



Dover Borough/Dover Township  
Joint Comprehensive Plan



# APPENDIX 4: BUILD-OUT ANALYSIS

*March 2006*

*Revised April 2007*

Planning Partners:

Dover Township

Dover Borough

York County Planning Commission



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### **ANALYZING LAND CAPACITY AND DEMAND**

This report analyzes land capacity and demand using a variety of methods. Those methods include a build-out analysis, housing capacity analysis and fiscal impact assessment. The build-out analysis depicts the probable future scenario under current zoning regulations for existing development and lands available for development. This analysis is augmented with analysis of an additional scenario referred to as the preferred future scenario based upon committee and community input and planning analysis. The housing capacity analysis projects possible housing types based upon market demand for lands available for development. And, the fiscal impact assessment evaluates the results of the build-out analysis considering projection of residential and non-residential land uses to determine potential tax revenues generated under the probable future scenario. This analysis supports the development of a future land use plan for the joint comprehensive plan.

### **EXPLANATION OF BUILD-OUT METHODOLOGY**

Build-out analysis is a lot-by-lot or area-by-area analysis to estimate the total number of existing and developable units (housing units and square footage of non-residential space), based on current zoning and other applicable land use regulations for a particular study area. The analysis can be conducted for various development scenarios (either under current zoning or modified zoning) for purposes of economic analysis and impact assessment. This type of analysis provides the basis for discussion and consensus building around a preferred future plan for a particular region, community or site.

The following explains the build-out analysis methodology used to generate population, housing, commercial and industrial land use projections for Dover Borough and Dover Township. The scenario analysis identifies potential future land use, population, housing units and square footage of non-residential space projected for the study area. Scenario analysis and results are further discussed to support identification of a preferred future land use plan for the Dover Area. The results of the build-out provide the basis for a Housing Capacity Analysis.

A maximum build-out scenario was used to portray the probable future under current zoning and to determine future development potential, a preferred build-out scenario was used to portray a desired future with modified zoning and growth boundaries. The build-out analysis is based on existing data, existing conditions, and basic assumptions. The following provides a general description of these variables.

Within the development scenario there are two possible land types available for development including vacant undeveloped land and agricultural land. Vacant or undeveloped land includes land that is currently unimproved or is vacant. Agricultural land includes land currently utilized for agricultural production. Due to development restrictions or designation of types of agricultural land, some of the agricultural land that could be available for development is not legally available for development and has been excluded from the build-out scenarios.

The build-out scenario is based upon current land use. The development standards used in this analysis were derived from Dover Township and Dover Borough's Zoning Ordinances. The following describes the various data, information and assumptions utilized in the analysis.

## **EXPLANATION OF MAP, DATA AND INFORMATION SOURCES**

This section provides details about the map coverages, data and information utilized for build-Out analysis.

### **Base Layers**

Base layers include data needed to establish current conditions. The base layers are used to determine developable lands, or lands that are likely to be developed in the future. Base layer sources include Pennsylvania Department of Transportation, Pennsylvania Spatial Data Access Center, York County Planning Commission, York County Tax Assessment Office, Dover Township, Dover Borough, and field observation.

- **Parcels**

Land use data at the parcel level is provided through the York County Tax Assessment Office and York County Planning Commission GIS Group; attribute data is current as of November 2005.

- **Orthophotography**

Digital Ortho-photography is provided by the Pennsylvania Spatial Data Access Center (PASDA) through the PAMAP program as sponsored by the Department of Conservation and Natural Resources (DCNR). The images were captured in April of 2003.

- **General Land Use (parcel level)**

A land use value was assigned to each parcel based on General Land Use data from York County Planning Commission, with modifications based on Tax Assessment Office data, and corrections provided by each municipality. The following land use codes are used.

**Low Density Residential (LDR)**

Properties identified by York County Tax Assessment Office as residential and are 1.5 acres or greater.

**Medium Density Residential (MDR)**

Medium density residential, condominiums, townhouse/rowhouses, two-family residential, three-family residential, and properties identified by York County Tax Assessment Office as residential and are between 0.20 acres and 1.5 acres.

**High Density Residential (HDR)**

Apartments and houses converted to apartments with four or more families, properties identified by York County Tax Assessment Office as Mobile Home Parks, and properties that are identified as residential and are less than 0.20 acres.

**Commercial (COM)**

Commercial uses, hotels, motels, bar/lounge, restaurants, service stations, service garages, convenience / food markets, supermarkets, bed and breakfast, nurseries – greenhouses, used car lots, automotive sales, car wash, medical offices, veterinarians, day care centers, retail, golf courses, mixed use with commercial (residential & commercial), commercial parking lots, and mini-warehousing.

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**Mixed Commercial / Residential (MXCR)**

Includes lands identified as having both commercial and residential uses. Typically the residential uses are Medium Density Residential.

**Industrial (IND)**

Warehousing, manufacturing, junk yards, mining and quarrying.

**Parks / Open Space / Recreation (POS)**

Common areas, statues, recreational parks, and recreational camps.

**Institutional / Governmental (INS)**

Churches, graveyards, cemeteries, post offices, police, fire, government centers, schools, school auxiliary (gymnasiums, pools) and indoor swimming pools.

**Agriculture (AG)**

Fields, Christmas tree farms, orchards, timber, dairy farms, horse farms, hog farms, cattle farms, poultry farms, parcels with agriculture auxiliary structures, and agriculture with commercial uses.

**Vacant - Undeveloped (UND)**

All those properties listed in the tax assessment office as vacant; such as residential vacant; apartment vacant, commercial vacant; agriculture vacant, etcetera.

**Utility / Transportation (UT)**

Includes utility, water / wastewater treatment plants, and pumping stations (water and natural gas).

Table 1: Existing General Land Uses provides the acreages of land in each of the general land use categories.

**Table 1: Existing General Land Uses**

General Land Use Description	Acre in Dover Borough	Percent of Acres in Dover Borough	Acre in Dover Township	Percent of Acres in Dover Township	Total Acres*	Percent of Total Acres
Low Density Residential	13.7	4.5%	3,539.2	13.9%	3,552.9	13.8%
Medium Density Residential	139.7	46.3%	2,073.9	8.1%	2,213.6	8.6%
High Density Residential	37.2	12.3%	380.4	1.5%	417.6	1.62%
Commercial	12.7	4.2%	368.2	1.4%	380.9	1.5%
Mixed Commercial / Residential	2.7	0.9%	54.5	0.2%	57.3	0.2%
Industrial	1.8	0.6%	193.2	0.8%	195.0	0.8%
Parks / Open Space / Recreation	11.2	3.7%	217.0	0.9%	228.2	0.9%
Institutional / Governmental	54.4	18.0%	175.5	0.7%	230.0	0.9%
Agriculture	-	0.0%	13,947.4	54.7%	13,947.4	54.0%
Utility / Transportation	5.6	1.9%	12.1	0.0%	17.7	0.1%
Vacant	22.9	7.6%	4,545.9	17.8%	4,568.8	17.7%
<b>Total*</b>	<b>302.0</b>	<b>100.0%</b>	<b>25,507.4</b>	<b>100.0%</b>	<b>25,809.3</b>	<b>100.0%</b>

\*Total Acres of parcels, the total does not include acreage dedicated to roadway rights-of-way  
Source: November 2005 York County Tax Assessment Office data.

- **Zoning Districts**

Current Zoning Districts from Dover Township and Dover Borough were used to determine types of permitted development. Each parcel in the parcel layer was assigned an appropriate Zoning District. Specific Zoning information pertaining to each Zoning District are provided for Dover Township and Dover Borough. The descriptions were derived from the Official Zoning Ordinances.

**Dover Township Zoning Districts**

**CV- Conservation District**

The purpose of this district is to prescribe a zoning category for those areas where, because of natural geographic factors and existing land uses, it is considered desirable to conserve open spaces, water supply sources, woodland areas, wildlife areas, visual amenities and views from the roadway, other natural resources, and farmland. This district may include steeply sloped areas, stream valleys, water supply sources, wooded areas, and farmed areas.

**A- Agricultural District**

In areas where agricultural activity remains strong, Agricultural Districts are established to protect and stabilize agriculture as an on-going economic activity by generally permitting only those land uses and activities which are either agricultural in nature or act in direct support of agricultural activity.

**V- Village District**

This district recognizes the Village of Mount Royal as a unique place in the development of the Township. The center of the village is recognized as the crossroads of Old Carlisle Road and Conewago Road. The regulations are set forth to preserve the existing community character of the Mount Royal area. This character includes a mixture of single family residential uses, neighborhood commercial uses and public and open spaces. The following lot area and width standards shall apply to residential uses based on the type of dwelling unit and presence of public water and sewer.

**ROS- Residential Open Space District**

The purpose of this District is to provide for suburban residential growth in areas of the Township most able to accommodate growth. Within this district, public sewer and water facilities shall be utilized. Flexible, open-space design standards shall be used as an incentive for the protection of important natural resources and the provision of common open space. Developments not incorporating such open space techniques shall be maintained at low densities. Minimum lot area in this district is 17,500 square feet.

**R-1 – Residential District: Low Density**

The purpose of this District is to permit and provide standards for single-family detached residential development at a low density, to encourage the preservation of open spaces and conserve natural resources, and to exclude uses incompatible with residential communities. Public water and sewer should be provided for uses in the District.

**R-2 – Residential District: Low Density**

The purpose of this District is to permit a variety of low density, single-family or two-family residential development in areas of the Township with existing similar development, to encourage the preservation of open space and conserve natural and

groundwater resources, and to exclude uses incompatible with residential neighborhoods. Public water and sewer shall be utilized in this district.

**R-3 – Residential District: Medium Density**

The purpose of this District is to provide reasonable standards for the orderly expansion of medium density, urban residential development in areas of the Township with similar existing uses. Also to encourage the preservation of open spaces and conservation of natural and groundwater resources and to exclude uses incompatible with residential neighborhoods. Public water and sewer shall be used in this District.

**R-4 – Residential District: High Density**

The purpose of this District is to provide reasonable standards for the orderly expansion of high density, urban residential development in areas of the Township with similar existing uses, to encourage the preservation of open spaces and conservation of natural and groundwater resources and to exclude uses incompatible with residential neighborhoods. Public water and sewer shall be used in this District.

**C- Commercial District**

The purpose of this district is to provide reasonable standards for the development of commercial uses which serve the day to day shopping needs of residents as well as those establishments which cater primarily to the motoring public. The standards of this district are designed to separate access roads from major thoroughfares, to minimize traffic congestion and to provide buffer yards and screen plantings where such adjoin residential areas.

**PO- Professional Office District**

The purpose of this District is to provide an environment that is conducive to professional office businesses. These areas are intended to function as distinct office centers without retail sales or other such uses which are incompatible with professional office uses. Uses that are consistent with the intent of this District, yet require a higher level of scrutiny, are permitted by special exception.

**MX- Mixed Use**

The purpose of this District is to provide for residential/commercial mixed use in areas of the Township most capable of accommodating growth. Public water and sewer facilities will be utilized. Flexible density and open space design standards will be used as incentive for the protection of natural resources and the provision of open space. In order to provide convenient commercial services to residential development in this District, provisions are made to require neighborhood type commercial development.

**BP- Business Office Park District**

The purpose of this District is to provide flexible regulations to encourage a mix of nonresidential land uses developed in an integrated manner in a campus setting. This District is designed to achieve the following Township goals:

- To provide ancillary uses to support corporate office development.
- To encourage a mix of land uses that limit off-site traffic generation.

Permitted uses include business and professional offices, corporate headquarters, data processing and computer centers, and municipal buildings, facilities or uses.



**I- Industrial District**

The purpose of this District is to permit and encourage industrial development that will be so located and designed as to constitute a harmonious development, contribute to the soundness of the economic base of the Township, and otherwise further the purposes of this Ordinance. In promoting these and the general purposes of this Ordinance, the specific intent of this District is:

- To encourage the development of and continued use of land for industrial purposes.
- To prohibit any use that would substantially interfere with the development, continuation or expansion of industrial uses in the District.
- To establish reasonable standards for buildings and other structures, the areas and dimensions of yards and other open spaces, and the provision of facilities and operation of industries to minimize air pollution, noise, glare, heat, vibration and fire and safety standards.
- To utilize public water and sewer.

*(Source: Dover Township Zoning Ordinance)*

**Dover Borough Zoning Districts**

**V- Village Center Zone**

The purpose of the V Zone is to provide for the continued development of potential commercial, industrial, residential and public uses and to provide for public health and safety.

**R- Residential Zone**

The purpose of the R Zone is to improve and maintain character of the newer residential areas within the borough; to provide for the orderly expansion of residential development; to provide for the public health and to prevent the overcrowding of land through application of maximum housing densities; to provide standards which will encourage the installation of public facilities and the preservation of open space, to exclude any activities not compatible with residential development.

*(Source: Dover Borough Zoning Ordinance)*

Tables 2 and 3 provide the acreages of land by Zoning District, and Map 9: Zoning Districts illustrates Zoning District Boundaries.

**Table 2: Zoning Acreage Dover Township**

Zoning Code	Description	Acres	Percent of Total Acres
Cv	Conservation	12,165	45.4%
A	Agriculture	9,038	33.7%
V	Village	176	0.7%
ROS	Residential Open Space	532	2.0%
R1	Low Density Residential	2,153	8.0%
R2	Low Density Residential	628	2.3%
R3	Medium Density Residential	479	1.8%
R4	High Density Residential	375	1.4%
C	Commercial	529	2.0%
PO	Professional Office	4	0.0%
MX	Mixed Use Residential	181	0.7%
BP	Business Park Office	274	1.0%
I	Industrial	257	1.0%
<b>Total*</b>		<b>26,790</b>	<b>100%</b>

\*Total Acres of parcels, the total includes acreage dedicated to roadway rights-of-way and may therefore differ from other table data that is based on parcel acreages

**Table 3: Zoning Acreage Dover Borough**

Zoning Code	Description	Acres	Percent of Total Acres
R	Residential	273	79.0%
V	Village	73	21.0%
<b>Total</b>		<b>346</b>	<b>100%</b>

- **Preserved Agricultural Land**

Agricultural Land includes lands that are included in agricultural land preservation programs such as the York County Agriculture Land Preservation Program (YCPL), Farm & Natural Lands Trust (F&NLT) program, and the York County Agricultural Securities programs (ASA). Designated Agricultural Land are identified and described on Map 8: Agricultural Lands of the Existing Conditions Report.

- **Environmentally Sensitive Areas**

Environmentally Sensitive Areas include the environmentally sensitive areas as mapped and presented in Maps 7 and 7.1: Environmentally Sensitive Areas of the Existing Conditions Report. These areas include steep slopes (slope of 15% or greater), flood plains (100 year and 500 year flood plains), and the Zone of Contribution areas of the Wellhead Protection Areas (the areas of surface runoff to the Zone of Contribution were not included).

## **BUILD-OUT ANALYSIS PROCESS**

The build-out analysis process describes how land available for development is identified and explains basic assumptions that are applied.

### **Build-Out Analysis Process**

**Step 1. Beginning with General Land Uses at the Parcel Level**

Any parcel that has a land use category of Vacant or Agriculture is considered available for development. These parcels are considered as lands available for development.

**Step 2. Reductions for Preserved Agricultural Lands**

Remove from lands available for development any parcels that are included in any of the programs identified in the Preserved Agricultural Land coverage: For maximum build-out scenario that includes: YCPL, F&NLT, and ASA.

For the Preferred build-out scenario reductions include: YCPL, F&NLT, and ASA outside the growth boundary, whereby those ASA lands inside the growth boundary were considered for future use as Public Open Space.

**Step 3. Reductions for Environmentally Sensitive Areas**

For the maximum build-out scenario: remove from lands available for development any parcels that are in Environmentally Sensitive Areas including steep slopes, flood plains, or a Wellhead Protection Area's Zone of Contribution.

For the preferred build-out scenario: remove from lands available for development parcels that are in Environmentally Sensitive Areas including steep slopes and flood plains. Those parcels in Wellhead Protection Area's Zone of Contribution may or may not have been designated to develop based on Joint Comprehensive Plan Advisory Committee (JCPAC) discussion.

**Step 4. Lands Available for Development Land Use Assignment**

For the maximum build-out scenario: the remaining lands available for development were assigned land uses based upon current zoning regulations as presented in Table 4: Zoning Regulations and Build-Out Assumptions.

For the preferred build-out scenario: the remaining lands available for development were assigned land uses based upon current zoning regulations as presented in Table 4: Zoning Regulations and Build-Out Assumptions and or as decided upon by the JCPAC for lands inside the growth boundary.

Map B01 - Lands Available for Development illustrates lands available for development after Process Steps 1 through 4 has been applied for the Maximum Build-out Scenario. Map P01 – Lands Considered for Development – Preferred Scenario, illustrates the lands used to generate the Preferred Scenario Build-out.

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**Build-Out Basic Assumptions**

The following assumptions were made concerning lands available for development and concerning the type of development that may occur.

1. Since various development types are permitted in each Zoning District, there is a myriad of possibilities for the type of development that will occur; therefore, the type of development that may occur was assumed. Table 4: Zoning regulations and Build-Out Assumptions, provides the assumptions that were used in the build-out scenario.

**Table 4: Zoning Regulations and Build-Out Assumptions**

Current Zoning					Build-Out Conditions
Zoning Districts	Zone Code	Units Per Acre or Minimum Square Footage Needed	Maximum Dwelling Unit Density	Calculated Acres per Unit	Assumed Type of Build-Out
Conservation District	Cv	1 Unit per 3 Acres (0.33 Units per Acre)	NA	3	Residential (100%)
Agriculture District	A	1 Unit per 1.5 Acres (0.66 Units per Acre)	NA	1.5	Residential (100%)
Low Density Single Family District	R-1	2.5 - 4 units per Acre	2	0.4	Residential (100%)
Residential Open Space District	ROS	1 - 2.5 Units per Acre (depending on public utilities)	2	1	Residential (100%)
Low Density Residential District	R-2	2.5 - 4 Units per Acre (depending on public utilities)	2	0.25	Residential (100%)
Medium Density Residential District	R-3	4.8 Units per Acre	5	0.21	Residential (100%)
High Density Residential District	R-4	5.8 - 14.5 Units per Acre	15	0.17	Residential (100%)
Residential - (Borough)	R	2.0 - 5.5 Units per Acre (depending on utilities)	NA	0.18	Residential (100%)
Village (Borough)	V	5.5 Units per Acre	NA	0.18	Mix Commercial (50%) / Residential (50%)
Mixed Use District	MX	3.0 - 3.5 units per acre 17,500 square feet	NA	0.28	Mix Commercial (10%) / Residential (90%)
Village District (Township)	V	RESIDENTIAL 4,500 with water AND sewer 43,560 with water OR sewer 65,340 with neither NONRESIDENTIAL 32,670 with water AND sewer 43,560 with water OR sewer 65,340 with neither	NA	1	Mix Commercial (40%) / Residential (60%)
Commercial	C	10,000 with water AND sewer 43,560 with water OR sewer 65,240 with neither	4.3	0.23	Residential (10%) Commercial (90%)
Industrial	I	20,000 square feet	NA	NA	Industrial (100%)
Business / Office Park	BP	5 acres (217,800 square feet)**	NA	NA	Commercial (100%)
Professional Office	PO	~	NA	NA	Commercial (100%)

*Sources: Dover Borough Zoning Ordinance, Dover Township Zoning Ordinance*

*\*\*within a 30 acre tract*

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2. Properties identified as lands available for development are for build-out scenario purposes desired to develop. In some instances, property owners may have no intention of developing their properties, but for purposes of conducting maximum build-out analysis they are considered to develop.
3. Properties identified as lands available for development are able to meet the minimum lot size, minimum setbacks, access, and impervious surface requirements, among others, as prescribed in the Zoning Ordinances. Lots not meeting these requirements will remain vacant.
4. Land that has already been developed (land uses other than Vacant or Agriculture), will remain developed as such and will not be further subdivided or developed.
5. Lands available for development that are in the Agriculture Zoning District and are greater than ten acres in size are classified as Very Low Density Residential. Lands available for development that are in the Agriculture Zoning District and are less than ten acres in size are classified as Low Density Residential.
6. Specific assumptions are further defined in the Notes column of Tables 7: Maximum Scenario Build-Out Results and Table 8: Preferred Build-out Results.

**Land Available for Development within the Conservation Zoning District**

At the request of the Joint Comprehensive Plan Advisory Committee (JCPAC), analysis was focused on land available for development in the Conservation Zoning District of Dover Township. The following describes in detail the conditions within the Conservation Zoning District. To reiterate, lands available for development include parcels with a land use classification of vacant or agricultural with reductions made for preserved farmland (Farm & Natural Land, Preserved Farms, and Agricultural Security Areas) and reductions made for environmentally sensitive areas (steep slopes, flood plains, or a Wellhead Protection Area's Zone of Contribution).

Within the Dover Township Conservation Zoning District there are approximately 12,000 acres in 2,100 parcels (refer to Table 5: Conservation Zoning District); 29% of those acres (3,337.3 acres) are considered as land available for development. Of the land available for development in the Conservation Zoning District, nearly all (97%) of the acreage are on parcels that are greater than 3.0 acres in size, refer to Table 6: Undeveloped Land in the Conservation Zoning District and Map BO1.1 Conservation Zoning District – Lands Available for Development.

**Table 5: Conservation Zoning District**

<b>Conservation Zoning District</b>	<b>Number of Parcels</b>	<b>Total Acreage</b>	<b>Percent of Total</b>
Developed Land in the Conservation Zoning District	1,849	8,309.9	71%
Undeveloped Land (Available for Development) in the Conservation Zoning District	256	3,337.3	29%
<b>Total</b>	<b>2,105</b>	<b>11,647.2</b>	<b>100%</b>

**Table 6: Undeveloped Land in the Conservation Zoning District**

Undeveloped Land (Available for Development) in the Conservation Zoning District	Number of Parcels	Total Acreage	Percent of Total
Number of parcels less than 3.0 Acres	99	105.0	3%
Number of parcels greater than 3.0 Acres*	157	3,232.2	97%
<b>Total</b>	<b>256</b>	<b>3,337.3</b>	<b>100%</b>

*Note: No land available for development in the Conservation Zoning District was exactly 3.0 acres  
\*125 parcels in this category are 6.0 acres or greater and amount to 3,091.7 acres*

As illustrated in Table 7: Maximum Scenario Build-Out Results, the 3,337.3 acres of land available for development could yield approximately 1,112 additional housing units in the Conservation Zoning District.

**BUILD-OUT RESULTS**

Once the Build-Out Basic Assumptions are applied to parcels, lands available for development by zoning district are built-out. The results are presented in Table 7: Maximum Scenario Build-Out Results, and illustrated in Map BO2: Probable Future under Modified Zoning and Tables 8: Preferred Scenario Build-Out Results, and illustrated in Map P1: Development Patterns 2030.

**Scenario: Probable Future - Maximum Build-Out under Current Zoning**

Table 7: Maximum Scenario Build-Out Results illustrates there are approximately 9,200 acres of land available for development in various zoning districts throughout the study area. In Dover Borough there are 12.2 acres of land available for development with the remainder acreage located in Dover Township. Table 7, further illustrates that the total projected number of dwelling units based on lands available for development that has been identified for residential development results in an additional 5,615 units. Note that there are no lands available for development in the Mixed Use (MX) or Professional Office (PO) Zoning Districts and therefore no residential or non-residential units or space is projected for those districts.

**Scenario: Preferred Future under Modified Zoning**

Table 8: Preferred Scenario Build-Out Results illustrates there are approximately 4,800 acres of land available for development in various zoning districts and modified zoning districts throughout the study area. In Dover Borough there are 12.2 acres of land available for development with the remainder acreage located in Dover Township. Table 8, further illustrates that the total projected number of dwelling units based on lands available for development that has been identified for residential development results in an additional 4,947 units. Note that there are no lands available for development in the Mixed Use (MX) or Professional Office (PO) Zoning Districts and therefore no residential or non-residential units or space is projected for those districts.



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**Table 7: Maximum Scenario Build-Out Results**

Zoning Districts	Current Zoning				Build-Out Conditions			Build-Out Results			NOTES
	Zone Code	Units Per Acre or Minimum Square Footage Needed	Maximum Dwelling Unit Density	Calculated Acres per Unit	Assumed Type of Build-out	Acres Available for Development	Residential Acres	Non-Residential Acres	PROJECTED UNITS (Based on Maximum Density or listed Notes)		
Conservation District	Cv	1 Unit per 3 Acres (0.33 Units per Acre)	NA	3	Residential (100%)	3,337.3	3,337.3	0	1,112		
Agriculture District	A	1 Unit per 1.5 Acres (0.66 Units per Acre)	NA	1.5	Residential (100%)	4,255.3	4,255.3	0	208	Assume that one-quarter of the 192 parcels available for development will come in for a permitted one-time division (equals 48 lots), the total acreage available for development is then divided by 26.5 acres (25 acre farm lot plus an allowable 1.5 acre lot).	
Low Density Single Family District	R-1	2.5 - 4 units per Acre	2	0.4	Residential (100%)	662.5	662.5	0	1,325	Used Maximum Dwelling Density	
Residential Open Space District	ROS	1 - 2.5 Units per Acre (depending on public utilities)	2	1	Residential (100%)	268.9	268.9	0	538	Used Maximum Dwelling Density	
Low Density Residential District	R-2	2.5 - 4 Units per Acre (depending on public utilities)	2	0.25	Residential (100%)	95.4	95.4	0	382	Used Maximum Dwelling Density	
Medium Density Residential District	R-3	4.8 Units per Acre	5	0.21	Residential (100%)	76.8	76.8	0	384	Used Maximum Dwelling Density	
High Density Residential District	R-4	5.8 - 14.5 Units per Acre	15	0.17	Residential (100%)	102.0	102.0	0	1,531	Used Maximum Dwelling Density	
Residential - (Borough)	R	2.0 - 5.5 Units per Acre (depending on utilities)	NA	0.18	Residential (100%)	9.2	9.2	0	51	Assumed 5.5 units per acre	
Village (Borough)	V	5.5 Units per Acre	NA	0.18	Mix Commercial (50%) / Residential (50%)	3.0	1.5	1.5	8	Assumed 5.5 units per acre	
Mixed Use District	MIX	3.0 - 3.5 units per acre 17,500 square feet	NA	0.28	Mix Commercial (10%) / Residential (90%)	-	-	-	-	Actual units approved in this district have been accounted for in the Existing Unit Adjustments	
Village District (Township)	V	RESIDENTIAL 4,500 with water AND sewer 43,960 with water OR sewer 65,340 with neither NONRESIDENTIAL 32,670 with water AND sewer 43,560 with water OR sewer 65,340 with neither	NA	1	Mix Commercial (40%) / Residential (60%)	30.4	18.2	12.2	18	Assumed 1 acre lots (water is currently available)	
Commercial	C	10,000 with water AND sewer 43,560 with water OR sewer 65,240 with neither	4.3	0.23	Residential (10%) Commercial (90%)	132.9	13.3	119.6	58	Assumed 10% of area will be developed at smallest lot size permitted as water and sewer are available	
Industrial	I	20,000 square feet	NA	NA	Industrial (100%)	66.7	-	66.7	-		
Business / Office Park	BP	5 acres (217,800 square feet)**	NA	NA	Commercial (100%)	155.1	-	155.1	-		
Professional Office	PO	~	NA	NA	Commercial (100%)	-	-	-	-		
<i>Dover Borough Sub-total</i>						12.2	10.7	1.5	60		
<i>Dover Township Sub-total</i>						9,183.3	8,829.8	353.5	5,555		
<b>Total</b>						<b>9,195.5</b>	<b>8,840.5</b>	<b>355.0</b>	<b>5,615</b>		

Note: Highlighted Rows represent Dover Borough



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**Table 8: Preferred Scenario Build-Out Results**

Zoning Districts	Current Zoning			Build-Out Conditions			Build-Out Results			NOTES
	Zone Code	Units Per Acre or Minimum Square Footage Needed	Maximum Dwelling Unit Density	Calculated Acres per Unit	Assumed Type of Build-out	Acres Available for Development	Residential Acres	Non-Residential Acres	PROJECTED UNITS (Based on Maximum Density or listed Notes)	
Conservation District	Cv	1 Unit per 3 Acres (0.33 Units per Acre)	NA	3	Residential (100%)	2,205.5	2,205.5	0	735	Assume that one-quarter of the 192 parcels available for development will come in for a permitted one-time division (equals 48 lots) the total acreage available for development is then divided by 26.5 acres (25 acre farm lot plus an allowable 1.5 acre lot). Used Maximum Dwelling Density
Agriculture District	A	1 Unit per 1.5 Acres (0.66 Units per Acre)	NA	1.5	Residential (100%)	270.0	270.0	0	208	
Low Density Single Family District	R-1	2.5 - 4 units per Acre	2	0.4	Residential (100%)	589.0	589.0	0	1,178	
Residential Open Space District	ROS	1 - 2.5 Units per Acre (depending on public utilities)	2	1	Residential (100%)	277.1	277.1	0	554	Used Maximum Dwelling Density
Low Density Residential District	R-2	2.5 - 4 Units per Acre (depending on public utilities)	2	0.25	Residential (100%)	354.0	354.0	0	1,416	Used Maximum Dwelling Density
Medium Density Residential District	R-3	4.8 Units per Acre	5	0.21	Residential (100%)	66.8	66.8	0	334	Used Maximum Dwelling Density
High Density Residential District	R-4	5.8 - 14.5 Units per Acre	15	0.17	Residential (100%)	16.6	16.6	0	249	Used Maximum Dwelling Density
Residential - (Borough)	R	2.0 - 5.5 Units per Acre (depending on utilities)	NA	0.18	Residential (100%)	9.1	9.1	0	51	Assumed 5.5 units per acre
Village (Borough)	V	5.5 Units per Acre	NA	0.18	Mix Commercial (50%) / Residential (50%)	3.0	1.5	1.5	8	Assumed 5.5 units per acre
Mixed Use District	MX	3.0 - 3.5 units per acre 17,500 square feet	NA	0.28	Mix Commercial (10%) / Residential (90%)	-	-	-	-	Actual units approved in this district have been accounted for in the Existing Unit Adjustments
Village District (Township)	V	RESIDENTIAL 4,500 with water AND sewer 43,560 with water OR sewer 65,340 with neither NONRESIDENTIAL 32,670 with water AND sewer 43,560 with water OR sewer 65,340 with neither	NA	1	Mix Commercial (40%) / Residential (60%)	7.4	4.4	3.0	4	Assumed 1 acre lots (water is currently available)
Commercial	C	10,000 with water AND sewer 43,560 with water OR sewer 65,240 with neither	4.3	0.23	Residential (10%) Commercial (90%)	478.5	47.9	430.7	208	Assumed 10% of area will be developed at smallest lot size permitted as water and sewer are available
Industrial	I	20,000 square feet	NA	NA	Industrial (100%)	392.1	-	392.1	-	Assumed 10% of area will be developed at smallest lot size permitted as water and sewer are available
Business / Office Park	BP	5 acres (217,800 square feet)**	NA	NA	Commercial (100%)	155.1	-	155.1	-	
Professional Office	PO	~	NA	NA	Commercial (100%)	-	-	-	-	
Dover Borough Sub-total						12.1	10.6	1.5	59	
Dover Township Sub-total						4,812.3	3,631.5	980.8	4,888	
<b>Total</b>						<b>4,824.4</b>	<b>3,842.1</b>	<b>982.3</b>	<b>4,947</b>	

Note: Highlighted Rows represent Dover Borough

**Housing Unit & Population Adjustments**

Since the completion of the 2000 Census, there has been residential development in Dover Borough and Dover Township and therefore a change in total number of housing units and population. To account for the change in housing units and population, residential building permits and population per household data have been used to adjust the 2000 Census figures. Since 2000, in Dover Borough there have been 61 housing permits approved and constructed. Since 2000, in Dover Township there have been 1,839 housing units approved but just 1,167 permits issued and housing units constructed. Table 9: Housing Unit & Population Adjustment 2005 illustrates their has been a total 1,228 residential building permits issued and units constructed in the Dover Area between 1999 through 2005. Since the actual number of occupants per new household is unknown, the current occupancy rate for each municipality was applied to the additional new housing units; by adding the resulting number (additional population) to the 2000 Total Population establishes an Adjusted Total Population.

**Table 9: Housing Unit & Population Adjustment 2005**

Municipality	2000 Total Housing Units	2000 Total Population	2000 Population Per Housing Unit	Total Housing Units Constructed Since 2000 Census*	Adjusted Total Housing Units (2005)	Adjusted Total Population Based on Population Per Dwelling Unit (2005)
Dover Borough	790	1,815	2.3	61	851	1,955
Dover Township	7,217	18,074	2.5	1,167	8,384	20,997
<b>Total</b>	<b>8,007</b>	<b>19,889</b>	<b>2.48</b>	<b>1,228</b>	<b>9,235</b>	<b>22,952</b>

*Source: 2000 Census, Dover Borough and Dover Township building permit data 1999-2005*

The adjusted total housing units in Dover Borough is 851, with an adjusted population of 1,955 people. The adjusted total housing units in Dover Township is 8,384, with an adjusted population of 20,997. The total adjusted housing units for the Dover Area are 9,235 housing units with an adjusted total population of 22,952.

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**Housing Unit & Population Projections**

A similar application of the methodology to adjust current housing units and populations can be employed with the projected housing units. Table 10: Projected Housing Units and Population, illustrates the results of adding built-out housing units to adjusted housing units to establish total projected housing units and population. In addition to the calculated build-out units, there are three properties which already have approved development plans which include an additional 548 units; these units are referred to as unaccounted units. These properties we not included in land available for development for the build-out scenario as they are located in Agricultural Security Areas (ASA) or Wellhead Protection Areas (WHPA). Therefore, total projected housing units are calculated as; adjusted housing units plus unaccounted housing units plus build-out housing units.

**Table 10: Projected Housing Units and Population – Maximum Build-out**

Municipality	ADJUSTED Total Housing Units (2005)	ADJUSTED Total Population Based on Population Per Dwelling Unit (2005)	UNACCOUNTED Approved Housing Units Not Accounted for in the Build-Out	UNACCOUNTED Population Not Accounted for in the Build-Out	MAX BUILD-OUT Additional Housing Units	MAX BUILD-OUT Additional Population	TOTAL PROJECTED HOUSING UNITS (Adjusted Housing Units plus Unaccounted Housing Units plus Max Build-Out Housing Units)	TOTAL PROJECTED POPULATION (Adjusted Population plus Unaccounted Population plus Max Build-Out Population)
Dover Borough	851	1,955	-	-	60	137	911	2,092
Dover Township	8,384	20,997	548	1,372	5,555	13,913	14,487	36,282
<b>Total</b>	<b>9,235</b>	<b>22,952</b>	<b>548</b>	<b>1,372</b>	<b>5,615</b>	<b>14,050</b>	<b>15,398</b>	<b>38,374</b>

According to Table 10, the 60 build-out housing units in Dover Borough yield 137 more people; and result in a projected 911 housing units and population of 2,092 people. The 548 unaccounted housing units in Dover Township plus the 5,555 build-out housing units results in a total projection of 14,487 housing units and a population of 36,282 people. The Dover Area (Dover Borough and Dover Township) is projected under the Maximum Build-out scenario to have 15,398 housing units with a 38,374 people.

**Table 11: Projected Housing Units and Population – Preferred Build-out**

Municipality	ADJUSTED Total Housing Units (2005)	ADJUSTED Total Population Based on Population Per Dwelling Unit (2005)	UNACCOUNTED Approved Housing Units Not Accounted for in the Build-Out	UNACCOUNTED Population Not Accounted for in the Build-Out	PREF BUILD-OUT Additional Housing Units	PREF BUILD-OUT Additional Population	TOTAL PROJECTED HOUSING UNITS (Adjusted Housing Units plus Unaccounted Housing Units plus Pref Build-Out Housing Units)	TOTAL PROJECTED POPULATION (Adjusted Population plus Unaccounted Population plus Pref Build-Out Population)
Dover Borough	851	1,955	-	-	59	136	910	2,091
Dover Township	8,384	20,997	548	1,372	4,888	12,241	13,820	34,610
<b>Total</b>	<b>9,235</b>	<b>22,952</b>	<b>548</b>	<b>1,372</b>	<b>5,615</b>	<b>12,377</b>	<b>14,730</b>	<b>36,701</b>

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According to Table 11, the 59 preferred scenario build-out housing units in Dover Borough yield 136 more people; and result in a projected 910 housing units and population of 2,091 people. The 548 unaccounted housing units in Dover Township plus the 4,888 build-out housing units results in a total projection of 13,820 housing units and a population of 34,610 people. The Dover Area (Dover Borough and Dover Township) is projected under the Preferred Build-out scenario to have 14,730 housing units with a 36,701 people.

A comparison of projections has been included. Table 12: York County Planning Commission Projections to 2030 (from the Existing Conditions Report) is shown below. When compared to Table 10, the comparison reveals that the adjusted totals for the Dover Area (2005) are similar to the projected totals for the Dover Area for 2010; and that the build-out projections surpass the YCPC 2030 projections by approximately 3,500 housing units and approximately 8,300 people. Note that York County Planning Commission projections are based on past population trends and that the build-out projections are based on lands available for development with an average number of persons per dwelling unit applied.

**Table 12: York County Planning Commission Projections to 2030**

Municipality	Census Data	Projections		
	2000	2010	2020	2030
<b>Dover Borough</b>				
Population	1,815	1,989	2,184	2,340
Households	770	807	843	878
<i>Population Per Household</i>	2.36	2.46	2.59	2.67
<b>Dover Township</b>				
Population	18,074	21,359	24,949	27,705
Households	6,999	8,330	9,678	11,027
<i>Population Per Household</i>	2.58	2.56	2.58	2.51
<b>Dover Area</b>				
Population	19,889	23,348	27,133	30,045
Households	7,769	9,137	10,521	11,905

*Source: York County Planning Commission, Transportation Forecasting Model, 2005  
York County Planning Commission, 2003 Population projections.*

**HOUSING CAPACITY ANALYSIS**

A housing capacity analysis evaluates total lands available for residential development and the possible housing units permitted to develop using current land development regulations, housing trends, national standards and real estate trends. The analysis results can be compared to growth rates or population growth rates. The analysis can be used as a measure of current regulation's ability to provide for various housing types. The housing capacity analysis can also be used to determine housing trends based upon certain market factors. The results of the housing capacity analysis provide valuable information to support land use policy decisions and can also be used to assess fiscal impacts of residential development.

**Current Housing Trends**

Table 13: Units in Structure illustrates the 2000 stratification of housing units in the Dover Area by the number of units in a structure. The data, at the Census Blockgroup level, are applied to the total number of projected units to provide an indication of how the projected units may be distributed. Definitions for units in structure categories are provided below. Appendix A:

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Specific Blockgroups Applied to Projected Units describes particular blockgroup stratifications that were applied to the number of projected housing units per Zoning District.

**Table 13: Units in Structure**

Units in Structure	Dover Borough		Dover Township	
	Number	Percent	Number	Percent
Total housing units	789	100	7,218	100
<b>UNITS IN STRUCTURE</b>				
1-unit, detached	452	57.3	4,843	67.1
1-unit, attached	49	6.2	801	11.1
2 units	43	5.4	131	1.8
3 or 4 units	32	4.1	78	1.1
5 to 9 units	120	15.2	156	2.2
10 to 19 units	77	9.8	89	1.2
20 or more units	16	2	9	0.1
Mobile home	0	0	1,111	15.4
Boat, RV, van, etc.	0	0	0	0

(X) Not applicable

*Source: United States Census Bureau 2000 SF1 Data*

**Definitions of Categories**

Definitions for units in structure are provided by the United States Census Bureau Summary File 3 (SF3) Documentation. The following definitions have been used to support this analysis.

**Units in Structure:** The data on units in structure (also referred to as “type of structure”) were obtained from answers to long-form questionnaire Item 34, which was asked on a sample basis at both occupied and vacant housing units. A structure is a separate building that either has open spaces on all sides or is separated from other structures by dividing walls that extend from ground to roof. In determining the number of units in a structure, all housing units, both occupied and vacant, are counted. Stores and office space are excluded. The statistics are presented for the number of housing units in structures of specified type and size, not for the number of residential buildings.

**1-unit, detached:** This is a 1-unit structure detached from any other house; that is, with open space on all four sides. Such structures are considered detached even if they have an adjoining shed or garage. A 1-family house that contains a business is considered detached as long as the building has open space on all four sides. Mobile homes to which one or more permanent rooms have been added or built also are included.

**1-unit, attached:** This is a 1-unit structure that has one or more walls extending from ground to roof separating it from adjoining structures. In row houses (sometimes called townhouses), double houses, or houses attached to nonresidential structures, each house is a separate, attached structure if the dividing or common wall goes from ground to roof.

**2 or more units:** These are units in structures containing 2 or more housing units, further categorized as units in structures with 2, 3 or 4, 5 to 9, 10 to 19, 20 to 49, and 50 or more units.

**Mobile Home:** Both occupied and vacant mobile homes to which no permanent rooms have been added are counted in this category. Mobile homes used only for business purposes or for extra sleeping space and mobile homes for sale on a dealer’s lot, at the

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factory, or in storage are not counted in the housing inventory. In 1990, the category was “mobile home or trailer.”

**Boat, RV, Van and Similar:** This category is for any living quarters occupied as a housing unit that does not fit in the previous categories. Examples that fit in this category are houseboats, railroad cars, campers, and vans.

**National Averages**

Table 14: National Average Square Footage of Units provides data on the average national square footage of housing units in the United States. The data in Table 12 are provided by the United States Department of Energy, Energy Information Administration (DOE / EIA) through the 2001 Residential Energy Consumptions Survey.

**Table 14: National Average Square Footage of Units**

Type of Home	Average Square Footage	Average Sale Price (Structure Value)
Average Square Footage of Mobile Homes	1,062	Singlewide \$38,000 to \$48000 Doublewide \$72,000*
Average Square Footage of SFD – Detached	2,553	\$182,487
Average Square Footage of SFD – Attached	2,373	\$113,975
Apartments - 2-4 units buildings	1,393	\$122,215**
Apartments - 5 + units buildings	847	NA

*NA – Not Available*

*\*Manufactured Homes Quote – Price Guide (2005), mh-quote.com*

*\*\*Using Condominium values from Realtors Association of York and Adams County Inc data  
Source: United States Department of Energy, Energy Information Administration,  
2001 Residential Energy Consumptions Survey and RAYAC 2005 Data.*

According to the DOE / EIA housing units square footages include the following:

Total square footage as presented in the 2001 Residential Energy Consumption Survey [Table 14:] includes living space (living rooms, bedrooms, dining rooms, kitchens, dens, and other living space not separately reported), other enclosed interior space (space not included in any other category such as laundry rooms, hallways, and closets), attached garages, basements, finished and heated attics, and enclosed porches.

The average square footages presented in Table 14 are applied to the projected housing units as part of the housing capacity analysis.

### **Residential Real Estate Trends 2005**

According to the Realtors Association of York and Adams County (RAYCO) Multiple Listing Service (MS) data, nearly 300 homes (286) were sold in the Dover Area School District in 2005 at an average sale price of \$163,780. Table 15: Specific Housing Units Details 2005 provides the average finished square feet and sale price per total finished square foot of homes sold in the Dover Area School District in 2005.

**Table 15: Specific Housing Unit Details 2005**

<b>Type</b>	<b>Total Finished Square Feet</b>	<b>Sold Price</b>	<b>Sale Price / Total Finished Square Foot</b>
Detached	1,781	\$ 182,487	\$ 102
Attached	1,323	\$ 113,975	\$ 86
Mobile Home / w Land	1,174	\$ 93,709	\$ 80
Condominium	1,302	\$ 122,215	\$ 94

Note that the average square footage of units in the national average data (Table 14) are higher than the average square footage of unit as presented in Table 15; the difference is explained as the data presented in Table 15 are for “finished” square footages while the national average data includes data for non-finished square footage such as garages, basements, and enclosed porches.

### **Housing Trends Applied to Build-Out**

The stratification of housing units presented in Table 13 and as further described in Appendix A, is applied to the build-out projected housing units. The results of the application are an estimation of not only the *total number* of housing units that may be constructed in a zoning district but also an estimation of the *type* of units that may be constructed. The results are presented in Tables 16 and 17: Classification of Projected Housing Units by Zoning District.

Since the community has expressed a desire for fewer mobile home parks and the Township has indicated that mobile home parks have been legally provided for, the units per structure dispersions for blockgroups that represent zoning districts which typically permit mobile home parks have been modified to project fewer mobile homes than currently exist in those blockgroups. However, since the elimination of single mobile homes as a type of housing unit is exclusionary, there have been allowances for new mobile home construction as single units (*not developed as mobile home parks*) in the estimations. The allowances are accounted for by maintaining (not modifying) the stratification of blockgroups which represent Zoning Districts where mobile home are dispersed throughout the district and are not concentrated on single large lots (mobile home parks). For instance, in the Conservation (CV) Zoning District, no modification was made to the existing instances of mobile homes; and therefore the build-out projected housing units (1,112 housing units) are classified accordingly, where 1,017 of those units are estimated as being single unit detached structures and 95 are estimated as being mobile homes.

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**Table 16: Classification of Projected Housing Units by Zoning District – Maximum Build-out**

Zoning District	Cv	A	R-1	ROS	R-2	R-3	R-4	R	V	MX	V	C	Total
<b>Units From Build-Out Results</b>	1,112	208	1,325	538	382	384	1,531	51	8	-	18	58	5,615
<b>Units Not Accounted For In Build-Out</b>			178	219		151							548
<b>Type of Unit (Units In Structure) / Number of Projected Housing Units per Zoning District</b>	<b>1,112</b>	<b>208</b>	<b>1,503</b>	<b>757</b>	<b>382</b>	<b>535</b>	<b>1,531</b>	<b>51</b>	<b>8</b>	<b>-</b>	<b>18</b>	<b>58</b>	<b>6,163</b>
Housing units: 1; detached units in structure	1,017	185	1,148	578	253	349	571	45	4	-	17	43	4,210
Housing units: 1; attached units in structure	-	-	320	161	69	64	560	2	1	-	-	5	1,182
Housing units: 2 units in structure	-	-	-	-	9	116	14	4	1	-	-	8	152
Housing units: 3 or 4 units in structure	-	4	36	18	-	6	57	-	0	-	-	1	121
Housing units: 5 to 9 units in structure	-	-	-	-	12	-	203	-	2	-	-	-	217
Housing units: 10 to 19 units in structure	-	-	-	-	33	-	28	-	1	-	-	-	63
Housing units: 20 to 49 units in structure	-	-	-	-	-	-	-	-	0	-	-	-	0
Housing units: 50 or more units in structure	-	-	-	-	5	-	-	-	0	-	-	-	5
Housing units: Mobile home	95	19	-	-	-	-	97	-	-	-	2	-	214
<b>TOTAL</b>	<b>1,112</b>	<b>208</b>	<b>1,503</b>	<b>757</b>	<b>381</b>	<b>535</b>	<b>1,531</b>	<b>51</b>	<b>8</b>	<b>-</b>	<b>18</b>	<b>58</b>	<b>6,163</b>
													<b>100.0%</b>

Source: Build-Out Projected Units as classified using data from Appendix A.

Table 16: Classification of Projected Housing Units by Zoning District - Maximum Build-out illustrates in which zoning districts the projected housing units may be constructed as well as illustrates the type of housing units that may be expected. The yellow highlighted columns represent the two zoning districts of Dover Borough, while the remaining columns comprise the zoning districts of Dover Township. Note that the percentage of mobile homes that may be expected (3.5%) is far less than the percentage of mobile homes that are already in the Dover Area (15.4%). Data from Table 16 are used in the fiscal impact estimations.



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**Table 17: Classification of Projected Housing Units by Zoning District – Preferred Build-out**

Zoning District	Cv	A	R-1	ROS	R-2	R-3	R-4	R	V	MX	V	C	Total	Percent of Total
<b>Units From Build-Out Results</b>	735	208	1,178	554	1,416	334	249	51	8	-	4	208	4,947	
<b>Units Not Accounted For In Build-Out</b>			178	219		151							548	
<b>Type of Unit (Units In Structure) / Number of Projected Housing Units per Zoning District</b>	<b>735</b>	<b>208</b>	<b>1,356</b>	<b>773</b>	<b>1,416</b>	<b>485</b>	<b>249</b>	<b>51</b>	<b>8</b>	<b>-</b>	<b>4</b>	<b>208</b>	<b>5,495</b>	<b>Percent of Total</b>
Housing units: 1; detached units in structure	672	185	1,036	591	937	317	93	45	4	-	4	156	4,039	73.5%
Housing units: 1; attached units in structure	-	-	288	164	256	58	91	2	1	-	-	19	880	16.0%
Housing units: 2 units in structure	-	-	-	-	34	105	2	4	1	-	-	30	176	3.2%
Housing units: 3 or 4 units in structure	-	4	32	18	-	5	9	-	0	-	-	4	72	1.3%
Housing units: 5 to 9 units in structure	-	-	-	-	46	-	33	-	2	-	-	-	80	1.5%
Housing units: 10 to 19 units in structure	-	-	-	-	124	-	5	-	1	-	-	-	130	2.4%
Housing units: 20 to 49 units in structure	-	-	-	-	-	-	-	-	0	-	-	-	0	0.0%
Housing units: 50 or more units in structure	-	-	-	-	17	-	-	-	0	-	-	-	17	0.3%
Housing units: Mobile home	63	19	-	-	-	-	16	-	-	-	0	-	99	1.8%
<b>TOTAL</b>	<b>735</b>	<b>208</b>	<b>1,356</b>	<b>773</b>	<b>1,415</b>	<b>485</b>	<b>249</b>	<b>51</b>	<b>8</b>	<b>-</b>	<b>4</b>	<b>208</b>	<b>5,493</b>	<b>100.0%</b>

Table 17: Classification of Projected Housing Units by Zoning District - Preferred Build-out illustrates in which zoning districts the projected housing units may be constructed as well as illustrates the type of housing units that may be expected. The yellow highlighted columns represent the two zoning districts of Dover Borough, while the remaining columns comprise the zoning districts of Dover Township. Note that the percentage of mobile homes that may be expected (1.8%) is far less than the percentage of mobile homes that are already in the Dover Area (15.4%). Data from Table 17 are also used in the fiscal impact estimations.

### **NON-RESIDENTIAL CAPACITY ANALYSIS**

Similar to the Housing Capacity Analysis, the Non-residential Capacity Analysis evaluates total lands available for non-residential development and the total acreage and square footage of non-residential space permitted to develop on lands available for development using current zoning and development regulations. The analysis can be used as a measure of the current regulation's ability to provide for various types of land use. For example, based on current commercial growth trends is there enough land zoned for commercial (non-residential) development? The results of the non-residential capacity analysis provide valuable information to support land use policy decisions and can also be used to assess fiscal impacts of non-residential development.

Tables 18 and 19: Projected Non-Residential Space expands upon data presented in Tables 7 and 8: Build-Out Results concerning non-residential acreage by estimating the total square footage of non-residential space that could be constructed on lands available for development as permitted under current zoning. The left most columns of Tables 18 and 19 provided current zoning regulations including maximum height and maximum lot coverage; the **Build-Out Condition** columns provide the assumptions made for how lands available for development are to be developed, acreages of developable land by zoning district, and the residential and non-residential splits. The **Build-Out Results** columns provide estimated square footages of non-residential space that may be constructed using permitted criteria from the **Current Conditions** columns; The **Notes** columns describe how the current regulations are applied.

Table 18: Projected Non-Residential Space – Maximum Build-out illustrates that of the 388 acres of lands available for development in zoning districts that permit non-residential development there are 355 acres on which the development may occur. The 355 acres available for non-residential development may yield approximately 15.3 Million square feet of non-residential space. Note that only lands available for development in the Business Professional (BP) Zoning District have a reduction made for new streets, utilities, and ROW easement. These lands available for development zoned BP may require new infrastructure whereas lands available for development in the other Zoning Districts are already serviced by existing streets and utilities.

Table 19: Projected Non-Residential Space – Preferred Build-out illustrates that of the 1,036 acres of lands available for development in zoning districts (current zoning designations and modified designations) that permit non-residential development there are 982 acres on which the development may occur. The 982 acres available for non-residential development may yield approximately 45.9 Million square feet of non-residential space. Note that only lands available for development in the Business Professional (BP) and Industrial (I) Zoning Districts with modified zoning designations have a reduction made for new streets, utilities, and ROW easement. Lands available for development zoned BP and newly created areas zoned I may require new infrastructure whereas lands available for development in the other Zoning Districts are already serviced by existing streets and utilities.

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**Table 18: Projected Non-Residential Space – Maximum Build-out**

Zoning Districts	Zone Code	Current Zoning	Minimum Square Footage Needed	Maximum Height	Build-Out Conditions			Build-Out Results				NOTES
					Assumed Type of Build-out	Acres Available for Development	Residential Acres	Non-Residential Acres	PROJECTED UNITS (Based on Maximum Density or listed Notes)	BUILD-OUT Total Square Footage		
Village (Borough)	V	8,000	35 feet - 2.5 floors	Commercial (50%) Residential (50%)	3.0	1.5	1.5	8	39,275	2 floors		
Village District (Township)	V	NONRESIDENTIAL 32,670 with water AND sewer 43,560 with water OR sewer	35 feet - 2.5 floors	Commercial (40%) Residential (60%)	30.4	18.2	12.2	18	370,925	Assumed 1 acre lots (water is currently available) and 2 floors		
Commercial	C	10,000 with water AND sewer 43,560 with water OR sewer 65,240 with neither	40 feet - 3.0 floors 50 feet - 3.0 floors	Residential (10%) Commercial (90%)	132.9	13.3	119.6	58	7,812,548	2 floors		
Industrial	I	20,000 square feet	50 feet - 3.0 floors	Industrial (100%)	66.7	-	66.7	-	2,177,544	1 floor		
Business / Office Park	BP	5 acres (217,800 square feet)**	50 feet	Commercial (100%)	155.1	-	155.1	-	4,864,840	3 floors and 20% reduction from Total Area for roads, utilities, ROW easements, etc.		
<i>Dover Borough Sub-total</i>					3.0	1.5	1.5	8.3	39,275			
<i>Dover Township Sub-total</i>					385.0	31.5	353.5	76.0	15,225,857			
<b>Total</b>					<b>388.0</b>	<b>33.0</b>	<b>355.0</b>	<b>84.4</b>	<b>15,265,131</b>			

Note: Yellow highlighted rows reflect the Zoning Districts in Dover Borough that permit non-residential development.

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Table 19: Projected Non-Residential Space – Preferred Build-out

Zoning Districts	Current Zoning			Build-Out Conditions			Build-Out Results				NOTES
	Zone Code	Minimum Square Footage Needed	Maximum Height	Assumed Type of Build-out	Acres Available for Development	Residential Acres	Non-Residential Acres	PROJECTED UNITS (Based on Maximum Density or listed Notes)	NON-RESIDENTIAL BUILD-OUT Total Square Footage		
Village (Borough)	V	8,000	35 feet - 2.5 floors	Commercial (50%) Residential (50%)	3.0	1.5	1.5	8	39,275	2 floors	
Village District (Township)	V	NONRESIDENTIAL 32,670 with water AND sewer 43,560 with water OR sewer	35 feet - 2.5 floors	Commercial (40%) Residential (60%)	7.4	4.4	3.0	4	90,439	Assumed 1 acre lots (water is currently available) and 2 floors	
Commercial	C	10,000 with water AND sewer 43,560 with water OR sewer 65,240 with neither	40 feet - 3.0 floors	Residential (10%) Commercial (90%)	478.5	47.9	430.7	208	28,139,659	2 floors	
Industrial	I	20,000 square feet	50 feet - 3.0 floors	Industrial (100%)	392.1	-	392.1	-	12,808,930	1 floor	
Business / Office Park	BP	5 acres (217,800 square feet)**	50 feet	Commercial (100%)	155.1	-	155.1	-	4,864,840	3 floors and 20% reduction from Total Area for roads, utilities, ROW easements, etc.	
<b>Dover Borough Sub-total</b>					3.0	1.5	1.5	8	39,275		
<b>Dover Township Sub-total</b>					1,033.1	52.3	980.8	212	45,903,868		
<b>Total</b>					<b>1,036.1</b>	<b>53.8</b>	<b>982.3</b>	<b>221</b>	<b>45,943,143</b>		

Note: Yellow highlighted rows reflect the Zoning Districts in Dover Borough that permit non-residential development.

**FISCAL IMPACT ASSESSMENT**

Estimate fiscal impacts were developed for the build-out scenario. The impacts are based on several variables which reflect current conditions. The variables include current tax rates, a calculated square footage for each use, estimate square footage of projected housing units, and current average sale price per square foot values. These variables were applied to generate estimated taxes (income) for each scenario. A brief description of each is provided below.

*Tax Assessment Data*

Although the last complete Dover Township and Dover Borough tax re-assessment was completed in 2004, the re-assessed values do not apply until tax year 2006 and are therefore not present in current tax assessment data. The previous re-assessment was completed for York County in 1998, with updates made to specific properties that were either sold or which had substantial renovations. If properties were sold, oftentimes a re-assessment was completed and the new assessed value was used.

*Milleage Rates*

Milleage rates were provided by York County Tax Assessment Office and are current for 2005 tax year. The rates include the Dover Area School District which was 18.77 Mills, and the York County Tax Rate of 4.51 Mills. The taxes are applied to assessed values as follows: for every \$1,000 of assessed value \$18.77 is levied for School Taxes, and \$4.51 is levied for York County Taxes.

*Average Assessed Value per Square Foot for Non-residential Properties*

The actual square footage of the structures on non-residential properties is not readily available, but the actual improved (building) assessed value for these properties is available. Therefore various assumptions were made to derive an average improved assessed value per square foot of commercial space.

Table 20: Deriving Non-residential Improved Assessed Values illustrates an improved assessed value per square foot of non-residential space calculated using current total acres by land use, current maximum lot coverage allowed by zoning, and the current total improved assessed value of commercial and industrial properties. Converting current acres to square feet multiplied by the maximum allowed lot coverage yields the potential lot coverage in square feet. The current improved assessed value divided by the potential lot coverage yields the improved assessed value per square foot. The resulting value was then used to determine potential fiscal impacts of projected non-residential square footage.

**Table 20: Deriving Non-residential Improved Assessed Values**

<b>Land Use</b>	<b>Current Acres</b>	<b>Maximum Lot Coverage Allowed by Zoning*</b>	<b>Potential Lot Coverage (square feet)</b>	<b>Current Improved Assessed Value**</b>	<b>Improved Assessed Value Per Square Foot</b>
Commercial	380.9	30%	4,978,075.6	\$ 48,081,110	\$ 9.66
Industrial	195.0	75%	6,369,199.5	\$ 56,360,370	\$ 8.85

*\*Used Village Zoning District maximum lot coverage for commercial maximum lot coverage, as few if any non-residential properties outside the Village Zoning District utilize the 75% lot coverage allowed by Zoning.*

*\*\*1998 data with modifications for new structures and renovated structures.*

### **Residential Impacts**

Tables 21 and 23: Potential Residential Fiscal Impacts (per scenario) provides the estimated fiscal impacts of the projected residential development. Data used for the estimates are based on data presented in Table 14: National Average Square Footage of Units and Table 15: Specific Housing Unit Details 2005. In general, the average total finished square footage values (Table 15) were used to calculate total square footages for 1 unit detached, 1 unit attached, two units in structure (condominiums), and mobile homes; while the national average square footages (Table 14) were used calculate the other types of housing units. One assumption made for residential impact assessment is that since these are to be “new” homes, the estimated sale price of a unit is also its assessed value.

Table 21: Potential Residential Fiscal Impacts – Maximum Build-out illustrates the projected additional 6,163 housing units (build-out 5,615 housing units plus the unaccounted 548 housing units) provide an assumed total assessed value of \$972.8 million, and could generate \$18.3 million in school taxes and \$4.4 million in York County Taxes.

Table 23: Potential Residential Fiscal Impacts – Preferred Build-out illustrates the projected additional 5,493 housing units (build-out 4,947 housing units plus the unaccounted 548 housing units) provide an assumed total assessed value of \$889.6 million, and could generate \$16.7 million in school taxes and \$4.0 million in York County Taxes.

### **Non-Residential Impacts**

Table 22: Potential Non-Residential Fiscal Impacts – Maximum Build-out provides the estimate fiscal impacts of projected non-residential development for improved assessed values only and does not include assessed land values. Table 18 illustrates the 355 acres of non-residential land available for development could provide 15.3 million square feet of non-residential space whose improved assessed value can potentially be assessed at \$145.7 million; yield a potential \$2.7 million in school taxes and an additional \$657,000 in York County taxes.

### **Non-Residential Impacts**

Table 24: Potential Non-Residential Fiscal Impacts – Preferred Build-out provides the estimate fiscal impacts of projected non-residential development for improved assessed values only and does not include assessed land values. Table 24 illustrates the 982 acres of non-residential land available for development could provide 45.9 million square feet of non-residential space whose improved assessed value can potentially be assessed at \$433.4 million; yield a potential \$8.1 million in school taxes and an additional \$1.9 million in York County taxes.

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**Table 21: Potential Residential Fiscal Impacts – Maximum Build-out**

Type of Unit (Units in Structure)	New Units	New Units as Percent of Total Units	Estimated Total Square Footage of New Units*	New Unit Square Footage as a Percent of Total Square Footage	Average Sale Price Per Total Finished Square Foot**	Presumed Assessed Value (Estimated Square Footage X Average Sale Price per Square Foot)	Potential School Tax (18.77 Mills)	Potential County Tax (4.51 Mills)
Housing units: 1; detached units in structure	4,210	68.3%	7,495,215	75.6%	\$ 102	\$ 764,511,932	\$ 14,349,889	\$ 3,447,949
Housing units: 1; attached units in structure	1,182	19.2%	1,563,429	15.8%	\$ 86	\$ 134,454,876	\$ 2,523,718	\$ 606,391
Housing units: 2 units in structure	152	2.5%	198,004	2.0%	\$ 94	\$ 18,612,417	\$ 349,355	\$ 83,942
Housing units: 3 or 4 units in structure	121	2.0%	167,957	1.7%	\$ 86	\$ 14,444,263	\$ 271,119	\$ 65,144
Housing units: 5 to 9 units in structure	217	3.5%	183,935	1.9%	\$ 86	\$ 15,818,370	\$ 296,911	\$ 71,341
Housing units: 10 to 19 units in structure	63	1.0%	53,122	0.5%	\$ 86	\$ 4,568,489	\$ 85,751	\$ 20,604
Housing units: 20 to 49 units in structure	0	0.0%	33	0.0%	\$ 86	\$ 2,855	\$ 54	\$ 13
Housing units: 50 or more units in structure	5	0.1%	4,065	0.0%	\$ 86	\$ 349,580	\$ 6,562	\$ 1,577
Housing units: Mobile home	214	3.5%	250,806	2.5%	\$ 80	\$ 20,064,505	\$ 376,611	\$ 90,491
<b>TOTAL</b>	<b>6,163</b>	<b>100.0%</b>	<b>9,916,566</b>	<b>100.0%</b>		<b>\$ 972,827,286</b>	<b>\$ 18,259,968</b>	<b>\$ 4,387,451</b>

\*For 1 unit detached, 1 unit attached, two units in structure (condominiums), and mobile homes, the average total finished square footage were used to calculate total square footages, while national average square footages were used for structures with 3 to 50+ units per structure.  
 \*\* Estimate prices used for units with 3 - 50+ units in structure (attached values)

**Table 22: Potential Non-Residential Fiscal Impacts – Maximum Build-out**

Zoning Districts	Zone Code	Minimum Square Footage Needed	Maximum Height	Maximum Lot Coverage	Build-Out Condition Assumptions		Build-Out Results		NON-RESIDENTIAL Fiscal Impacts			
					Assumed Type of Build-out	Acres Available for Development	Residential Acres	Non-Residential Acres	NON-RESIDENTIAL BUILD-OUT Total Square Footage	Average Assessed Improved Value per Square Foot	Potential School Tax (18.77 Mills)	Potential Tax Income (Build-out Square Footage X Average Assessed Value per Square Foot)
Village (Borough)	V	8,000	35 feet - 2.5 floors	30%	Commercial (50%) Residential (50%)	3.0	1.5	39,275	9.66	\$ 379,392	\$ 7,121	\$ 1,711
Village District (Township)	V	NONRESIDENTIAL 32,670 with water AND sewer, 43,560 with water OR sewer	35 feet - 2.5 floors	35% residential or nonresidential	Commercial (40%) Residential (60%)	30.4	12.2	370,925	9.66	\$ 3,583,140	\$ 67,256	\$ 16,160
Commercial	C	10,000 with water AND sewer, 43,560 with water OR sewer, 65,240 with neither	40 feet - 3.0 floors	75%	Residential (10%) Commercial (90%)	132.9	119.6	7,812,548	9.66	\$ 75,469,210	\$ 1,416,557	\$ 340,366
Industrial	I	20,000 square feet	50 feet - 3.0 floors	75%	Industrial (100%) Commercial (100%)	66.7	-	2,177,544	8.85	\$ 19,271,262	\$ 361,722	\$ 86,913
Business / Office Park	BP	5 acres (217,800 square feet)**	50 feet	30%	Commercial (100%)	155.1	-	4,864,840	9.66	\$ 46,994,355	\$ 882,084	\$ 211,945
Dover Borough Sub-total						3.0	1.5	39,275		\$ 379,392	\$ 7,121	\$ 1,711
Dover Township Sub-total						385.0	353.5	15,225,857		\$ 145,317,966	\$ 2,727,618	\$ 655,364
<b>Total</b>						<b>388.0</b>	<b>355.0</b>	<b>15,265,131</b>		<b>\$ 145,697,359</b>	<b>\$ 2,734,739</b>	<b>\$ 657,095</b>

\*\*Minimum 30 acre parcel needed to be considered

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**Table 23: Potential Residential Fiscal Impacts – Preferred Build-out**

Type of Unit (Units in Structure)	New Units	New Units as Percent of Total	Estimated Total Square Footage of New Units	New Unit Square Footage as a Percent of Total Square Footage	Average Sale Price Per Finished Square Foot*	Presumed Assessed Value (Estimated Square Footage X Average Sale Price per Square Foot)	Potential School Tax (18.77 Mills)	Potential County Tax (4.51 Mills)
Housing units: 1: detached units in structure	4,039	73.5%	7,190,925	80.0%	\$ 102	\$ 733,474,321	\$13,767,313	\$ 3,307,969
Housing units: 1: attached units in structure	880	16.0%	1,164,235	12.9%	\$ 86	\$ 100,124,172	\$ 1,879,331	\$ 451,560
Housing units: 2 units in structure	176	3.2%	228,863	2.5%	\$ 94	\$ 21,513,161	\$ 403,802	\$ 97,024
Housing units: 3 or 4 units in structure	72	1.3%	100,700	1.1%	\$ 86	\$ 8,660,157	\$ 162,551	\$ 39,057
Housing units: 5 to 9 units in structure	80	1.5%	68,173	0.8%	\$ 86	\$ 5,862,879	\$ 110,046	\$ 26,442
Housing units: 10 to 19 units in structure	130	2.4%	109,831	1.2%	\$ 86	\$ 9,445,430	\$ 177,291	\$ 42,599
Housing units: 20 to 49 units in structure	-	0.0%	-	0.0%	\$ 86	\$ -	\$ -	\$ -
Housing units: 50 or more units in structure	17	0.3%	14,693	0.2%	\$ 86	\$ 1,263,587	\$ 23,718	\$ 5,699
Housing units: Mobile home	99	1.8%	115,898	1.3%	\$ 80	\$ 9,271,877	\$ 174,033	\$ 41,816
<b>TOTAL</b>	<b>5,493</b>	<b>100.0%</b>	<b>8,993,317</b>	<b>100.0%</b>		<b>\$ 889,615,585</b>	<b>\$16,698,085</b>	<b>\$ 4,012,166</b>

\*For 1 unit detached, 1 unit attached, two units in structure (condominiums), and mobile homes, the average total finished square footage were used to calculate total square footages, while national average square footages were used for structures with 3 to 50+ units per structure.

\*\* Estimate prices used for units with 3 - 50+ units in structure (attached values)

**Table 24: Potential Non-Residential Fiscal Impacts – Preferred Build-out**

Zoning Districts	Current Zoning	Build-Out Conditions			Build-Out Results			NON-RESIDENTIAL Fiscal Impacts		
		Assumed Type of Build-out	Acres Available for Development	Residential Acres	Non-Residential Acres	NON-RESIDENTIAL BUILD-OUT Total Square Footage	Average Assessed Improved Value per Square Foot	Potential Tax Income (Build-out Square footage X Average Assessed Value per Square Foot)	Potential School Tax (18.77 Mills)	Potential County Tax (4.51 Mills)
Village (Borough)	V	Commercial (50%) Residential (50%)	3.0	1.5	1.5	39,275	9.66	\$ 379,392	\$ 7,121	\$ 1,711
Village District (Township)	V	Commercial (40%) Residential (60%)	7.4	4.4	3.0	90,439	9.66	\$ 873,643	\$ 16,398	\$ 3,940
Commercial	C	Residential (10%) Commercial (90%)	478.5	47.9	430.7	28,139,659	9.66	\$ 271,829,105	\$ 5,102,232	\$ 1,225,949
Industrial	I	Industrial (100%)	392.1	-	392.1	12,808,930	8.85	\$ 113,359,032	\$ 2,127,749	\$ 511,249
Business / Office Park	BP	Commercial (100%)	155.1	-	155.1	4,864,840	9.66	\$ 46,994,355	\$ 882,084	\$ 211,945
Dover Borough Sub-total			3.0	1.5	1.5	39,275		\$ 379,392	\$ 7,121	\$ 1,711
Dover Township Sub-total			1,033.1	52.3	980.8	45,903,868		\$ 433,056,136	\$ 8,128,464	\$ 1,953,083
<b>Total</b>			<b>1,096.1</b>	<b>53.8</b>	<b>982.3</b>	<b>45,943,143</b>		<b>\$ 433,435,528</b>	<b>\$ 8,135,585</b>	<b>\$ 1,954,794</b>

\*Minimum 30 acre parcel needed to be considered



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**School District Impacts**

Potential fiscal impacts to the Dover Area School District were calculated using variables from the results of the Build-out Analysis as well as several sources including the Pennsylvania Department of Education and the Penn State Cooperative Extension's Costs and Revenues of Residential Development: A Workbook for Local Officials and Citizens. Tables 25 and 27: Impact on School District (per scenario), provides an indication of the impacts of build-outs under current zoning regulations to the Dover Area School District.

**Table 25: Impact on School District – Maximum Build-out**

Variables	Potential School Tax Collected (18.77 Mills)	Potential County Tax Collected (4.51 Mills)	Potential Total Taxes Collected
A. Potential Residential Development	\$ 18,259,968	\$ 4,387,451	\$ 22,647,419
B. Potential Non-residential Development	\$ 2,734,739	\$ 657,095	\$ 3,391,835
<b>C. Potential Taxes Collected (Residential &amp; Non-residential)</b>	<b>\$ 20,994,708</b>	<b>\$ 5,044,546</b>	<b>\$ 26,039,254</b>
D. Potential New Residential Units*	6,163		
E. Average Students per Residential Unit**	0.5546		
F. Potential New Students (D*E)	3,418		
G. Average School District Cost per Student***	\$ 8,509		
<b>H. Potential Cost for New Students (F*G)</b>	<b>\$ 29,081,958</b>		
<b>I. Difference Between School District Income &amp; Cost (C - H)</b>	<b>\$ (8,087,251)</b>		

\*From Build-out Analysis – Table 10.

\*\*Average Students Per Residential Unit; Costs & Revenues of Residential Development - Penn State Cooperative Extension

\*\*\* Pennsylvania Department of Education, 2006

Note: estimates are in 2005-2006 dollars.

Table 25 indicates that the projected 6,163 additional homes may introduce approximately 3,400 new students into the Dover Area School District and the 2006 cost to educate one student for one year (\$8,509 per student) could potentially result in a cost to the school district of approximately twenty-nine million dollars (\$29,081,958). The table also indicates that the approximately twenty-one million dollars (\$20,994,708) collected in potential school taxes would result in a deficit of approximately eight-million dollars (\$8,087,251) when comparing cost versus revenues. This projection of fiscal impact uses the state average of 0.5546 students per residential unit.

Table 26: Impact on School District Using Local Conditions – Maximum Build-out, was developed in response to the relatively low average students per residential unit rate used in Table 25 (Variable E in Table 25). It was the consensus of the Joint Comprehensive Plan Advisory Committee (JCPAC) that the statewide average of 0.5546 students per residential unit was not reflective of the recent household trends in Dover Township; therefore, a localized value was developed and is provided in Table 26: Impact on School District Using Local Conditions – Maximum Build-out.

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**Table 26: Impact on School District Using Local Conditions – Maximum Build-out**

Variables	Potential School Tax Collected (18.77 Mils)	Potential County Tax Collected (4.51 Mils)	Potential Total Taxes Collected
A. Potential Residential Development	\$ 18,259,968	\$ 4,387,451	\$ 22,647,419
B. Potential Non-residential Development	\$ 2,734,739	\$ 657,095	\$ 3,391,835
<b>C. Potential Taxes Collected (Residential &amp; Non-residential)</b>	<b>\$ 20,994,708</b>	<b>\$ 5,044,546</b>	<b>\$ 26,039,254</b>
D. Potential New Residential Units*	6,163		
E. Average Students per Residential Unit**	0.7217		
F. Potential New Students (D*E)	4,448		
G. Average School District Cost per Student***	\$ 8,509		
<b>H. Potential Cost for New Students (F*G)</b>	<b>\$ 37,846,453</b>		
<b>I. Difference Between School District Income &amp; Cost (C - H)</b>	<b>\$ (16,851,746)</b>		

\*From Build-out Analysis – Table 10.

\*\*Refer to Local Conditions Worksheet below

\*\*\* Pennsylvania Department of Education, 2006

Note: estimates are in 2005-2006 dollars.

Local Conditions Worksheet: Calculating Average Students Per Residential Unit

<b>Calculating Average Students Per Residential Unit for Potential New Units (Local Conditions)</b>	<b>Variable</b>
A = Potential New Residential Units (From Build-out Analysis under Current Zoning)	6,163
B = Percentage of Households that are Family Households (2000, SF1 Table DP1)	75.1%
C = Average Family size (2000, SF1 Table DP1)	2.93
D = Percent of Total family population that are children (2000, SF3 Table P9)	32.8%
E = Projected Family Households generated from Potential New Units (A*B)	4,628
F = Projected Family Population generated from Potential New Units (C*E)	13,560
G = Potential Number of new children (percentage of F that are children or F*D)	4,448
<b>Average Students Per Residential Unit for Potential New Units (G/A)</b>	<b>0.7217</b>

Variables used in the Local Conditions Worksheet of Table 26: Impact on School District Using Local Conditions- Maximum Build-out, are based on the potential new residential units as projected from the Build-out Analysis using current Zoning, and Census 2000 data for Dover Township. Within the Local Conditions Worksheet variable A is from the Build-out Analysis, variables B through D are from the 2000 Census for Dover Township, variables E through G are derivatives of variables A through D as indicated for each row. The resulting value of the Local Conditions Worksheet (Average Students Per Residential Unit for Potential New Units = 0.7217) was used in Table 26.

As Table 26 indicates that the projected 6,163 additional homes may introduce approximately 4,500 new students into the Dover Area School District and the 2006 cost to educate one student for one year (\$8,509 per student) could potentially result in a cost to the school district of approximately thirty-eight million dollars (\$37,846,453). The table also indicates that the approximately twenty-one million dollars (\$20,994,708) collected in potential school taxes would

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result in a deficit of approximately seventeen-million dollars (\$16,851,746) when comparing cost versus revenues.

Since the current selling-price of new homes was a factor in determining the potential school taxes collected in the Dover Area School District (new homes are presumed to be assessed at the sale price). These figures are based on 2005 and 2006 dollars where the average sale price of a new home is \$163,780. The calculated average sales price of homes needed to meet the projected eight-million dollar deficit would be \$227,000 per home (refer to Table 25). The calculated sales price of homes needed to meet the projected seventeen-million dollar deficit would be \$303,525 per home (refer to Table 26).

A similar application of school district cost was conducted using the Preferred Future scenario and the following are the results of the application

**Table 27: Impact on School District – Preferred Build-out**

Variables	Potential School Tax Collected (18.77 Mils)	Potential County Tax Collected (4.51 Mils)	Potential Total Taxes Collected
A. Potential Residential Development	\$ 16,698,085	\$ 4,012,166	\$ 20,710,251
B. Potential Non-residential Development	\$ 8,135,585	\$ 1,954,794	\$ 10,090,379
<b>C. Potential Taxes Collected (Residential &amp; Non-residential)</b>	<b>\$ 24,833,669</b>	<b>\$ 5,966,961</b>	<b>\$ 30,800,630</b>
D. Potential New Residential Units*	5,493		
<b>E. Average Students per Residential Unit**</b>	<b>0.5546</b>		
F. Potential New Students (D*E)	3,047		
G. Average School District Cost per Student***	\$ 8,509		
<b>H. Potential Cost for New Students (F*G)</b>	<b>\$ 25,923,175</b>		
<b>I. Difference Between School District Income &amp; Cost (C - H)</b>	<b>\$ (1,089,506)</b>		

\*From Build-out Analysis – Table 11.

\*\*Average Students Per Residential Unit; Costs & Revenues of Residential Development - Penn State Cooperative Extension

\*\*\* Pennsylvania Department of Education, 2006

Note: estimates are in 2005-2006 dollars.

Table 27 indicates that the projected 5,493 additional homes may introduce approximately 3,000 new students into the Dover Area School District and the 2006 cost to educate one student for one year (\$8,509 per student) could potentially result in a cost to the school district of approximately twenty-six million dollars (\$25,923,175). The table also indicates that the approximately twenty-five million dollars (\$24,833,669) collected in potential school taxes would result in a deficit of approximately one-million dollars (\$1,089,506) when comparing cost versus revenues. This projection of fiscal impact uses the state average of 0.5546 students per residential unit.

Table 28: Impact on School District Using Local Conditions – Preferred Build-out, was developed in response to the relatively low average students per residential unit rate used in Table 27 (Variable E in Table 27). It was the consensus of the Joint Comprehensive Plan Advisory Committee (JCPAC) that the statewide average of 0.5546 students per residential unit was not reflective of the recent household trends in Dover Township; therefore, a localized value was developed and the results are provided in Table 28: Impact on School District Using Local Conditions – Preferred Build-out.

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**Table 28: Impact on School District Using Local Conditions – Preferred Build-out**

Variables	Potential School Tax Collected (18.77 Mills)	Potential County Tax Collected (4.51 Mils)	Potential Total Taxes Collected
A. Potential Residential Development	\$ 16,698,138	\$ 4,012,179	\$ 20,710,317
B. Potential Non-residential Development	\$ 8,135,585	\$ 1,954,794	\$ 10,090,379
<b>C. Potential Taxes Collected (Residential &amp; Non-residential)</b>	<b>\$ 24,833,723</b>	<b>\$ 5,966,973</b>	<b>\$ 30,800,696</b>
D. Potential New Residential Units*	5,493		
<b>E. Average Students per Residential Unit**</b>	<b>0.7217</b>		
F. Potential New Students (D*E)	3,965		
G. Average School District Cost per Student***	\$ 8,509		
<b>H. Potential Cost for New Students (F*G)</b>	<b>\$ 33,735,700</b>		
<b>I. Difference Between School District Income &amp; Cost (C - H)</b>	<b>\$ (8,901,977)</b>		

\*From Build-out Analysis – Table 11.

\*\*Refer to Local Conditions Worksheet below

\*\*\* Pennsylvania Department of Education, 2006

Note: estimates are in 2005-2006 dollars.

Local Conditions Worksheet: Calculating Average Students Per Residential Unit

<b>Calculating Average Students Per Residential Unit for Potential New Units (Local Conditions)</b>	<b>Variable</b>
A = Potential New Residential Units (From Build-out Analysis under Current Zoning)	5,493
B = Percentage of Households that are Family Households (2000, SF1 Table DP1)	75.1%
C = Average Family size (2000, SF1 Table DP1)	2.93
D = Percent of Total family population that are children (2000, SF3 Table P9)	32.8%
E = Projected Family Households generated from Potential New Units (A*B)	4,125
F = Projected Family Population generated from Potential New Units (C*E)	12,088
G = Potential Number of new children (percentage of F that are children or F*D)	3,965
<b>Average Students Per Residential Unit for Potential New Units (G/A)</b>	<b>0.7217</b>

Variables used in the Local Conditions Worksheet of Table 28: Impact on School District Using Local Conditions- Preferred Build-out, are based on the potential new residential units as projected from the Build-out Analysis using current Zoning, and Census 2000 data for Dover Township. Within the Local Conditions Worksheet variable A is from the Build-out Analysis, variables B through D are from the 2000 Census for Dover Township, variables E through G are derivatives of variables A through D as indicated for each row. The resulting value of the Local Conditions Worksheet (Average Students Per Residential Unit for Potential New Units = 0.7217) was used in Table 28.

As Table 28 indicates that the projected 5,493 additional homes may introduce approximately 4,000 new students into the Dover Area School District and the 2006 cost to educate one student for one year (\$8,509 per student) could potentially result in a cost to the school district of approximately thirty-four million dollars (\$33,735,700). The table also indicates that the approximately twenty-five million dollars (\$24,833,723) collected in potential school taxes would result in a deficit of approximately nine-million dollars (\$8,901,977) when comparing cost versus revenues.

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Since the current selling-price of new homes was a factor in determining the potential school taxes collected in the Dover Area School District (new homes are presumed to be assessed at the sale price). These figures are based on 2005 and 2006 dollars where the average sale price of a new home is \$163,780. The calculated average sales price of homes needed to meet the projected one-million dollar deficit would be \$172,514 per home (refer to Table 27). The calculated sales price of homes needed to meet the projected nine-million dollar deficit would be \$248,283 per home (refer to Table 28).

**Municipal Impacts**

Potential municipal impacts of a maximum build-out are numerous. The following road, water, sewer, and police and fire costs are provided for example purposes only, as several assumptions are made when providing impact estimates.

Table 29: New Road Construction Costs, and Table 30: Existing Road Rehabilitation Costs are based on data provided by Dover Borough, Dover Township and JMT estimates for the construction of a new two-lane one-mile road with water and sewer service. According to the estimates, a new two-lane one-mile road with water and sewer service would cost, at a minimum, approximately \$2.3 million per mile (\$2,252,175). The minimum estimated costs for the rehabilitation of an existing road (Table 30), is approximately \$1.4 million per mile (\$1,425,222). With a projected additional 6,100 housing units, the rehabilitation or construction of new roads is eminent, in addition to roads provided as part of the development.

**Table 29: New Road Construction Costs**

<b>New Road Feature</b>	<b>Linear Distance (feet)</b>	<b>Width (feet)</b>	<b>Number Per Mile</b>	<b>Cost*</b>	<b>Approximate Total Cost per Mile</b>
New Road Construction*	5,280	32	NA	\$5.12	\$865,075
New Structure (Bridge) Construction*	20	32	4	\$245	\$627,200
Water Service (Main Lines)	5,280	NA	NA	\$50	\$264,000
Sewer Service (Main Lines)***	5,280	NA	NA	\$80	\$422,400
Sewer Service (Man-holes)**	5,280	NA	21	\$3,500	\$73,500
<b>Total</b>	<b>1 Mile</b>	<b>Two - lanes</b>			<b>\$2,252,175</b>

\*Approximate Cost per Square Foot, includes materials plus overhead and labor cost estimates.

\*\*One every 250 feet, which is the average distance needed for line inspection, maintenance, and repair.

Note: estimates are in 2005-2006 dollars.

Source: Dover Borough, Dover Township, JMT.

**Table 30: Existing Road Rehabilitation Costs**

<b>Existing Road Feature</b>	<b>Linear Distance (feet)</b>	<b>Width (feet)</b>	<b>Number Per Mile</b>	<b>Cost</b>	<b>Approximate Total Cost per Mile</b>
Resurface Existing Road*	5,280	32	NA	\$1.44	\$243,302
Existing Structure (Bridge) Rehabilitation*	20	32	4	\$100	\$256,000
Water Service (Main Lines Update)	5,280	NA	NA	\$74	\$390,720
Sewer Service (Main Lines Update)	5,280	NA	NA	\$95	\$501,600
Sewer Service (Man-holes) Repair**	5,280	NA	21	\$1,600	\$33,600
<b>Total</b>	<b>1 Mile</b>	<b>Two – lanes</b>			<b>\$1,425,222</b>

\*Approximate Cost per Square Foot, includes materials plus overhead and labor cost estimates.

\*\*One every 250 feet, which is the average distance needed for line inspection, maintenance, and repair.

Note: estimates are in 2005-2006 dollars.

Source: Dover Borough, Dover Township, JMT.

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Several other costs not included in these estimates which increase overall costs of construction include design costs, roadway drainage costs, property acquisition costs, environmental mitigation costs and other unknown factors. Design costs range from ten to twenty percent of total costs, drainage costs vary depending on topography and design; and property acquisition costs depend on several factors including current land use, future land use and location. Environmental mitigation costs may include wetlands creation, monitoring wells, and impact assessments or statements. Unknown factors are those factors not anticipated that are discovered during construction or rehabilitation and can include archeological discovery, karsts or limestone geology, structures being in poorer condition than anticipated, and material availability and cost fluctuations.

Table 31: Cost of Police & Fire Services for Dover Township and Table 32: Cost of Police & Fire Services for Dover Borough illustrates estimates to provide services to citizens of the Township and the Borough. The tables estimate, for 2005 the per capita expenditure to provide police and fire services based on the budgeted amount of municipal funding to provide these services divided by the total population of the Township or the Borough. Future expenditure for services is calculated by multiplying the calculated 2005 per capita expenditure by the total projected population.

In Dover Township, based on 2005 per capita expenditure, the estimated expenditure to provide police and fire services in 2020 is approximately \$2.2 million, 2030 is approximately \$2.4 million, under a maximum build-out approximately \$3.2 million, and under a preferred build-out approximately \$3.0 million. The estimates are based on 2005 -2006 dollars and assume no change in current police and fire services, or costs to provide police and fire services, or change in the Township's current commitment to receive these services.

In Dover Borough, based on 2005 per capita expenditure, the estimated expenditure to provide police and fire services in 2020 is approximately \$188,000, 2030 is approximately \$202,000, and under either a maximum build-out or preferred build-out approximately \$180,000. The estimates are based on 2005 -2006 dollars and assume no change in current police and fire services, or costs to provide police and fire services, or change in the Township's current commitment to receive these services.

**Table 31: Cost of Police & Fire Services for Dover Township**

Service	2005	2005	Estimated Expenditure to Provide Services for	Estimated Expenditure to Provide Services for	Estimated Expenditure to Provide Services for	Estimated Expenditure to Provide Services for
	Budgeted Amount	Calculated Per Capita Expenditure to Provide Service	County Projected Population of 2020	County Projected Population of 2030	Maximum Build-out Population	Preferred Build-out Population
Police	\$1,422,520	\$75	\$1,876,015	\$2,083,250	\$2,728,189	\$2,602,464
Fire	\$237,085	\$13	\$312,667	\$347,206	\$454,695	\$433,741
<b>Total</b>	<b>\$1,659,605</b>	<b>\$88</b>	<b>\$2,188,682</b>	<b>\$2,430,455</b>	<b>\$3,182,883</b>	<b>\$3,036,205</b>
<b>Population*</b>	<b>18,918</b>	<b>NA</b>	<b>24,949</b>	<b>27,705</b>	<b>36,282</b>	<b>34,610</b>

*\*US Census 2003 estimate*

*Note: estimates are in 2005-2006 dollars.*

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**Table 32: Cost of Police & Fire Services for Dover Borough**

Service	2005	2005	Estimated Expenditure to Provide Services for	Estimated Expenditure to Provide Services for	Estimated Expenditure to Provide Services for	Estimated Expenditure to Provide Services for
	Budgeted Amount	Calculated Per Capita Expenditure to Provide Service	County Projected Population of 2020	County Projected Population of 2030	Maximum Build-out Population	Preferred Build-out Population
Police	\$155,000	\$81	\$176,773	\$189,399	\$169,326	\$169,245
Fire	\$10,000	\$5	\$11,405	\$12,219	\$10,924	\$10,919
<b>Total</b>	<b>\$165,000</b>	<b>\$86</b>	<b>\$188,178</b>	<b>\$201,619</b>	<b>\$180,251</b>	<b>\$180,164</b>
<b>Population*</b>	<b>1,915</b>	<b>NA</b>	<b>2,184</b>	<b>2,340</b>	<b>2,092</b>	<b>2,091</b>

*\*US Census 2003 estimate*

*Note: estimates are in 2005-2006 dollars.*

**APPENDIX A:**





APPENDIX 4:  
BUILD-OUT ANALYSIS

*March 2006*

*Revised April 2007*