
North Annville	11,056	1,179	3	0.3%	0.0%	0.0%	0.0%	11	1
South Annville	12,454	1,691	20	1.2%	0.2%	0.1%	0.0%	14	4
Cornwall-Lebanon SD	42,522	6,967	24	0.3%	0.1%	0.1%	0.0%	232	223
Cornwall	6,237	1,383	5	0.3%	0.1%	0.0%	0.0%	4	2
Mount Gretna	92	30	0	0.0%	0.0%	0.0%	0.0%	81	81
North Cornwall	6,077	1,136	0	0.0%	0.0%	0.0%	0.0%	17	17
North Lebanon	10,704	2,256	1	0.0%	0.0%	0.0%	0.0%	5	5
South Lebanon	13,902	1,494	19	1.3%	0.1%	0.1%	0.0%	6	0
West Cornwall	5,510	668	0	0.0%	0.0%	0.0%	0.0%	119	119
ELCO SD	45,366	6,002	74	1.2%	0.2%	0.3%	0.0%	20	0
Heidelberg	15,439	2,152	26	1.2%	0.2%	0.1%	0.0%	8	0
Jackson	15,422	2,247	0	0.0%	0.0%	0.0%	0.0%	6	6
Millcreek	13,069	1,212	48	4.0%	0.4%	0.2%	0.0%	6	0
Myerstown	548	196	0	0.0%	0.0%	0.0%	0.0%	0	0
Richland	887	195	0	0.0%	0.0%	0.0%	0.0%	0	0
Lebanon SD	2,920	855	0	0.0%	0.0%	0.0%	0.0%	22	22
Lebanon City	2,667	813	0	0.0%	0.0%	0.0%	0.0%	22	22
West Lebanon	253	42	0	0.0%	0.0%	0.0%	0.0%	0	0
Northern Lebanon SD	94,674	8,080	282	3.5%	0.3%	1.0%	0.1%	112	32
Bethel	22,269	2,325	54	2.3%	0.2%	0.2%	0.0%	35	0
Cold Spring	18,161	50	8	16.7%	0.0%	0.0%	0.0%	4	1
East Hanover	20,883	2,131	42	2.0%	0.2%	0.1%	0.0%	25	9
Jonestown	401	127	0	0.0%	0.0%	0.0%	0.0%	0	0
Swatara	13,937	1,760	48	2.7%	0.3%	0.2%	0.0%	6	0
Union	19,023	1,687	130	7.7%	0.7%	0.4%	0.1%	42	6
Palmyra Area SD	23,647	4,137	31	0.8%	0.1%	0.1%	0.0%	38	25
North Londonderry	6,876	1,561	4	0.3%	0.1%	0.0%	0.0%	13	9
Palmyra	1,235	520	0	0.0%	0.0%	0.0%	0.0%	11	11
South Londonderry	15,536	2,056	27	1.3%	0.2%	0.1%	0.0%	14	5

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

Commercial Lands

Commercial uses are predominantly located near the edges of concentrated development. Northern Lebanon and Cornwall-Lebanon School Districts contain 62.1% of commercial lands in the county, including several private golf courses.

Countywide Statistics and Trends

Commercial land uses occupy 7,738 acres (3.3%) of the county’s land area, as shown in Table 9-7. The March 2006 Land Use Map illustrates the location of commercial land uses. These uses are distributed throughout the county, generally adjacent to residential areas and in downtown centers. The eight golf courses represent several of the largest commercial properties.

School District Statistics and Trends

The Northern Lebanon School District has the largest number of acres in commercial uses (2,579), which represents one third of the county’s commercial acreage. These lands include the Swift Trucking facility, the MSC facility, the Blue Mountain View Country Club, the Monroe Valley Golf Course, as well as smaller business parcels along Routes 22 and 443.

The Cornwall-Lebanon School District contains the second largest commercial acreage at 2,231 acres, 28.8% of the county’s commercial lands. These lands include the shopping centers along Routes 72 and 422, the Tuck Business Park, the Lebanon Country Club, Fairview, Iron Valley, Royal Oaks Golf Courses, and the Quentin Riding Club.

The Lebanon School District contains the highest percentage of commercial lands within its school district region. (18.0%). Most of these are relatively small parcels interspersed throughout the downtown Lebanon area.

Municipal Statistics and Trends

Bethel Township has the largest number of commercial acres (1,013), comprising 13.1% of the county’s commercial area. The Route 22 corridor in the township is mostly commercial. Two golf courses and lands owned by the Lebanon Beagle Club exaggerate the total commercial acreage beyond traditional office and retail service categories.

Table 9-7 Distribution of Commercial Lands

	Commercial			
	Commercial Acreage	% of Municipality or SD	% of County Commercial	% of County
Lebanon County	7,738	n/a	100.0%	3.3%
Annville-Cleona SD	631	2.5%	8.2%	0.3%
Annville	301	28.8%	3.9%	0.1%
Cleona	34	6.3%	0.4%	0.0%
North Annville	174	1.6%	2.3%	0.1%
South Annville	122	1.0%	1.6%	0.1%
Cornwall-Lebanon SD	2,231	5.3%	28.8%	1.0%
Cornwall	492	7.9%	6.4%	0.2%
Mount Gretna	5	4.2%	0.1%	0.0%
North Cornwall	597	9.8%	7.7%	0.3%
North Lebanon	524	4.9%	6.8%	0.2%
South Lebanon	310	2.3%	4.0%	0.1%
West Cornwall	303	5.5%	3.9%	0.1%
ELCO SD	969	2.1%	12.5%	0.4%
Heidelberg	246	1.6%	3.2%	0.1%
Jackson	533	3.5%	6.9%	0.2%
Millcreek	73	0.6%	0.9%	0.0%
Myerstown	66	12.1%	0.9%	0.0%
Richland	50	5.6%	0.6%	0.0%
Lebanon SD	525	18.0%	6.8%	0.2%
Lebanon City	460	17.3%	5.9%	0.2%
West Lebanon	65	25.6%	0.8%	0.0%
Northern Lebanon SD	2,579	2.7%	33.3%	1.1%
Bethel	1,013	4.5%	13.1%	0.4%
Cold Spring	224	1.2%	2.9%	0.1%
East Hanover	333	1.6%	4.3%	0.1%
Jonestown	22	5.5%	0.3%	0.0%
Swatara	437	3.1%	5.6%	0.2%
Union	549	2.9%	7.1%	0.2%
Palmyra Area SD	803	3.4%	10.4%	0.3%
North Londonderry	323	4.7%	4.2%	0.1%
Palmyra	169	13.7%	2.2%	0.1%
South Londonderry	311	2.0%	4.0%	0.1%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

North Cornwall, North Lebanon, Jackson, and Union Townships all have more than 500 acres of commercial land. North Cornwall's commercial acreage includes three golf courses and the Route 72 retail strip. North Lebanon's commercial lands include the Lebanon Valley Mall and businesses along Route 72, as well as the majority of the county landfill. Jackson Township's commercial acreage is also inflated by golf course acreage, namely the Lebanon Valley Golf Course. Union Township's commercial acreage includes those listed above for the Northern Lebanon School District as well as smaller parcels in and around Jonestown.

Industrial Lands

The county contains approximately 1,321 acres of industrial land, or 0.6% of the total area, as shown in Table 9-8. Most of the county's industrial lands—1,111 of the 1,321 acres through four school districts—are located along or near Route 422 and the Norfolk Southern rail corridor. The ELCO and Cornwall-Lebanon regions contain the majority of industrial lands (59.6%). The Palmyra Area School District, while located along Route 422, has comparatively little industrial land use, due in part to the fact that its industrial area spans its municipal border with Derry Township, Dauphin County. Additional industrial land uses are located along Route 22 and Interstate 81 in the Northern Lebanon School District.

The ELCO School District region contains the highest number of industrial acres (432) and the highest percentage of the county's total industrial lands (31.9%). These include lands along the Norfolk-Southern rail corridor in Myerstown and Richland and in Jackson and Millcreek Townships; additional industrial lands are found in Heidelberg Township.

Cornwall-Lebanon ranks second with 344 acres and 27.7% of the county's industrial lands.

South Lebanon has the highest number of industrial acres (215) largely attributable to the Lebanon Valley Business Park. Weaber, Inc. in South Annville, Dutchwood Manufacturing in Jackson, Trol Systems in Millcreek and former Bethlehem Steel facilities, which now house several businesses in Lebanon, help bring total industrial lands in these municipalities over 100 acres.

Table 9-8 Distribution of Industrial Lands

	Industrial			
	Industrial Acreage	% of Municipality or SD	% of County Industrial	% of County
Lebanon County	1,321	n/a	100.0%	0.6%
Annville-Cleona SD	177	0.7%	13.4%	0.1%
Annville	17	1.6%	1.3%	0.0%
Cleona	15	2.7%	1.1%	0.0%
North Annville	30	0.3%	2.2%	0.0%
South Annville	116	0.9%	8.6%	0.0%
Cornwall-Lebanon SD	344	0.9%	27.7%	0.0%
Cornwall	15	0.2%	1.2%	0.0%
Mount Gretna	0	0.0%	0.0%	0.0%
North Cornwall	23	0.4%	1.2%	0.0%
North Lebanon	65	0.6%	8.4%	0.0%
South Lebanon	215	1.6%	18.6%	0.1%
West Cornwall	26	0.5%	2.6%	0.0%
ELCO SD	432	1.0%	31.9%	0.2%
Heidelberg	63	0.4%	4.8%	0.0%
Jackson	169	1.1%	12.8%	0.1%
Millcreek	108	0.8%	8.8%	0.0%
Myerstown	51	9.4%	3.9%	0.0%
Richland	40	4.5%	3.0%	0.0%
Lebanon SD	158	5.4%	11.7%	0.1%
Lebanon City	125	4.7%	9.4%	0.1%
West Lebanon	33	13.1%	2.5%	0.0%
Northern Lebanon SD	157	0.2%	11.6%	0.1%
Bethel	59	0.3%	4.4%	0.0%
Cold Spring	0	0.0%	0.0%	0.0%
East Hanover	6	0.0%	0.4%	0.0%
Jonestown	0	0.0%	0.0%	0.0%
Swatara	11	0.1%	0.8%	0.0%
Union	82	0.4%	6.2%	0.0%
Palmyra Area SD	54	0.2%	4.0%	0.0%
North Londonderry	0	0.0%	0.0%	0.0%
Palmyra	35	2.8%	2.6%	0.0%
South Londonderry	19	0.1%	1.4%	0.0%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

Institutional Lands

For the purpose of this analysis, institutional land uses are lands used by: ambulance companies, cemeteries; community centers, fire companies, hospitals, libraries, municipal locations, police, religious facilities, and schools. Together, these facilities occupy 2,164 acres, or 0.9% of the county’s land area. As shown in Table 9-9, the Cornwall-Lebanon region contains approximately one-third of the county’s institutional lands, due in large part to Cedar Haven and the County Prison located in South Lebanon Township. Otherwise, these uses are relatively evenly distributed throughout the county, comprising less than two percent of municipal and school district areas except in Annville, Cleona, South Lebanon, Myerstown, Lebanon, Jonestown and Palmyra, where such public facilities are concentrated.

Table 9-9 Distribution of Institutional Lands

	Institutional			
	Institutional Acreage	% of Municipality or SD	% of County Institutional Land	% of County
Lebanon County	2,164	n/a	100.0%	0.9%
Annville-Cleona SD	257	1.0%	11.9%	0.1%
Annville	53	5.1%	2.5%	0.0%
Cleona	18	3.3%	0.8%	0.0%
North Annville	105	1.0%	4.9%	0.0%
South Annville	80	0.6%	3.7%	0.0%
Cornwall-Lebanon SD	693	1.6%	32.0%	0.3%
Cornwall	26	0.4%	1.2%	0.0%
Mount Gretna	0	0.0%	0.0%	0.0%
North Cornwall	26	0.4%	1.2%	0.0%
North Lebanon	181	1.7%	8.4%	0.1%
South Lebanon	403	2.9%	18.6%	0.2%
West Cornwall	57	1.0%	2.6%	0.0%
ELCO SD	322	0.7%	14.9%	0.1%
Heidelberg	50	0.3%	2.3%	0.0%
Jackson	169	1.1%	7.8%	0.1%
Millcreek	63	0.5%	2.9%	0.0%
Myerstown	33	6.1%	1.5%	0.0%
Richland	7	0.8%	0.3%	0.0%
Lebanon SD	137	4.7%	6.3%	0.1%
Lebanon City	135	5.0%	6.2%	0.1%
West Lebanon	2	0.8%	0.1%	0.0%
Northern Lebanon SD	415	0.4%	19.2%	0.2%
Bethel	107	0.5%	4.9%	0.0%
Cold Spring	0	0.0%	0.0%	0.0%
East Hanover	162	0.8%	7.5%	0.1%
Jonestown	15	3.7%	0.7%	0.0%
Swatara	40	0.3%	1.9%	0.0%
Union	91	0.5%	4.2%	0.0%
Palmyra Area SD	341	1.4%	15.8%	0.1%
North Londonderry	83	1.2%	3.8%	0.0%
Palmyra	83	6.7%	3.8%	0.0%
South Londonderry	176	1.1%	8.1%	0.1%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

Recreation Lands

Just over one percent of the county is primarily dedicated to and developed for recreation. Other lands are used for recreation but remain in a natural condition, e.g. sportmen's clubs, and are therefore classified as forest, scrub brush, etc.

The Cornwall-Lebanon School District has the greatest amount of recreation land, accounting for more than half of the county's total, such lands include Governor Dick, South Hills Park, and Stoevers Dam Recreation Area. Recreational lands in the Northern Lebanon School District region comprise nearly one-quarter of the county's total recreational lands.

Table 9-10 Distribution of Recreation Lands

	Recreational Lands			
	Recreational	% of Municipality or SD	% of County Recreational Land	% of County
Lebanon County	2,669	n/a	100.0%	1.1%
Annville-Cleona SD	41	0.2%	1.6%	0.0%
Annville	23	2.2%	0.9%	0.0%
Cleona	15	2.8%	0.6%	0.0%
North Annville	0	0.0%	0.0%	0.0%
South Annville	3	0.0%	0.1%	0.0%
Cornwall-Lebanon SD	1,605	3.8%	60.1%	0.7%
Cornwall	51	0.8%	1.9%	0.0%
Mount Gretna	0	0.0%	0.0%	0.0%
North Cornwall	36	0.6%	1.3%	0.0%
North Lebanon	288	2.7%	10.8%	0.1%
South Lebanon	126	0.9%	4.7%	0.1%
West Cornwall	1,104	20.0%	41.4%	0.5%
ELCO SD	107	0.2%	4.0%	0.0%
Heidelberg	9	0.1%	0.3%	0.0%
Jackson	59	0.4%	2.2%	0.0%
Millcreek	10	0.1%	0.4%	0.0%
Myerstown	27	4.9%	1.0%	0.0%
Richland	3	0.3%	0.1%	0.0%
Lebanon SD	204	7.0%	7.7%	0.1%
Lebanon City	189	7.1%	7.1%	0.1%
West Lebanon	15	6.0%	0.6%	0.0%
Northern Lebanon SD	612	0.7%	22.9%	0.3%
Bethel	10	0.0%	0.4%	0.0%
Cold Spring	0	0.0%	0.0%	0.0%
East Hanover	105	0.5%	3.9%	0.0%
Jonestown	17	4.1%	0.6%	0.0%
Swatara	21	0.2%	0.8%	0.0%
Union	459	2.4%	17.2%	0.2%
Palmyra Area SD	99	0.4%	3.7%	0.0%
North Londonderry	0	0.0%	0.0%	0.0%
Palmyra	15	1.2%	0.6%	0.0%
South Londonderry	84	0.5%	3.2%	0.0%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

Transportation Lands

Transportation facilities occupy 7,395 acres or 3.2% of the county's land area. The Northern Lebanon School District has the most transportation land area due to the extensive right-of-ways for state-owned highways, e.g. Interstates 81 and 78, and their interchanges. In Lebanon County, transportation lands typically comprise less than one percent of the municipal and school district area; only in Cornwall Borough does this figure reach 1.2% of municipal land area, due to the rights-of-way and interchange for US Route 322 and PA Route 72. Transportation lands do not include warehousing facilities, which are classified as commercial, or recreation trail rights-of-way, which are classified as recreational lands.

Table 9-11 Distribution of Transportation Lands

	Transportation			
	Transportation Acreage	% of Municipality or SD	% of County Trans. Land	% of County
Lebanon County	7,395	n/a	100.0%	3.2%
Annville-Cleona SD	639	0.1%	8.6%	0.3%
Annville	136	0.4%	1.8%	0.1%
Cleona	110	0.0%	1.5%	0.0%
North Annville	197	0.1%	2.7%	0.1%
South Annville	196	0.1%	2.6%	0.1%
Cornwall-Lebanon SD	1,573	0.5%	21.3%	0.7%
Cornwall	240	1.2%	3.2%	0.1%
Mount Gretna	30	0.0%	0.4%	0.0%
North Cornwall	280	0.0%	3.8%	0.1%
North Lebanon	442	0.2%	6.0%	0.2%
South Lebanon	441	0.7%	6.0%	0.2%
West Cornwall	141	0.6%	1.9%	0.1%
ELCO SD	1,116	0.3%	15.1%	0.5%
Heidelberg	261	0.5%	3.5%	0.1%
Jackson	442	0.0%	6.0%	0.2%
Millcreek	258	0.2%	3.5%	0.1%
Myerstown	91	0.7%	1.2%	0.0%
Richland	64	0.0%	0.9%	0.0%
Lebanon SD	639	0.2%	8.6%	0.3%
Lebanon City	592	0.2%	8.0%	0.3%
West Lebanon	47	0.0%	0.6%	0.0%
Northern Lebanon SD	2,466	0.0%	33.3%	1.1%
Bethel	660	0.0%	.8.9%	0.3%
Cold Spring	20	0.0%	0.3%	0.0%
East Hanover	516	0.0%	7.0%	0.2%
Jonestown	49	0.2%	0.7%	0.0%
Swatara	505	0.0%	6.8%	0.2%
Union	715	0.1%	9.7%	0.3%
Palmyra Area SD	962	0.5%	13.0%	0.4%
North Londonderry	317	0.1%	4.3%	0.1%
Palmyra	216	0.1%	2.9%	0.1%
South Londonderry	429	0.6%	5.8%	0.2%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

Utility Lands

Land dedicated to utilities occupies 531 acres, or 0.2% of the county's total land area, as shown in Table 9-12. These lands are used for public utility facilities, such as treatment plants, storage tanks, and pump stations; they do not include rights-of-ways, which are typically lands under easement for use by the utility authority, not under their ownership. As shown in Table 9-12, Cornwall-Lebanon (225 acres), ELCO (120 acres), and Palmyra Area (108 acres) School Districts have substantially more utility lands than the other three districts. Together, utilities land in these three regions account for 453.5 of the 530.8 total acres used for utilities. The Northern Lebanon and Annville-Cleona School Districts have 36.6 acres and 35.8 acres respectively. The Lebanon School District has just 4.9 acres dedicated to utilities.

Table 9-12 Distribution of Utility Lands

	Utility Acreage	% of Municipality or SD	% of County Utility Land	% of County
Lebanon County	531	n/a	100.0%	0.2%
Annville-Cleona SD	36	2.5%	6.7%	0.0%
Annville	4	13.0%	0.7%	0.0%
Cleona	0	20.4%	0.0%	0.0%
North Annville	16	1.8%	3.1%	0.0%
South Annville	16	1.6%	3.0%	0.0%
Cornwall-Lebanon SD	225	3.7%	42.4%	0.1%
Cornwall	76	3.9%	14.4%	0.0%
Mount Gretna	0	24.6%	0.0%	0.0%
North Cornwall	1	4.6%	0.1%	0.0%
North Lebanon	20	4.1%	3.8%	0.0%
South Lebanon	96	3.2%	18.0%	0.0%
West Cornwall	32	2.6%	6.1%	0.0%
ELCO SD	120	2.5%	22.6%	0.1%
Heidelberg	83	1.7%	15.6%	0.0%
Jackson	5	2.9%	0.9%	0.0%
Millcreek	28	2.0%	5.3%	0.0%
Myerstown	4	16.5%	0.8%	0.0%
Richland	0	7.2%	0.0%	0.0%
Lebanon SD	5	21.9%	0.9%	0.0%
Lebanon City	5	22.2%	0.9%	0.0%
West Lebanon	0	18.6%	0.0%	0.0%
Northern Lebanon SD	37	2.1%	6.9%	0.0%
Bethel	4	3.0%	0.8%	0.0%
Cold Spring	0	0.1%	0.0%	0.0%
East Hanover	0	2.5%	0.0%	0.0%
Jonestown	1	12.2%	0.1%	0.0%
Swatara	6	0.4%	1.2%	0.0%
Union	25	3.8%	4.8%	0.0%
Palmyra Area SD	108	4.1%	20.4%	0.0%
North Londonderry	10	4.6%	1.9%	0.0%
Palmyra	1	17.5%	0.1%	0.0%
South Londonderry	97	2.8%	18.3%	0.0%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

Military Lands

The Fort Indiantown Gap Military Reservation occupies 17,000 acres in Dauphin and northern Lebanon Counties. Of the 12,336 acres of the reservation in Lebanon County, approximately 2,427 acres were considered developed or built military land use. The remainder of the reservation consists of public-semi-public land uses, mowed grass, forest, and scrub brush lands that were delineated as separate land uses/covers.

Table 9-13 Distribution Military Lands

	Military Acreage	% of Municipality or SD	% of County Military Land	% of County
Lebanon County	2,427	n/a	100.0%	1.0%
Northern Lebanon SD	2,427	2.6%	100.0%	1.0%
Bethel	0	0.0%	0.0%	0.0%
Cold Spring	0	0.0%	0.0%	0.0%
East Hanover	764	3.7%	31.5%	0.3%
Jonestown	0	0.0%	0.0%	0.0%
Swatara	0	0.0%	0.0%	0.0%
Union	1,663	8.7%	68.5%	0.7%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

Working Open Space Lands: Agricultural, Forest, and Mineral Extraction

Working open space uses including agriculture, forestry and mineral extraction comprise 72.6% of the county's total land area.

Agricultural Lands

Agriculture is the predominant land use in Lebanon County, occupying 99,996 acres and 42.7% of the total county land area. By virtue of size, topography and soils capabilities, the Northern Lebanon School District has the most agricultural land with 29,879 acres occupying 12.8% of the total county land area, as shown in Table 9-14. The ELCO School District has nearly as much agricultural land (27,269 acres or 11.6% of the total county land area), despite being geographically smaller than the Northern Lebanon School District. Additional significant agricultural areas are in the Annville-Cleona and Cornwall-Lebanon School Districts.

Table 9-14 Distribution of Agricultural Lands

	Agricultural Acreage	% of Municipality or SD	% of County Agricultural Lands	% of County
Lebanon County	99,996	n/a	100.0%	42.7%
Annville-Cleona SD	15,333	61.1%	15.3%	6.5%
Annville	70	6.7%	0.1%	0.0%
Cleona	157	29.0%	0.2%	0.1%
North Annville	6,901	62.4%	6.9%	2.9%
South Annville	8,206	65.9%	8.2%	3.5%
Cornwall-Lebanon SD	18,957	44.6%	19.0%	8.1%
Cornwall	932	14.9%	0.9%	0.4%
Mount Gretna	0	0.0%	0.0%	0.0%
North Cornwall	3,354	55.2%	3.4%	1.4%
North Lebanon	5,329	49.8%	5.3%	2.3%
South Lebanon	7,630	54.9%	7.6%	3.3%
West Cornwall	1,712	31.1%	1.7%	0.7%
ELCO SD	27,269	60.1%	27.3%	11.6%
Heidelberg	9,136	59.2%	9.1%	3.9%
Jackson	10,644	69.0%	10.6%	4.5%
Millcreek	6,998	53.5%	7.0%	3.0%
Myerstown	19	3.5%	0.0%	0.0%
Richland	471	53.1%	0.5%	0.2%
Lebanon SD	44	1.5%	0.0%	0.0%
Lebanon City	44	1.6%	0.0%	0.0%
West Lebanon	0	0.0%	0.0%	0.0%
Northern Lebanon SD	29,879	31.6%	29.9%	12.8%
Bethel	11,124	50.0%	11.1%	4.7%
Cold Spring	29	0.2%	0.0%	0.0%
East Hanover	8,626	41.3%	8.6%	3.7%
Jonestown	56	14.0%	0.1%	0.0%
Swatara	6,269	45.0%	6.3%	2.7%
Union	3,775	19.8%	3.8%	1.6%
Palmyra Area SD	8,515	36.0%	8.5%	3.6%
North Londonderry	2,418	35.2%	2.4%	1.0%
Palmyra	87	7.1%	0.1%	0.0%
South Londonderry	6,010	38.7%	6.0%	2.6%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

Forest Lands

Forest lands are the second largest land use in Lebanon County, and nearly two-thirds of forest lands are concentrated in the Northern Lebanon School District, north and west of Interstate 81. This area on the northern mountains is occupied by state game and forest lands, Memorial and Swatara State Parks, and Fort Indiantown Gap Military Reservation, much of which are forested. Additional forests are located along the southern border of the county, in the Palmyra Area, Annville-Cleona, Cornwall-Lebanon, and ELCO School Districts. These areas include state game lands, part of the Middle Creek Wildlife Management Area, and extensive private forest land.

Table 9-15 Distribution of Forest Lands

	Forest Acreage	% of Municipality or SD	% of County Forest Land	% of County
Lebanon County	69,541	n/a	100.0%	29.7%
Annville-Cleona SD	3,827	15.2%	5.5%	1.6%
Annville	71	6.8%	0.1%	0.0%
Cleona	6	1.1%	0.0%	0.0%
North Annville	2,055	18.6%	3.0%	0.9%
South Annville	1,695	13.6%	2.4%	0.7%
Cornwall-Lebanon SD	7,908	18.6%	11.4%	3.4%
Cornwall	2,734	43.8%	3.9%	1.2%
Mount Gretna	26	28.8%	0.0%	0.0%
North Cornwall	123	2.0%	0.2%	0.1%
North Lebanon	968	9.0%	1.4%	0.4%
South Lebanon	2,736	19.7%	3.9%	1.2%
West Cornwall	1,320	24.0%	1.9%	0.6%
ELCO SD	7,925	17.5%	11.4%	3.4%
Heidelberg	3,213	20.8%	4.6%	1.4%
Jackson	644	4.2%	0.9%	0.3%
Millcreek	4,055	31.0%	5.8%	1.7%
Myerstown	9	1.7%	0.0%	0.0%
Richland	3	0.4%	0.0%	0.0%
Lebanon SD	140	4.8%	0.2%	0.1%
Lebanon City	114	4.3%	0.2%	0.0%
West Lebanon	26	10.2%	0.0%	0.0%
Northern Lebanon SD	42,819	45.2%	61.6%	18.3%
Bethel	6,415	28.8%	9.2%	2.7%
Cold Spring	17,721	97.6%	25.5%	7.6%
East Hanover	5,739	27.5%	8.3%	2.5%
Jonestown	46	11.4%	0.1%	0.0%
Swatara	4,484	32.2%	6.4%	1.9%
Union	8,414	44.2%	12.1%	3.6%
Palmyra Area SD	6,923	29.3%	10.0%	3.0%
North Londonderry	1,106	16.1%	1.6%	0.5%
Palmyra	4	0.3%	0.0%	0.0%
South Londonderry	5,813	37.4%	8.4%	2.5%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

Lands used for Mineral Extraction

Mineral extraction of limestone occurs in the Annville-Cleona, Cornwall-Lebanon and Palmyra School Districts along Route 422. The total land area used for mineral extraction in North Annville, South Annville, South Lebanon and North Londonderry Townships is 599 acres. The Penny Supply operation in South Lebanon owns additional land in Jackson Township (ELCO School District); however mining or quarrying activities were not active at the time of land use/cover classification. Similarly, the Haines and Kibblehouse operation in Cornwall Borough was not yet in operation in March 2006.

Table 9-16 Distribution of Lands used for Mineral Extraction

	Mineral Extraction Acreage	% of Municipality or SD	% of County Mineral Extraction Lands	% of County
Lebanon County	599	n/a	100.0%	0.3%
Annville- Cleona SD	114	0.5%	19.0%	0.0%
Annville	0	0.0%	0.0%	0.0%
Cleona	0	0.0%	0.0%	0.0%
North Annville	96	0.9%	16.0%	0.0%
South Annville	18	0.1%	3.0%	0.0%
Cornwall- Lebanon SD	158	0.4%	26.3%	0.1%
Cornwall	0	0.0%	0.0%	0.0%
Mount Gretna	0	0.0%	0.0%	0.0%
North Cornwall	0	0.0%	0.0%	0.0%
North Lebanon	0	0.0%	0.0%	0.0%
South Lebanon	158	1.1%	26.3%	0.1%
West Cornwall	0	0.0%	0.0%	0.0%
ELCO SD	0	0.0%	0.0%	0.0%
Heidelberg	0	0.0%	0.0%	0.0%
Jackson	0	0.0%	0.0%	0.0%
Millcreek	0	0.0%	0.0%	0.0%
Myerstown	0	0.0%	0.0%	0.0%
Richland	0	0.0%	0.0%	0.0%
Lebanon SD	0	0.0%	0.0%	0.0%
Lebanon City	0	0.0%	0.0%	0.0%
West Lebanon	0	0.0%	0.0%	0.0%
Northern Lebanon SD	0	0.0%	0.0%	0.0%
Bethel	0	0.0%	0.0%	0.0%
Cold Spring	0	0.0%	0.0%	0.0%
East Hanover	0	0.0%	0.0%	0.0%
Jonestown	0	0.0%	0.0%	0.0%
Swatara	0	0.0%	0.0%	0.0%
Union	0	0.0%	0.0%	0.0%
Palmyra Area SD	327	1.4%	54.7%	0.1%
North Londonderry	327	4.8%	54.7%	0.1%
Palmyra	0	0.0%	0.0%	0.0%
South Londonderry	0	0.0%	0.0%	0.0%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

Other Open Space Uses

Other open space uses consist of mowed grass, scrub brush land, and open water. Mowed grass lands are often undeveloped parcels or portions of parcels found in urban and suburban neighborhoods, along the edges of streams and woodlots, or as uncultivated fields. Scrub brush lands are often fields or pastures that are in the process of regenerating native forest cover. As shown in Table 9-17, mowed grass and scrub/brush lands make up 3.6% of county lands. The Northern Lebanon School District has the greatest amount of mowed grass and scrub brush in the county, due to their abundance in East Hanover Township.

Table 9-17 Distribution of Mowed Grass and Scrub/Brush Lands

	Mowed Grass				Scrub/ Brush			
	Mowed Grass	% of Municipality or SD	% of County Mowed Grass	% of County	Scrub/ Brush	% of Municipality or SD	% of County Scrub/ Brush	% of County
Lebanon County	5,665	n/a	100.0%	2.4%	2,713	n/a	100.0%	1.2%
Annville-Cleona SD	295	1.2%	5.2%	0.1%	177	0.7%	6.5%	0.1%
Annville	69	6.7%	1.2%	0.0%	0	0.0%	0.0%	0.0%
Cleona	22	4.2%	0.4%	0.0%	0	0.0%	0.0%	0.0%
North Annville	44	0.4%	0.8%	0.0%	69	0.6%	2.5%	0.0%
South Annville	159	1.3%	2.8%	0.1%	108	0.9%	4.0%	0.0%
Cornwall-Lebanon SD	1,301	3.1%	23.0%	0.6%	213	0.5%	7.8%	0.1%
Cornwall	99	1.6%	1.7%	0.0%	77	1.2%	2.9%	0.0%
Mount Gretna	0	0.4%	0.0%	0.0%	0	0.0%	0.0%	0.0%
North Cornwall	445	7.3%	7.9%	0.2%	19	0.3%	0.7%	0.0%
North Lebanon	411	3.8%	7.3%	0.2%	81	0.8%	3.0%	0.0%
South Lebanon	231	1.7%	4.1%	0.1%	23	0.2%	0.9%	0.0%
West Cornwall	114	2.1%	2.0%	0.0%	12	0.2%	0.4%	0.0%
ELCO SD	761	1.7%	13.4%	0.3%	56	0.1%	2.1%	0.0%
Heidelberg	71	0.5%	1.3%	0.0%	42	0.3%	1.5%	0.0%
Jackson	365	2.4%	6.4%	0.2%	10	0.1%	0.4%	0.0%
Millcreek	222	1.7%	3.9%	0.1%	5	0.0%	0.2%	0.0%
Myerstown	48	8.8%	0.9%	0.0%	0	0.0%	0.0%	0.0%
Richland	54	6.1%	1.0%	0.0%	0	0.0%	0.0%	0.0%
Lebanon SD	177	6.1%	3.1%	0.1%	19	0.6%	0.7%	0.0%
Lebanon City	170	6.4%	3.0%	0.1%	7	0.3%	0.2%	0.0%
West Lebanon	6	2.5%	0.1%	0.0%	12	4.7%	0.4%	0.0%
Northern Lebanon SD	2,323	2.5%	41.0%	1.0%	1,827	1.9%	67.3%	0.8%
Bethel	296	1.3%	5.2%	0.1%	78	0.3%	2.9%	0.0%
Cold Spring	41	0.2%	0.7%	0.0%	0	0.0%	0.0%	0.0%
East Hanover	1,001	4.8%	17.7%	0.4%	1,108	5.3%	40.8%	0.5%
Jonestown	48	12.1%	0.9%	0.0%	9	2.2%	0.3%	0.0%
Swatara	180	1.3%	3.2%	0.1%	21	0.2%	0.8%	0.0%
Union	756	4.0%	13.3%	0.3%	612	3.2%	22.6%	0.3%
Palmyra Area SD	810	3.4%	14.3%	0.3%	421	1.8%	15.5%	0.2%
North Londonderry	465	6.8%	8.2%	0.2%	188	2.7%	6.9%	0.1%
Palmyra	93	7.5%	1.6%	0.0%	9	0.7%	0.3%	0.0%
South Londonderry	252	1.6%	4.4%	0.1%	224	1.4%	8.3%	0.1%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

Land Use Profile

Open water includes lands covered by water and is quantified in Table 9-18. The Northern Lebanon contains almost half of the county's surface waters at 1,053 acres; however, water bodies are found throughout the county in nearly every municipality.

Table 9-18 Distribution of Lands covered by Water

	Lands covered by Water			
	Acreage	% of Municipality or SD	% of County Water	% of County
Lebanon County	2,109	n/a	100.0%	0.9%
Annville-Cleona SD	255	1.0%	12.1%	0.1%
Annville	20	1.9%	1.0%	0.0%
Cleona	1	0.2%	0.1%	0.0%
North Annville	189	1.7%	9.0%	0.1%
South Annville	45	0.4%	2.1%	0.0%
Cornwall-Lebanon SD	349	0.8%	16.5%	0.1%
Cornwall	112	1.8%	5.3%	0.0%
Mount Gretna	0	0.0%	0.0%	0.0%
North Cornwall	37	0.6%	1.7%	0.0%
North Lebanon	139	1.3%	6.6%	0.1%
South Lebanon	40	0.3%	1.9%	0.0%
West Cornwall	22	0.4%	1.0%	0.0%
ELCO SD	288	0.6%	13.6%	0.1%
Heidelberg	113	0.7%	5.3%	0.0%
Jackson	135	0.9%	6.4%	0.1%
Millcreek	37	0.3%	1.8%	0.0%
Myerstown	2	0.4%	0.1%	0.0%
Richland	0	0.0%	0.0%	0.0%
Lebanon SD	18	0.6%	0.9%	0.0%
Lebanon City	13	0.5%	0.6%	0.0%
West Lebanon	5	1.8%	0.2%	0.0%
Northern Lebanon SD	1,053	1.1%	50.0%	0.5%
Bethel	178	0.8%	8.4%	0.1%
Cold Spring	76	0.4%	3.6%	0.0%
East Hanover	391	1.9%	18.6%	0.2%
Jonestown	12	2.9%	0.5%	0.0%
Swatara	203	1.5%	9.6%	0.1%
Union	193	1.0%	9.2%	0.1%
Palmyra Area SD	146	0.6%	6.9%	0.1%
North Londonderry	78	1.1%	3.7%	0.0%
Palmyra	2	0.2%	0.1%	0.0%
South Londonderry	65	0.4%	3.1%	0.0%

Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

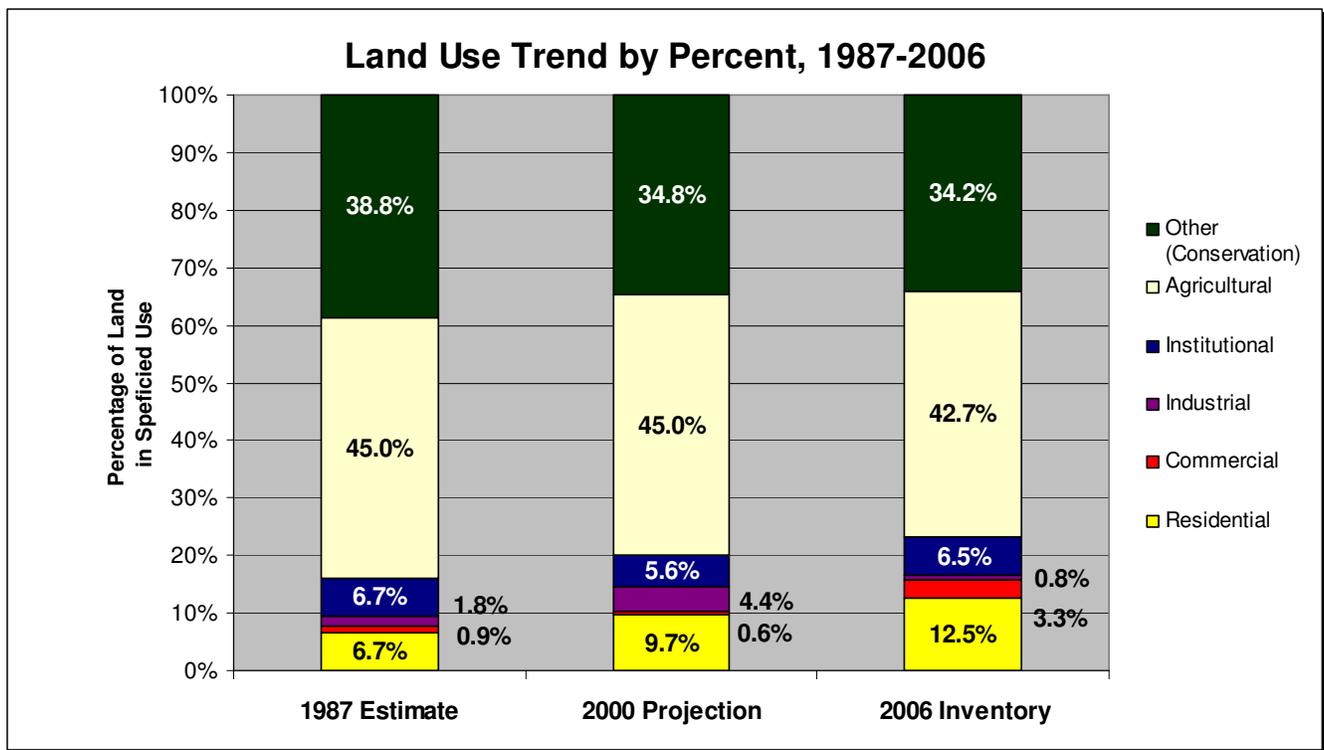
Historic Trends in Land Use and Land Development

Historic land use trend analysis is most accurate when the methodology and level of detail are consistent. Data from Lebanon County’s 1987 Interim Comprehensive Plan was reviewed for potential trend analysis. The interim plan estimated land use and projected land use quantities for the year 2000. These figures and the 2006 land use inventory were prepared with a unique methodology and to a unique level of detail; therefore, only a very general analysis is possible. Statistics from the 2006 land use inventory were retabulated to better match the previous land use categories as follows:

Table 9-19 Comparison of Land Use Classifications

1987 Land Use Estimate and 2000 Land Use Projection	2006 Land Use Inventory
Residential	Residential
Commercial	Commercial
Industrial	Industrial and Mineral Extraction
Institutional	Institutional, Military, Recreation, Transportation, Utility
Agricultural	Agricultural
Conservation	Forest, Mowed Grass, Scrub brush, Water

Figure 9-2 Historic Trends in Land Use and Land Development



Sources: Lebanon County Planning Department; Lebanon City/County GIS Department; Gannett Fleming, Inc.

Percentages for residential, commercial, industrial, institutional, agricultural and conservation land uses from the 1987 estimate, 2000 projection and 2006 inventory are shown in Figure 9-2. This most general of comparisons suggests that:

- Agricultural uses have remained viable since 1987 as projected, though some farmland has been converted to other uses.
- Residential lands have nearly doubled since 1987 and exceeded the 2000 projection.
- Together commercial and industrial lands have increased to 4%-5% as projected.
- Institutional lands have declined (most likely due to differences in defining “institutional” lands).
- Conservation lands have declined but only slightly less than projected.

Recent Trends in Land Use and Land Development

New Residential Construction

From a county-wide perspective, the general land use trend has been steady development of single family homes, especially in municipalities on the western and eastern borders of the county and surrounding Lebanon City. Residential land use acres have nearly doubled from those estimated in 1987.

The housing profile offers details on recent changes in residential land use. In brief, new residential construction has averaged approximately 900 units per year since 2002. The majority of these units were single family detached dwellings.

Further analysis by the Lebanon County Planning Department revealed that the number of new homes built in areas without public utilities has been decreasing by number and decreasing more substantially as a percentage of the total homes built.

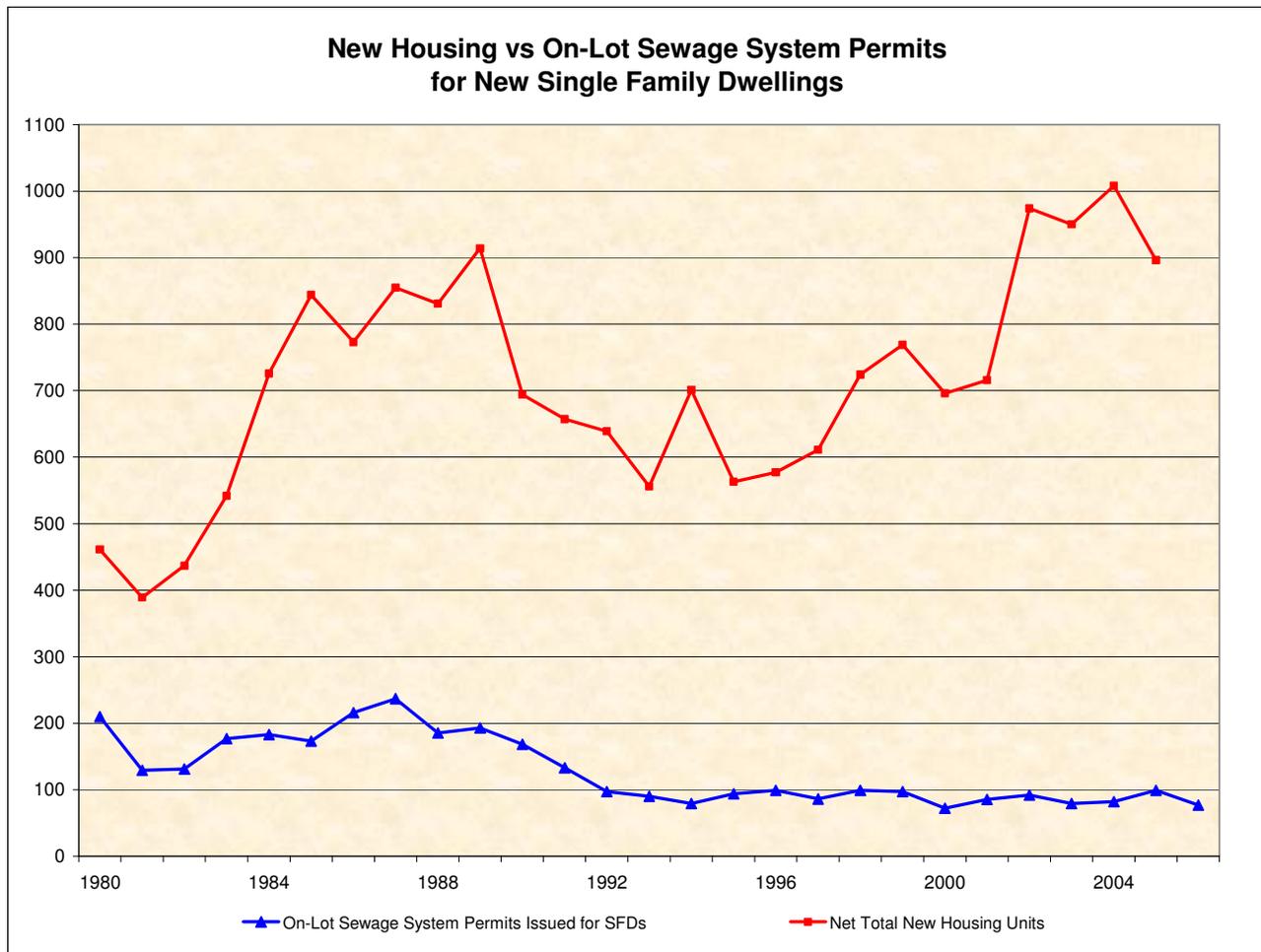
Overall, this confirms the increasing success of directing development to public utility areas. Figure 9-3 illustrates new housing units (red) and new housing units with on-lot septic systems (blue). A decade by decade summary is shown in Table 9-20.

Table 9-20 Summary of New Housing with On-Lot Sewage Systems

Decade	Annual Average of New Homes	Annual Average of New Homes w/Septic Systems	% New Homes w/Septic Systems
1980's	494	183	37%
1990's	545	104	19%
2000's	778	84	11%

Source: Lebanon County Planning Department

Figure 9-3 New Housing vs. On-Lot Sewage System Permits for New Single Family Dwellings



Source: Lebanon County Planning Department

Major Commercial, Industrial, and Agricultural-related Projects

Major construction projects include new construction over \$500,000 that is not a single family dwelling. It does not include non-residential renovation or construction projects under \$500,000. From 2002 to 2006, there have been 90 major construction projects, totaling nearly \$250 million in construction costs in Lebanon County.

The projects break down by land use as follows:

- 10 agricultural/agricultural-industrial projects totaling \$15,347,400
- 36 commercial projects totaling \$35,563,768
- 7 industrial projects totaling \$36,500,000
- 30 institutional projects totaling \$135,978,553
- 7 residential projects totaling \$24,753,967

From a county-wide perspective, institutional projects, which include projects at Good Samaritan Hospital, several schools, and a number of churches, received more than half of the major project investments from 2002 to 2006.

The total investment in major construction projects by land use and school district is shown in Table 9-21.

Overall, the Palmyra Area School District, while having only 13 projects, had the highest major construction investment at more than \$73 million. The Lebanon School District had the second highest amount of investment at \$65.7 million. Both the Annville-Cleona and Cornwall-Lebanon School Districts had similar total construction costs at approximately \$37 million and \$40 million, respectively. The Northern Lebanon School District had about half as much total construction investment at \$21 million. The ELCO School District had the fewest dollars invested in major construction at just over \$11 million. Most major commercial projects, both by number and value, were in the Cornwall-Lebanon School District. The most institutional construction investment was in the Lebanon School District, with construction on Good Samaritan Hospital accounting for \$43.8 million of the \$65.7 million total for all major projects in the district.

The high number of major projects (31) and high total construction investment (more than \$110 million) in the Palmyra Area and Annville-Cleona School Districts suggest that these regions are in the path of development. Conversely, major construction investments are about a tenth as large in the ELCO School District, indicating that the primary development pressures there are for new housing.

Table 9-21 Summary of Major Construction Projects, 2002 – 2006

Land Use	Number of Projects	Total Construction Cost
Annville-Cleona SD		
Agricultural/agricultural-industrial	2	\$4,367,400
Commercial	5	\$2,755,801
Industrial	1	\$900,000
Institutional	7	\$25,262,063
Residential	3	\$3,711,000
Total	18	\$36,996,264
Cornwall-Lebanon SD		
Agricultural/agricultural-industrial	2	\$1,500,000
Commercial	17	\$13,955,150
Industrial	3	\$18,700,000
Institutional	4	\$5,932,298
Total	26	\$40,087,448
ELCO SD		
Agricultural/agricultural-industrial	4	\$2,665,000
Commercial	5	\$5,483,000
Institutional	4	\$2,982,000
Total	13	\$11,130,000
Lebanon SD		
Commercial	3	\$5,485,000
Institutional	7	\$54,931,915
Residential	1	\$5,300,000
Total	11	\$65,716,915
Northern Lebanon SD		
Agricultural/agricultural-industrial	2	\$6,815,000
Industrial	1	\$900,000
Institutional	6	\$13,469,640
Total	9	\$21,184,640
Palmyra Area SD		
Commercial	6	\$7,884,817
Industrial	2	\$16,000,000
Institutional	2	\$33,400,637
Residential	3	\$15,742,967
Total	13	\$73,028,421
Lebanon County		
Agricultural/agricultural-industrial	10	\$15,347,400
Commercial	36	\$35,563,768
Industrial	7	\$36,500,000
Institutional	30	\$135,978,553
Residential	7	\$24,753,967
Total	90	\$248,143,688

Sources: Lebanon County Planning Department; Gannett Fleming, Inc.

Reuse and Redevelopment

Another way to assess land use development is to examine how many major projects reuse or redevelop a site that was previously developed. For this analysis, the 90 major construction projects from 2002 to 2006 were categorized based on whether they were:

- Addition projects — adding to an existing structure
- Expansion projects — expanding an existing use (e.g., adding a building to an existing farm or building more units at LV Brethren Home)
- Conversion/reuse/renovation — construction on an existing site that goes beyond additions or expansions (e.g., building a new restaurant on the site of an existing one)
- New development — construction on previously unbuilt land

This analysis is shown in Table 9-22. Countywide, reuse and redevelopment of existing sites account for 61 of the 90 major construction projects, and approximately \$181.4 million or 73% of the total construction costs of \$248 million. These results indicate that additions, expansions, and other kinds of reuse of existing properties generally outnumber new construction projects by 2 to 1 for major projects. At a school district level, the ratio of new additions, expansions, and other types of reuse to new construction vary more greatly. However, only in the Palmyra School District is new construction the predominant type of major project.

New construction occupied only a small portion of the major projects in the Annville-Cleona School District with 3 projects totaling \$1.48 million. New construction accounted for approximately half of the number of projects and construction investments in the Cornwall-Lebanon and ELCO School Districts with 10 projects at \$23.2 million and 6 projects at \$6.3 million, respectively. The Lebanon School District had no new major construct projects, and the Northern Lebanon School District had only one at \$1.5 million.

The Palmyra Area school district had the highest value for major new construction projects totaling \$34.3 million. The demand for new construction in the Palmyra Area school district again emphasizes the path of development pressures from the Harrisburg and Hershey areas.

One of the largest redevelopment projects in the City of Lebanon is the renovation of Lebanon’s Central Market House on 8th Street and several Cumberland Street properties by local entrepreneur Bill Kolovani.

Table 9-22 Summary of Improvement and Redevelopment Projects, 2002-2006

Type of Project	Number of Projects	Total Construction Cost
Annville-Cleona SD		
Addition	6	\$20,893,651
Conversion/Reuse/Renovation	4	\$6,010,000
Expansion	5	\$8,611,113
New Construction	3	\$1,481,500
Total	18	\$36,996,264
Cornwall-Lebanon SD		
Addition	9	\$9,467,298
Conversion/Reuse/Renovation	5	\$5,964,150
Expansion	2	\$1,500,000
New Construction	10	\$23,156,000
Total	26	\$40,087,448
ELCO SD		
Addition	2	\$1,682,000
Conversion/Reuse/Renovation	1	\$700,000
Expansion	4	\$2,429,000
New Construction	6	\$6,319,000
Total	13	\$11,130,000
Lebanon SD		
Addition	2	\$40,414,000
Conversion/Reuse/Renovation	8	\$24,644,608
Expansion	1	\$658,307
New Construction	0	0
Total	11	\$65,716,915
Northern Lebanon SD		
Addition	5	\$17,113,673
Conversion/Reuse/Renovation	1	\$790,000
Expansion	2	\$1,780,967
New Construction	1	\$1,500,000
Total	9	\$21,184,640
Palmyra Area SD		
Addition	2	7427000
Conversion/Reuse/Renovation	0	\$0
Expansion	2	\$31,298,637
New Construction	9	\$34,302,784
Total	13	\$73,028,421
Lebanon County		
Addition	26	\$96,997,622
Conversion/Reuse/Renovation	19	\$38,108,758
Expansion	16	\$46,278,024
New Construction	29	\$66,759,284
Total	90	\$248,143,688

Sources: Lebanon County Planning Department; Gannett Fleming, Inc.

The extent of redevelopment for non-major projects is more difficult to assess. Housing and residential-related construction far exceeds the number of commercial, industrial, and agricultural construction projects. Between 1990 and 2004, 2.5% of new homes were replacement homes indicating that the vast majority of new homes were built on previously unbuuilt lots.

A review of 2004 to 2006 zoning permit data for 17 of the 26 municipalities, all of which are handled by the Lebanon County Planning Department, shows that additions to residential properties are almost as significant, in terms of numbers of projects, as new home construction.

Table 9-23 Zoning Permits by Use, 2004-2006

Type of Construction	Total Number of Projects*		
	2004	2005	2006
Single Family Dwellings	384	442	367
Additions (residential)	369	166	311
Accessory Construction	536	618	457
Multi-Family Units	2 buildings/ 33 units total	1 building/ 14 units total	0
Commercial/Industrial	34	35	41
Institutional	21	18	10
Agricultural	42	44	41

Sources: Lebanon County Planning Department; Gannett Fleming, Inc.

*Note: Data is for municipalities under the zoning jurisdiction of the Lebanon County Planning Department.

The data varies from year to year and from municipality to municipality. Residential additions outpaced new home construction in the municipalities of Annville, Cleona, Myerstown, Palmyra, Richland and West Cornwall Township for all three years. Additionally, North and South Annville Townships had more additions than new home construction projects. Interestingly, Jonestown, a well established community with a recent history of less than 50 new homes per decade, had far more new single family dwellings built, 132 units, namely in the Twin Creeks development, than additions during the three year period (23).

Cornwall, Millcreek, North Lebanon, and South Lebanon all saw heavy construction of new single family homes with fewer residential additions, indicating that less redevelopment is occurring in those municipalities.

The above data does not indicate how many of the commercial/industrial, institutional, and agricultural projects are on greenfields or feature some form of redevelopment. However, it is interesting to note that the number of commercial/industrial and agricultural projects has stayed steady for the three year period while institutional projects have declined by half.

Brownfields

Brownfields are former industrial properties where the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. There is no easily-obtained list of brownfield sites in Lebanon County, though the Superfund sites identified below are brownfield sites, as are some sites in the Keystone Opportunity Zones in the county.

Superfund Sites

As listed in Table 9-24, there are five Superfund sites in Lebanon County, of which one site is on the National Priorities List (NPL) — the Whitmoyer Laboratories site. Congress established the Superfund Program in 1980 to locate, investigate, and clean up the worst sites nationwide. The EPA administers the Superfund program in cooperation with individual states and tribal governments. The worst hazardous waste sites that have been identified by Superfund are on the NPL. Sites are only put on the list after they have been scored using the Hazard Ranking System (HRS), and have been subjected to public comment. Any site on the NPL is eligible for cleanup using Superfund Trust money. The NPL is primarily an information resource that identifies sites that may warrant cleanup.

Table 9-24 Superfund Sites

EPA ID	Site Name	Location*	National Priorities List
PAN000306100	I Auman Machine Company, Inc.	Lebanon	No
PAN000305920	Kimmerling Road Well Water Site	Lebanon	No
PA8210020444	USA Indiantown Gap Landfill	Annville	No
PAN000306036	Waste Recovery Chemical Fire	Myerstown	No
PAD003005014	Whitmoyer Laboratories	Jackson Township	Yes

Source: US EPA Comprehensive Environmental Response, Compensation, and Liability Information System online, <http://www.epa.gov/enviro/html/cerclis/index.html>,

*Mailing Address only

The Jackson Township Recreation Authority took possession of the once arsenic-contaminated site of Whitmoyer Laboratories Superfund site near Myerstown. The superfund recovery plan took nearly 20 years to write and involved cleaning up 24 acres of contaminated soil on the former site of the veterinary-pharmaceuticals maker at a cost of about \$80 million. The EPA condemned the area because of extensive contamination on the site, in groundwater and on nearby properties. EPA determined that the contamination was a result of the production, storage, and disposal of arsenic and compounds used in the manufacturing of veterinary medicine and animal feed. Incineration was planned but later canceled when controversy arose regarding the fear that toxic fumes and ash could settle into the community and surrounding areas and create a health hazard. Instead, the waste was hauled away by truck and railroad car to a toxic-disposal site in a western state. The site was redeveloped as the Jackson Recreation Park and now includes three soccer fields and a baseball field. Plans are in the works to expand park facilities on the site.

Vacant and Underutilized Sites

The City of Lebanon is the only municipality actively quantifying and addressing vacant and underutilized sites. The city has established a Vacant Property Review Board that reviews those properties that are determined to be a blighted property. Properties that are presented to this board are ones that, because of their physical condition or use, are regarded as a public nuisance. A blighted property is an attractive nuisance to juveniles and other persons, is unfit for human habitation, is a fire hazard, or is an unoccupied property which is tax delinquent for a period of two years. Tax delinquent properties must be rehabilitated within one year of notice to rehabilitate.

As of mid to late 2006, the board had identified six commercial buildings, 19 commercial sites (totaling 67.3 acres), 19 industrial buildings, and 25 industrial sites (totaling 902.3 acres) as available. Depending on their conditions and locations, these sites could present valuable opportunities for reuse and redevelopment.

Trends in Real Estate

Examining the value of real estate transactions gives another indicator of general land use trends within the county. Trends in real estate sales reinforce the general trend of high development pressure, particularly on the Palmyra Area School District.

- The average value of real estate sales in Lebanon County has risen since 1995 for residential, multi-family, farms, and lots. Commercial sales values were unusually high for the 1995-2004 period.
- In 2004, homes in the Palmyra Area School District sold for the highest average value in the county, \$190,513. The average sales value of residential properties in the Palmyra Area School District increased 46.1% between 1995 and 2004. The high average sale value of residential units in the Palmyra Area School District reflects the purchasing power of residents, particularly those earning higher wages in the Hershey and Harrisburg areas.
- In 2004, the average home value for Lebanon County was the lowest in the Lebanon School District at \$75,489.
- An average of 5.6 farms were sold each year from 1995 and 2004. The average annual value of farm sales in this time was \$302,000.

Further details are discussed in the Housing Profile, Background Study #2.

Growth, Land Use and Housing: The Path of Development

Based on the land use and housing analyses, Lebanon County is experiencing strong development pressure from eastern and western fronts, the I-81 corridor, and surrounding its urban core.

The Harrisburg-Hershey Influence on the Palmyra Area School District Region

Municipalities in the Palmyra Area School District are experiencing development pressures from the west. Since 1990, the Palmyra Area School District has experienced the largest increase in population. This growth has occurred, in large part, as a result of service and employment expansions at the Penn State Hershey Medical Center (HMC) and throughout the Harrisburg-Hershey area. As employers such as HMC continue to expand, more jobs are created and more employees are drawn to the region to live.

When cost-conscious prospective residents consider housing options, they find that the cost of homes and property taxes are both substantially higher in Derry Township, Dauphin County than in western Lebanon County. Until recently, houses in western Lebanon County were more modest in size than those in Derry Township. However, recently constructed homes in North and South Londonderry Townships are beginning to resemble those typical of Derry Township, with similar sale prices.

In recent years, commercial and residential development has occurred along PA 39 and US 22 in West Hanover and East Hanover Townships, Dauphin County. As regional growth continues and new gaming services are introduced at the Penn National Racetrack, East Hanover Township, Lebanon County can expect additional development pressures. Since infrastructure is not widely available in East Hanover Township, such pressure will likely be less intensive than that in North and South Londonderry Townships. Additionally, land use changes within this area pose a potential conflict for the mission at Fort Indiantown Gap.

Pressure from Reading/Berks and Philadelphia on the ELCO School District Region

The eastern portion of the county, predominantly Jackson Township, is facing development pressure as rural-minded residents from suburban Reading and suburban Philadelphia relocate to the quiet countryside of Lebanon County. Much of this immigration has included retired and senior adults. Eastern Lebanon County provides a lower cost of living and a slower, less congested way of life than many locations in southeastern Pennsylvania.

Strong Out-Migration from the City of Lebanon to the Cornwall-Lebanon School District Region

Although the largest movements to the suburbs occurred in the 1950s and 1960s, many residents still are relocating from Lebanon City to the Cornwall-Lebanon School District. Population projections indicate that South Lebanon Township, North Lebanon Township, North Cornwall Township and Cornwall Borough are expected to grow their population through 2020. This predicted influx of residents will necessitate an increase in housing units in the Cornwall-Lebanon School District.

Interstate Access in the Northern Lebanon School District region

The Northern Lebanon School District is projected to grow by more than 3,160 residents by 2020. Nearly half of this population growth is projected to occur in Swatara Township – an increase of more than 1,100 residents from 2000 to 2020. The region's anticipated growth is a direct result of its location along Interstates 78 and 81, as well as Routes 22 and 72, enabling residents to travel in any direction via a major highway.

Established Land Use and Land Development Regulations

Land use and land development regulations help to guide where new development occurs and how it is developed. The three most utilized types of regulations in Pennsylvania are (from "Local Land Use Controls in Pennsylvania," Planning series #1) described below.

- **Zoning** — Zoning is a tool to regulate the use of land and the location and intensity of development. Its use is initiated by the adoption of a zoning ordinance based in the protection of public health, safety and welfare. In basic terms, a zoning ordinance assigns all land within a municipality into zones or districts, and creates regulations that apply generally to the municipality as a whole as well as specific individual districts.
- **Subdivision and land development ordinances** — "Subdivision" refers to the creation of new lots or changes in property lines, while "land development" involves construction of public or private improvements to land. Subdivision and land development regulations offer municipalities a degree of protection against unwise, poorly planned growth. Through these regulations, a community ensures proper placement of public improvements such as new roads, water and sewer lines and drainage systems. Regulations also provide that improvements are installed and paid for by the developer and

Land Use Profile

not the taxpayers. By requiring review and inspection reports from the municipal engineer, local officials guarantee that public improvements are properly designed and constructed.

- Codes — The adoption of the statewide Uniform Construction Code (UCC) and property maintenance and fire prevention codes is critical for quality construction and safety reasons and, therefore, is increasingly recognized as an indispensable tool to promote the public health, safety and welfare. Sewage enforcement programs regulate on-lot sewage systems, which are particularly important to development in areas without public sewer facilities.

Additionally, comprehensive plans are important to land use and land development because they establish the foundation for consistent regulations for the municipalities that have them. Fourteen of the 26 municipalities have no municipal comprehensive plan or have plans that are more than 20 years old.

Table 9-25 Status of Municipal Land Use and Development Planning Policy and Regulations

	Comprehensive Plan (adopted/update)	Subdivision and Land Development Ordinance (adopted/update)	Zoning Ordinance (adopted/update)	International Residential Code (IRC) or other Building Code
Lebanon County	1987	1989	None	
Annville-Cleona SD				
Annville	None	?	1983/2001	IRC
Cleona	None	County	1977/1994	IRC
North Annville	1972/2004	County	1973/2004	IRC
South Annville	1972	1978/2006		IRC
Cornwall-Lebanon SD				
Cornwall	2000	2002	2001/2005	IRC
Mount Gretna	1982	County		Other
North Cornwall	1999	2000/2006	1993/2002	Other
North Lebanon	1994	County	1984/2005	IRC
South Lebanon	2000	1990	2004/2004	IRC
West Cornwall	None	County	1997/2005	IRC
ELCO SD				
Heidelberg	2000	?	1976/2000	Other
Jackson	1969	1975/2000	1972/2001	Other
Millcreek	1976	County	1977/2001	IRC
Myerstown	1968	County	1979/2000	IRC
Richland	None	County	1971/1993	IRC
Lebanon SD				
Lebanon City	2004	1985	1986/1998	Other
West Lebanon	None	County	1976/2002	IRC
Northern Lebanon SD				
Bethel	2002	2000	1973/2000	?
Cold Spring	2002	County (SLDO)	None	IRC
East Hanover	2002	County	2004	IRC
Jonestown	1971	County	1991/2005	IRC
Swatara	2004	County	1982/2003	IRC
Union	2004	2001	19676/2000	Other
Palmyra Area SD				
North Londonderry	1992	County	1989/2005	IRC
Palmyra	2002	County	2000/2005	IRC
South Londonderry	2001	?	1988/2001	Other

Source: Lebanon County Planning Department, PA DCED E-Library

All of the 26 municipalities in Lebanon County utilize some form of land use and land development regulation. The majority receive some assistance from the Lebanon County Planning Department (LCPD), namely, the enforcement of their own municipal regulations. The decision-making process used by the staff of the LCPD is limited to authority granted by the municipality through its respective ordinances.

As a review and/or enforcement agency for local municipalities, the LCPD either monitors activities or develops and administers regulations dealing with zoning, land use and environmental issues within Lebanon County. Additionally, the LCPD enforces the Lebanon County Subdivision and Land Development Ordinance, which contains stormwater standards and is applicable to 16 of the 26 municipalities in Lebanon County.

The LCPD enforces the Pennsylvania Sewage Facilities Act of 1965 for most municipalities in Lebanon County. This includes permitting and inspection of on-lot sewage disposal systems. The LCPD also acts as the zoning enforcement agent for many municipalities, which includes permit issuance for all new construction. Finally, certified building code officials from the LCPD enforce minimum construction standards for one and two family dwellings in many municipalities in the county.

The LCPD's jurisdiction by program is:

- 17 of the 26 municipalities use the services of the LCPD for the administration and enforcement of their zoning ordinances. The following municipalities enforce their own zoning: Bethel, Heidelberg, Jackson, Lebanon City, Mt. Gretna, North Cornwall South Londonderry, and Union. Cold Spring Township has no zoning ordinance in place.
- The Lebanon County Subdivision and Land Development Ordinance provide regulatory guidance for 16 of the 26 municipalities. The following municipalities have their own subdivision and land development ordinances: Annville, Bethel, Cornwall, Heidelberg, Jackson, Lebanon City, North Cornwall, South Lebanon, South Londonderry, and Union.
- Twenty-three of 26 municipalities utilize the planning department's sewage enforcement program for planning modules and sewage administration; Mt. Gretna has all public sewer facilities, and Bethel and Union handle their own sewage enforcement.
- The Planning Department enforces the 2003 International Residential Code in 17 of 26 municipalities. Building codes are enforced at the municipal level in Heidelberg, Jackson, Lebanon City, Mt. Gretna, North Cornwall, South Londonderry and Union.

From a county-wide perspective, the current zoning regulations very closely reflect existing land uses (see Zoning and Preserved Lands map). Of particular note is that the more rural municipalities have agricultural zoning districts that help to protect agricultural operations and limit residential development on agricultural lands. Typically the ordinances specify that residential development on agricultural lands be subdivided based on a sliding scale so that only a limited number of tracts can be removed from the parent tract, thus ensuring the preservation of larger tracts better suited to remain in agriculture.

Pennsylvania Development Incentives

The Pennsylvania's Economic Stimulus Package is aimed at revitalizing jobs, bolstering business growth, and sustaining communities. The Stimulus Package makes 19 grant and technical assistance programs available to Pennsylvania communities to generate new capital through public/private investments, create more jobs, and improve infrastructure and housing. The following programs are applicable for Lebanon County and its municipalities. Information on these programs is available on the Pennsylvania Department of Community and Economic Development website, www.newpa.com.

Business in our Sites

The "Business in Our Sites" program is a \$300 million statewide loan and grant pool, created by the issuance of bonds. The money is made available to communities statewide to help them develop shovel-ready sites to accommodate expanding businesses, thus building the local and regional economy and ultimately creating jobs.

In Lebanon County, the Lebanon Valley Economic Development Corporation received a \$3.48 million financial package for the development of the Lebanon Valley Business Park in South Lebanon Township. The funds will be used for the construction of Phase III of the business park that includes acquisition, street construction, storm and sanitary sewers, public water and other utilities, storm water management facilities and erosion and sedimentation control. The business park, located on 120 acres formerly owned by Alcoa, is expected to create approximately 650 new jobs and attract \$153 million in private investment when fully occupied.

First Industries Fund

The First Industries Fund is a grant and loan program aimed at strengthening Pennsylvania's agriculture and tourism industries. The First Industries Fund is part of PA Grows, the Pennsylvania Department of Agriculture's new initiative designed to assist agricultural producers in gaining access to the capital they need to begin, continue, or expand their businesses.

Main Street and Elm Street Programs

The well-established Main Street Program offers grants to municipalities to help a community's downtown economic development effort through the establishment of a local organization dedicated to downtown revitalization and the management of downtown revitalization efforts by hiring a full-time professional downtown coordinator. It's sister program, Elm Street, offers grant funds for planning, technical assistance and physical improvements to residential and mixed use areas in proximity to central business districts.

Key Opportunity Zones

Keystone Opportunity Zones (KOZs) are defined, parcel-specific areas with greatly reduced or no tax burden for property owners, residents and businesses. KOZs are designated by local communities and approved by the state.

Lebanon County has seven Keystone Opportunity Zone (KOZ) sites. The Aspens Business Park, East Lehman Street Site, Lincoln Fifth Corporation Sites, and Fourth Street Complex have each applied for the tax benefits of the Keystone Opportunity Zone program. The former Colonial Theater Property, the 841 Jonestown Road Site, and Seventh and Mifflin Street Site have only received the KOZ designation. One example of a business taking advantage of a KOZ site and its benefits is NuPro Technologies, which leases a factory on North Fourth Street just outside of the Lebanon City limits for steel wire production. The business occupies a 48,000-square-foot, 1940s-era building at the complex. The Market House in downtown Lebanon is also a KOZ project.

Keystone Innovation Zone (KIZ)

The Keystone Innovation Zone program provides grant funds to community/university partnerships to generate job growth through tech transfer and entrepreneurship. KIZ designations are typically focused around college and university campuses.

Pennsylvania Base Development Committee

The Pennsylvania Base Development Committee initiative is designed to assist local defense organizations to promote and enhance the military value of over 70,000 active, reserve, National Guard and Department of Defense positions located on 11 major installations across the Commonwealth.

Water Supply and Wastewater Infrastructure Program (PennWorks)

The PennWorks program ensures safe water supply and proper wastewater infrastructure for non-residential needs. Program funds can be applied toward land and building acquisition, demolition, water/sewer project construction costs, and engineering and other fees associated with infrastructure development project.

Section 108 Program

Section 108 enables states and local governments participating in the Community Development Block Grant (CDBG) program to obtain federally guaranteed loans to fund large economic development projects and undertake revitalization activities, including acquisition, rehabilitation, relocation, clearance, site preparation, special economic development activities, certain public facilities and housing construction. Under Pennsylvania's initiative, the loans are guaranteed by the Commonwealth, committing the use of future CDBG funds to pay off the loan in case of default.

County Land Preservation Program

Agricultural Security Areas

Agricultural Security Areas are intended to promote more permanent and viable farming operations over the long term by strengthening the farming community's sense of security in land use and the right to farm. Agricultural Security Areas are created by local municipalities in cooperation with individual landowners who agree to collectively place at least 250 acres in an agricultural security area for a period of seven years.

Agricultural Security Areas provide three main benefits to landowners:

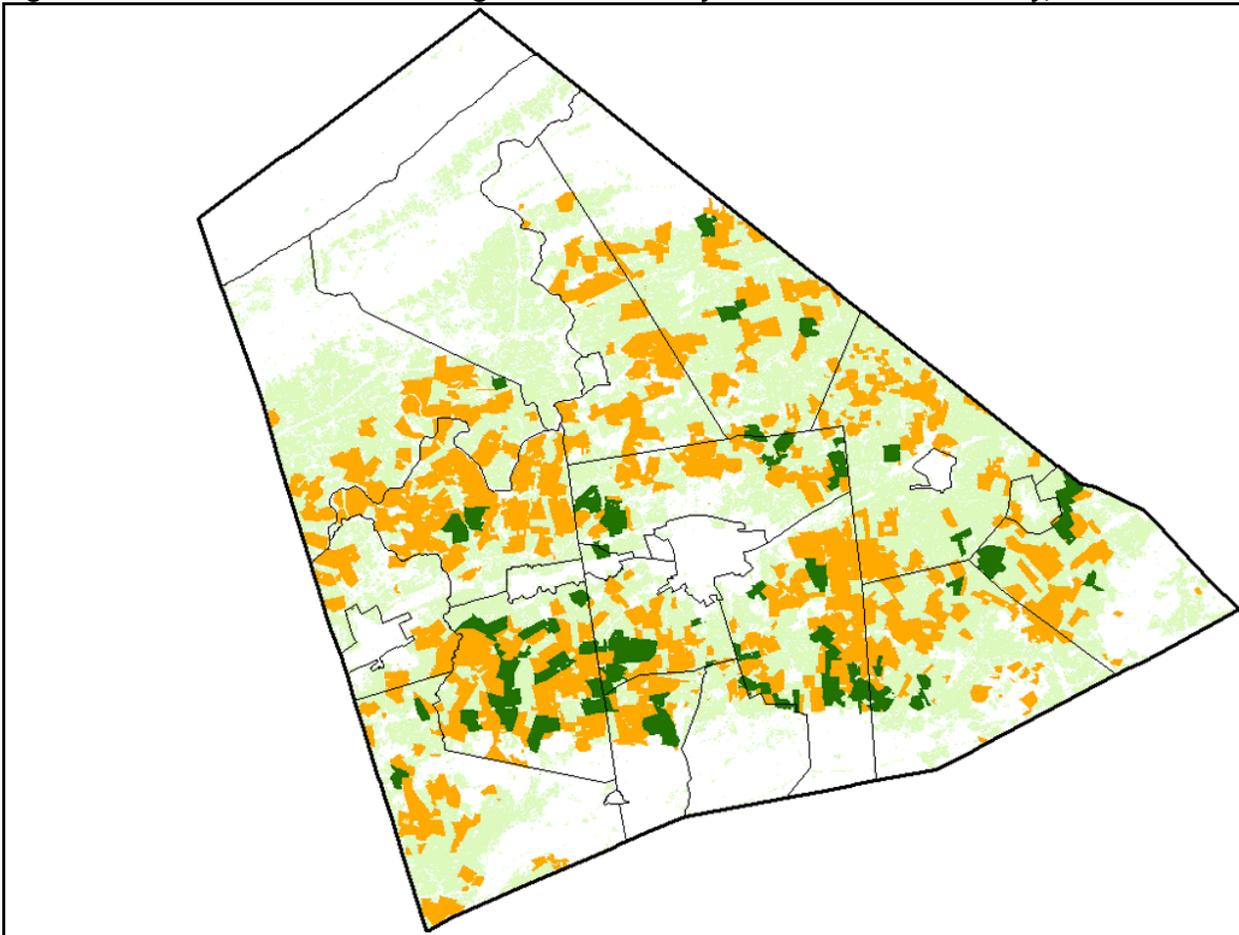
1. Municipalities agree to support agriculture by not passing nuisance ordinances which would restrict normal farming operations.

2. Limitations are placed on the ability of government to condemn farmland located in an Agricultural Security Area for new schools, highways, parks, or other governmental projects.
3. Landowners who are part of a 500 acre or larger agricultural security area may be eligible to apply to sell a perpetual agricultural conservation easement (or their development rights) through their local Agricultural Land Preservation Program.

Having land enrolled in an Agricultural Security Area does not restrict a landowner's ability to use his or her property for non-agricultural development purposes. However, enrollment is required for application to the Agricultural Land Preservation Program.

Sixteen of the 26 municipalities in Lebanon County have Agricultural Security Areas within their respective jurisdictions. The distribution of Agricultural Security Areas is shown in Figure 9-4, as well as in the Natural Resources Profile as Figure 6-11.

Figure 9-4 Preserved Farmland and Agricultural Security Areas of Lebanon County, June 2006



Sources: Lebanon County Conservation District; Lebanon County Soil Survey; United States Department of Agriculture, Natural Resource Conservation Service; Pennsylvania Department of Transportation; RETTEW Associates, Inc.

Agricultural Land Preservation Program

The county passed a milestone mark of 10,000 acres of preserved farmland in June 2006. Seventeen of 26 municipalities contain land preserved for agriculture. South Annville, South Lebanon, North Lebanon and Millcreek townships each have more than 1,000 acres preserved.

While certainly influential on its own, farmland preservation is most effective when combined with other land use controls, such as effective agricultural zoning and strict subdivision and land development ordinances.

Clean and Green Program

The Clean and Green Program, as it is commonly known, was established by Act 319. The Clean and Green Program was designed to preserve agricultural and forest land by taxing that land on the basis of its use value rather than its market value, thus reducing the tax burden on the land owner. This act provides preferential assessment to any individuals who agree to maintain their land solely devoted to agricultural use, agricultural reserve, or forest reserve use. The market value of agricultural land can increase drastically when the demand for new housing developments drastically increases in a rural area.

The Clean and Green Program is not used in Lebanon County due to the relative value of current (1968) assessments to current use and market values.

2020 Land Use Projection and Build-out Analysis

Purpose

The 2020 land use projection and build-out analysis for the Lebanon County Comprehensive Plan estimate how much development could be accommodated under the current municipal zoning regulations. This development potential compares the projected need for uses to the development capacity under current land use and development policy. This analysis will be used, in part, to develop the future land use map and plan recommendations. Once adopted, the future land use map does not change the current zoning policy; rather it recommends that changes be considered as one of many components of implementing the comprehensive plan.

Methodology

The projection and build-out analysis were developed with a two-phase process. The first phase identified lands available for potential development. The second phase applied the respective municipal zoning provisions to each parcel to yield a maximum number of potential units or structures.

Identification of Undeveloped, Developable Lands

The March 2006 Land Use / Cover map illustrates an inventory of land use/cover conditions. The map and associated data indicate what lands have already been intensively developed (not available for new development) and which are reasonably protected from intensive development by local, state and federal ownership (also not available for new development; i.e. undevelopable). The natural resources, or environmental features, data established land areas that are further restricted (regulated) by local, state and federal law, (i.e. floodplains, steep slopes and wetlands), and those that have sensitive natural or cultural features that could be protected through regulations, easements, and other tools. The remaining undeveloped, developable lands are the focus of the build-out analysis.

Application of Zoning Provisions

Zoning data provided the geometry (lot width, setbacks, units per acre, maximum impervious cover, etc.) and permitted density of allowable future development as well as the applicability of these regulations to certain lands areas, i.e. districts for the analysis. Zoning districts were generalized by type to enable summary and reporting at the county and school district level. Each generalized zoning type includes the districts listed below. Institutional uses are generally permitted within various districts, as specified by zoning ordinances; therefore, "Institutional" is listed under "Other" zoning types.

Generalized Zoning Types

Residential

- Low Density
- High Density
- Mobile Home
- Residential Community / Institutional

Commercial

- Neighborhood
- Downtown
- Highway
- Office/Institutional

Industrial

- Light/Limited
- Heavy/Manufacturing

Mineral Extraction

Recreation

Conservation

Agriculture

- Agriculture
- Intensive Agriculture

Other

- Institutional
- Airport (mostly function as commercial operations)

To each undeveloped, developable parcel or divisible portion thereof, the potential placement of new residential, commercial, or industrial, structures was calculated based on the following zoning factors:

- Minimum separation/minimum lot width
- Minimum lot size
- Maximum dwelling units per acre
- Maximum dwelling units per building
- Floor-area ratio
- Maximum floor
- Maximum impervious coverage
- Maximum building coverage
- Minimum lot depth
- Minimum side setback
- Open space requirement
- Maximum open space in environmentally sensitive areas
- Building separation on single tract

Water and sewer data was another input to the analysis, as the availability of water and sewer service can result in higher development density according to the ordinance provisions.

The analysis yielded both tabular and spatial data. The spatial data illustrates the potential for one unit with a dot and places it randomly within the parcel; the calculation reflects layout requirements, e.g. setbacks, but the map does not. This helps the viewer see the dots, especially when the density is high.

Both the projection and the build-out analysis should be considered estimates. This analysis can overemphasize residential development, as it seeks to maximize the development permitted in each district. It can also underestimate commercial and industrial development that could occur if multiple parcels are assembled.

Build-out Analysis as Mathematical Process

The build-out analysis is essentially a geometric or mathematical process applied to each of the 48,586 parcels in Lebanon County as of March 2006, utilizing the following process:

1. Begin with Lebanon County (total land area)
2. Subtract Developed Lands and Protected Lands (public and preserved lands)
3. Factor Primary Conservation/Restricted Lands (as regulated by municipality)
4. Factor Secondary Conservation Areas/Lands with Natural Inclusions (as regulated by municipality)
5. Add existing water/sewer services areas (as applicable to density)
6. Apply zoning density provisions (as regulated by municipality) to the remaining land area; where no zoning exists, use subdivision and land development provisions
7. Pro-rate development rate for 20 year population projections
8. Calculate highest building potential by use
9. Sum the number of building units by zoning district per municipality (illustrated randomly within district)
10. Total by generalized zoning type for the county.

2020 Land Use Projection and Implications

The 2020 land use projection was based on a pro-rated portion of the development potential per current zoning, existing and planned water and sewer service areas, and land use trends from 1987 to 2006. The projection continues the trend of growth in intensive, built uses. The availability of commercial and industrial lands in 2006 suggests that there is capacity for development within designated areas; however, some growth may occur in greenfield areas, particularly as commercial services strive to locate near consumers. Intensive residential, commercial, industrial, and supporting lands will naturally require additional or expanded community services, recreation, transportation and utilities. Due to the increasing privatization of these services, an appropriate estimate of this increase is difficult to make; land area for institutional uses was assumed to double from 2020 in correlation with residential growth.

Of the major uses, residential development will likely have the most significant impact on land use/cover by 2020. Portions of existing agricultural and forest lands are, in fact, zoned for residential development, while other areas allow limited residential development in agricultural and other conservation-oriented districts. The location of residential development may further exacerbate conversion of additional farmland or forest land, as farmers and foresters strive to produce a quality harvest in the midst of land use conflicts, field and forest fragmentation, invasive ornamental species, etc.

The density of new residential development and the use of infill and redevelopment may reduce the amount of farmland and forest land conversion.

The projected acreage of these six major land use categories are shown in Table 9-26. Figure 9-5 illustrates the distribution of projected land use totals for 2020. By 2020, Lebanon County could approach one-third intensive uses, one-third agriculture, and one-third forest and conservation lands.

Figure 9-5 Comparative Land Use Distribution, 2006 Inventory and 2020 Projection

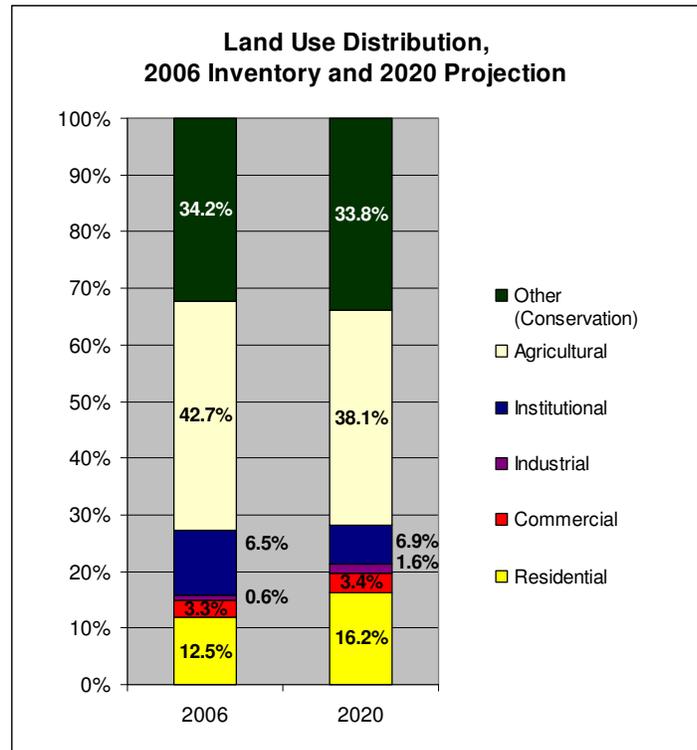


Table 9-26 Projected Changes in Land Use, 2020

Land Use/Cover Projection	2006 Inventory (acres)	2020 Projection (acres)	% of County, 2020 Projection	Change in Acres, 2006-2020
Residential	29,353	37,954	16.2%	8,601
Commercial	7,738	7,964	3.4%	225
Industrial - also includes Mineral Extraction	1,920	3,748	1.6%	1,828
Institutional - also includes Transportation, Utilities, Recreation, and Military	15,186	16,161	6.9%	975
Agricultural	99,996	95,158	38.1%	-4,838
Other (Conservation) - includes Forest, Mowed Grass, Scrub Brush,	80,028	79,167	33.8%	-861
Total	234,222	234,222	100.0%	0

Source: Gannett Fleming, Inc.

Build-out Analysis and Implications

Like the 2020 land use projection, the build-out analysis focuses on residential, commercial and industrial development potential to estimate the amount of land programmed for various uses. Municipal zoning establishes the uses, densities, and geometry of parcel level development. Similarly, its results are only an estimate of the development potential. Planning for water and sewer service extensions beyond 2020 is very limited and offers little additional value for this analysis. Trends in the proportional growth of institutional, transportation and utility lands to residential growth were used to project increases in these intensive, built uses. Changes in the economy and real estate market, as well as in environmental law or municipal land use regulations, could affect the development potential of lands in Lebanon County.

Table 9-27 presents the estimated acreages of the six major land use categories at build-out. Table 9-28 shows the municipal and school district level data behind the county figures. Figure 9-6 illustrates the distribution of the projected acreages in comparison to the 2006 land use inventory.

Based on land use and development trends, 1987-2006, and development potential specified by current development ordinances, estimated maximum build-out further suggests conversion of open space lands to intensive development. The build-out potential shows development of all developable land for the use indicated and, in essence, full occupancy of available lands. Residential lands could increase substantially—nearly four-fold. Table 9-28 shows the distribution of total residential acreage by municipality. Table 9-29 identifies the type of zoning district from which the projected residential acreages at build-out originate.

Figure 9-6 Comparative Land Use Distribution, 2006 Inventory and Build-out

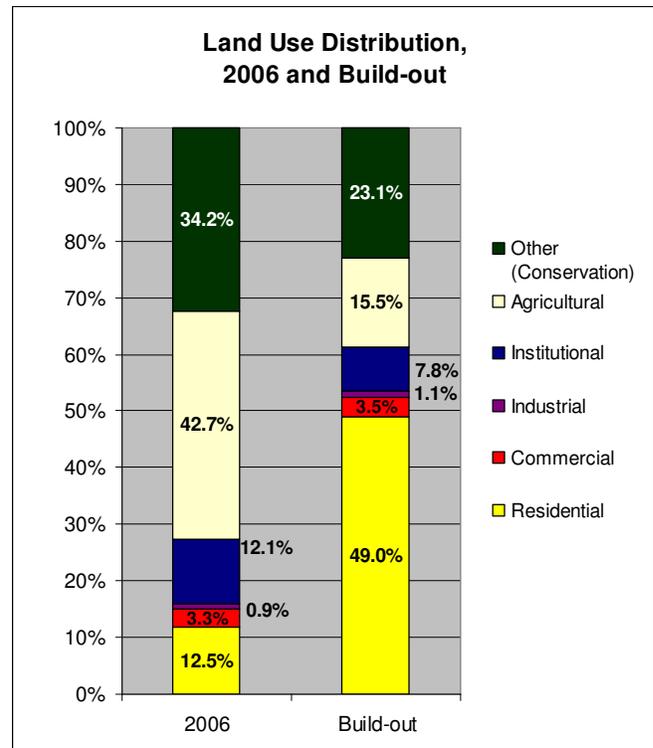


Table 9-27 Changes in Land Use by Maximum Build-out

Land Use/Cover Projection	2006 Inventory (acres)	At Build-out (acres)	% of County at Build-out	Change in Acres, 2006-Build-out
Residential	29,353	114,732	49.0%	85,379
Commercial	7,738	8,081	3.5%	343
Industrial				
- also includes Mineral Extraction	1,920	2,518	1.1%	598
Institutional				
- also includes Transportation, Utilities, Recreation, and Military	15,186	18,315	7.8%	3,129
Agricultural	99,996	36,377	15.5%	-63,619
Other (Conservation)				
- includes Forest, Mowed Grass, Scrub Brush,	80,028	54,199	23.1%	-25,829
Total	234,222	234,222	100.0%	0

Source: Gannett Fleming, Inc.

Commercial and industrial lands could increase by only 300 to 600 acres each. Institutional uses, including community, recreation, transportation and utility facilities, could increase by roughly 3,000 acres to serve residents' needs. Institutional, transportation and utility lands were projected in proportion to residential increases. Dedicated recreation land, however, was projected based on the current mandatory dedication requirements of the ten municipalities that have such provisions, and an assumption that suitable lands could be dedicated rather than opting for fee-in-lieu of parkland dedication. When totaled, the projected increase in lands in intensive uses at build-out would be 85,449 acres or 36.8% of the county.

These increases would convert a large percentage of the 2006 open space to development. Preserved farmland would gradually increase and lands in public ownership as well as lands excluded from development or severely limited by the presence of floodplain, steep slopes, or other natural hazards would remain as open space.

The implications for this growth would include significant changes in landscape character, the economy and environmental quality. Residential development of this scale would undoubtedly lead to higher rates of commercial development either through rezoning or updated planning. At build-out, mining and quarrying operations would have fully extracted the commercially viable minerals and reclaimed these lands for development or conserved it as open space. The agricultural economy would be vastly different with less than half of today's farmland still in production at build-out. Finally, the increased pavement and other impervious cover associated with intensive, built uses would dramatically increase storm water and likely reduce infiltration and negatively impact surface and groundwater quality.

Table 9-28 Changes in Land Use by Maximum Build-out

	Estimated Acres of Developed and Dedicated Recreation Land at Build-out							Total Additional Developed/Dedicated Land at Build-out	% Change in Developed/Dedicated Land at Build-out
	Residential	Commercial	Industrial	Institutional	Transportation	Utility	Dedicated Recreation		
Lebanon County	85,379	343	598	305	892	87	1,846	89,449	36.8%
Annville-Cleona SD	13,478	47	20	30	69	5	0	13,507	53.8%
Annville	36	38	12	7	17	0	0	48	4.6%
Cleona	60	1	0	0	0	0	0	61	11.3%
N. Annville	6,692	2	1	9	18	1	0	6,695	60.5%
S. Annville	6,690	6	7	14	34	3	0	6,703	53.8%
Cornwall-Lebanon SD	13,008	83	241	159	340	53	234	13,326	31.3%
Cornwall	376	1	2	6	59	19	9	379	6.1%
Mount Gretna	5	1	0	0	5	0	0	5	5.0%
N. Cornwall	1,406	24	5	5	59	0	61	1,430	23.5%
N. Lebanon	3,392	26	102	33	79	4	0	3,520	32.9%
S. Lebanon	6,460	16	124	106	115	25	165	6,600	47.5%
W. Cornwall	1,369	15	8	9	23	5	0	1,392	25.3%
ELCO SD	17,294	68	187	31	104	8	314	17,547	38.7%
Heidelberg	3,713	10	18	2	11	3	0	3,739	24.2%
Jackson	8,375	38	118	18	47	1	314	8,531	55.3%
Millcreek	5,042	3	38	9	39	4	0	5,084	38.9%
Myerstown	8	2	2	2	4	0	0	11	2.1%
Richland	156	15	11	0	3	0	0	182	20.5%
Lebanon SD	41	4	20	7	30	0	0	64	2.2%
Lebanon City	41	4	12	7	30	0	0	56	2.1%
W. Lebanon	0	0	8	0	0	0	0	8	3.3%
Northern Lebanon SD	33,040	82	44	28	208	3	1,137	33,151	35.1%
Bethel	8,225	9	23	8	47	0	493	8,257	37.1%
Cold Spring	713	13	0	0	1	0	0	713	3.9%
E. Hanover	12,108	12	4	6	21	0	0	12,124	58.1%
Jonestown	39	1	2	1	4	0	0	42	10.4%
Swatara	7,477	1	2	7	89	1	405	7,478	54.2%
Union	4,478	46	13	6	46	2	238	4,537	23.8%
Palmyra Area SD	8,517	59	87	49	141	17	161	8,619	36.4%
N. Londonderry	954	8	56	15	58	2	0	1,018	14.8%
Palmyra	78	1	12	5	14	0	0	91	7.3%
S. Londonderry	7,486	50	19	28	69	16	161	7,511	48.3%

Source: Gannett Fleming, Inc.

Table 9-29 Potential Residential Acreage by Zoning District Type

	Potential Residential Acreage			Total Potential Residential Acreage
	from Residential Zones	from Agricultural zones	from Rural/Forest/Conservation Zones	
Lebanon County	11,307	63,619	10,451	85,378
<i>Percent of Total Potential Residential Acreage</i>	<i>13.2%</i>	<i>74.5%</i>	<i>12.2%</i>	<i>100.0%</i>
Annville-Cleona SD	653	11,561	1,263	13,477
Annville	27	9	0	36
Cleona	5	54	0	59
N. Annville	190	6,502	0	6,692
S. Annville	431	4,996	1263	6,690
Cornwall-Lebanon SD	1,394	10,587	1,026	13,008
Cornwall	25	99	251.6667	376
Mount Gretna	5	0	0	5
N. Cornwall	605	801	0	1,406
N. Lebanon	415	2,516	460.832	3,392
S. Lebanon	207	6,253	0	6,460
W. Cornwall	137	918	314	1,369
ELCO SD	3,381	13,913	0	17,294
Heidelberg	818	2,895	0	3,713
Jackson	1,746	6,629	0	8,375
Millcreek	653	4,389	0	5,042
Myerstown	8	0	0	8
Richland	156	0	0	156
Lebanon SD	41	0	0	41
Lebanon City	41	0	0	41
W. Lebanon	0	0	0	0
Northern Lebanon SD	3,079	27,557	2,404	33,040
Bethel	995	7,230	0	8,225
Cold Spring	713	0	0	713
E. Hanover	334	10,651	1123	12,108
Jonestown	39	0	0	39
Swatara	781	6,516	180	7,477
Union	217	3,160	1101	4,478
Palmyra Area SD	2,759	0	5,758	8,517
N. Londonderry	954	0	0	954
Palmyra	78	0	0	78
S. Londonderry	1,728	0	5758	7,486

Source: Gannett Fleming, Inc.

Table 9-30 presents the number of structures or units permitted by current municipal zoning. This data can be helpful in projecting the resident population as well as water and sewer demand, if ultimate utility service areas are known.

The number of residential units is an estimate of the maximum development potential for all undeveloped, developable parcels. To assume maximum density is not a probable scenario. Nonetheless, some portion of this residential development is likely to occur. Decisions about development location and density, whether made through municipal zoning or private developers, will impact the need for expanded facilities for community, recreation, transportation, and utility services.

Table 9-30 Summary of Capacity for Residential Units by Residential Zoning Districts

	Additional Units at Build-out		
	Residential	Commercial	Industrial
Lebanon County	98,992	295	305
Annville-Cleona SD	10,178	9	14
Annville	185	0	6
Cleona	351	5	0
N. Annville	3,443	2	1
S. Annville	6,199	2	7
Cornwall-Lebanon SD	13,599	83	63
Cornwall	298	1	1
Mount Gretna	20	0	0
N. Cornwall	2,096	25	7
N. Lebanon	3,708	26	51
S. Lebanon	6,599	16	0
W. Cornwall	878	15	4
ELCO SD	28,097	71	118
Heidelberg	9,599	8	9
Jackson	10,843	38	59
Millcreek	6,193	5	38
Myerstown	64	5	1
Richland	1,398	15	11
Lebanon SD	484	27	23
Lebanon City	477	19	23
W. Lebanon	7	8	0
Northern Lebanon SD	33,210	88	34
Bethel	8,220	9	17
Cold Spring	713	13	0
E. Hanover	11,796	18	2
Jonestown	308	1	2
Swatara	7,497	1	0
Union	4,676	46	13
Palmyra Area SD	13,424	17	53
N. Londonderry	4,953	8	28
Palmyra	443	3	6
S. Londonderry	8,028	6	19

Source: Gannett Fleming, Inc.

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