

Appendix 3 - Analysis Methods for Development-Trends Data

Every six months, the Office of State Planning Coordination (OSPC) collects data on approved development applications and building permits from counties and municipalities in Delaware. These data are collected for the purpose of tracking the location and extent of development pressures. These datasets report the number of residential units or amount of nonresidential square footage authorized by either issued building permits or approved development applications. A GIS analysis of these data allow for the summation of residential units and nonresidential square footage approved by their location (e.g., jurisdiction, county, or census county division). Additionally, this analysis enables the tracking of the number of residential units and amount of square footage approved within each of the investment levels outlined in the 2004 *Delaware State Strategies for Policies and Spending*.

The results of this GIS analysis form the basis for an ongoing trend analysis of development activity in Delaware. It can constitute a significant component of the annual Cabinet Committee on State Planning Issues' report to the Governor and General Assembly that is required by Delaware Code.

Overview of Analysis Methods and Limitations

The Office of State Planning Coordination conducted a spatial analysis in order to examine the location and extent of recently approved development across Delaware. *ArcMap*, a geographic information systems (GIS) software package produced by Environmental Systems Research Institute, Inc. (ESRI), was used to conduct the analysis. The analysis utilized the best available spatial datasets in order to compare the location of recently approved development relative to the location of the State Investment Levels delineated in the *Strategies for State Policies and Spending*.

The Office of State Planning Coordination requested that Delaware's municipalities and counties submit data on the location and characteristics of development applications approved and building permits issued during calendar years 2008 and 2009. These submissions formed the basis for the spatial analysis. For each building permit or development application, the submissions included parcel identification data, the number of residential units and/or amount of non-residential square footage associated with the permit/application, and, in some cases, street address or other information (e.g., subdivision name) descriptive of the particular permit/application.

Using the parcel identification information as a unique identifier, the submissions were "joined" with recent county parcel files to create a spatial dataset representing the location and characteristics of Delaware's approved development applications and issued building permits. These data were overlaid on a spatial dataset representing the Investment Levels from the

Strategies for State Policies and Spending. The number of residential units and amount of non-residential square footage approved in each of the four Investment Levels were then counted.

The results of this analysis indicate general trends regarding the location and magnitude of recently approved development in Delaware's incorporated and unincorporated areas, and should not be seen as providing precise numbers that can be quoted with certainty. The considerations below should be kept in mind as these datasets are reported and further scrutinized:

- The following pieces of data were removed from the dataset for analysis purposes:
 - Building permits or development applications marked as “Expired”
 - Building permits or development applications that were identified as “non-residential,” but had no square footage information
 - In instances where county and municipal jurisdictions reported building permits or development applications for the same parcel, the duplicate county information was removed
- In some cases, parcel information changed between the time that a development/permit was approved/issued and the time that this analysis was conducted. This made it difficult to locate certain parcels in the latest versions of the county parcel files. Older versions of the county parcel files and online mapping sites for individual counties were referenced in order to properly locate these parcels. In the case of parcels where multiple residential units were reported and subdivision subsequently took place, these units were equally allocated among the newly created parcels.
- Street addresses were used to locate some parcels for which a matching parcel identifier could not be found.
- The information used to construct this dataset was passed from local jurisdictions to OSPC and IPA. Human error could have contributed to possible data inaccuracies.

Data Procedures

Data analysis was performed on the recently approved developments and issued building permits datasets in order to present information on topics such as the number of units or square footage approved by Investment Level and the number of permits issued by jurisdiction or geographic area. The following general data procedures were used:

Calculation of Residential Units/Non-Residential Square Footage per Investment Level: Using the data on spatial location of recently approved developments and issued building permits provided by OSPC, residential units and non-residential square footage were assigned to *State Strategies* Investment Levels and counted.

Summary of Residential Units/Non-Residential Square Footage per Jurisdiction/Area: Using the data on spatial location of recently approved developments and issued building permits, developments and permits were assigned to jurisdictions and Census County Divisions (CCDs)³ and summarized.

³ The U.S. Census Bureau defines CCDs as “county subdivisions that were delineated by the U.S. Census Bureau, in cooperation with state and local government officials for data presentation purposes...The boundaries of CCDs usually are delineated to follow visible features and coincide with census tracts where applicable. The name of each CCD is based on a place, county, or well-known local name that identifies its location.”