

Introduction

One of the most significant achievements of Monroe 2020 is its creation, as a workable tool for public and private decision-makers, of Monroe County's Geographic Information System (GIS). The GIS is a series of files in a computer that can be represented on maps, on the computer monitor, projected on a screen, or in paper copies at a wide variety of scales. These layers of information can be examined individually or in combinations to provide an understanding of the characteristics of a given place. The geographical area mapped can be as large as a township or county, or as small as a neighborhood, a farm, of a specific parcel of property.

Data in a GIS can range from topography, soils, wetlands, woodlands, and wildlife habitats to roads, houses, parks, land ownership identification, assessed values, utilities, existing zoning, historic sites, and even whether a particular parcel is vacant or occupied.

Information can come from varied sources such as satellite imagery, field surveys, assessment records, and even the telephone directory. Since all the data entered into the system is matched to a common geographic coordinate system, it is possible to create a map which shows where particular features or combinations of features occur— for example, important natural resources worthy of preservation, the best agricultural soils, or physical characteristics of all land in the county zoned for industry of any other specific use. All the maps in the Comprehensive Plan have been produced from the County Planning Commission's GIS.

Work on developing the GIS actually began in 1993 and was highlighted when the Harvard Graduate School of Design came to Monroe County to prepare its *Alternative Futures* report. That report used imagery from the U.S. Department of the Interior, USEPA and other sources to depict various physical conditions in the County and its individual municipalities. The Harvard report was dramatic, and it excited the imagination of Monroe County citizens and institutions. However, it had limited applicability due to its nature as a student project and data resolution limits and it was not capable of direct application as a county dataset.

As part of Monroe 2020, the County made a commitment to implement a full scale GIS in the Planning Department. Under the direction of consultant Gary Bloss, staff and contractor resources were deployed to incorporate extensive amounts of other data and to expand the system. The development of the GIS in the Planning Department can be viewed as a first step in implementing an enterprise wide GIS which would bring other departments such as Assessment and Emergency Services into the system and establish client/server relationships.

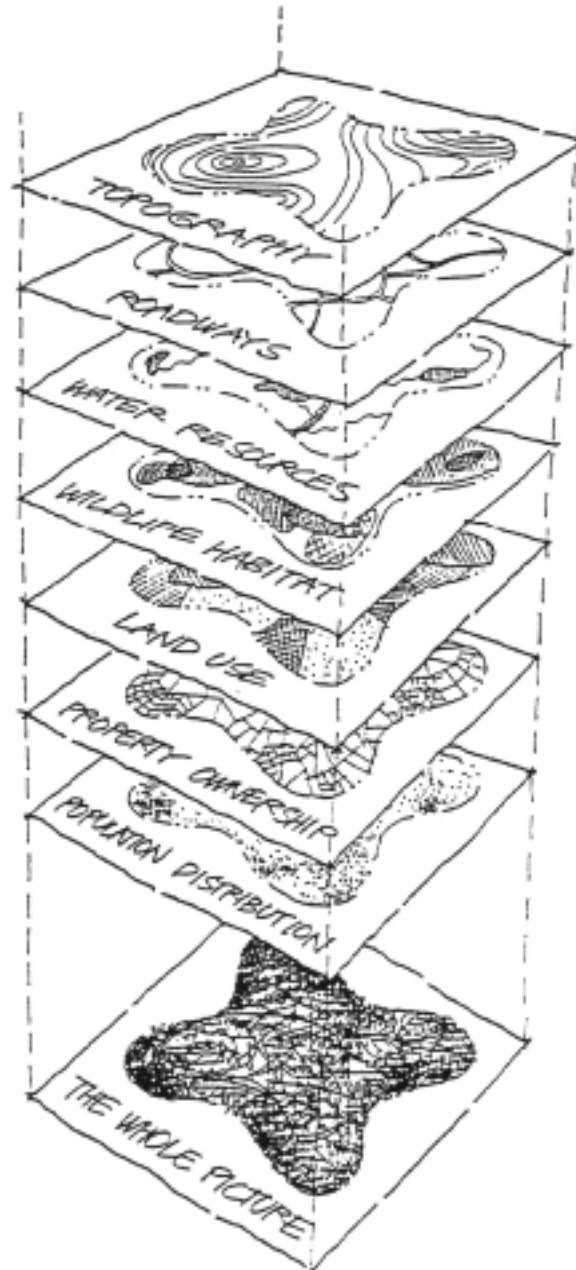
The County assessment records were incorporated in the system so that features such as land use, zoning, and assessed value are identified for each parcel in Monroe County. Aerial photography flown in the early 1990's has been incorporated as well, in addition to USGS topographic quad sheets, and extensive data from PennDOT on roads and other modes of transportation. A sampling of characteristics that can be identified for each parcel, each municipality, and the County as a whole include:

Parcel boundaries; existing land use; existing zoning; topography; water courses, wetlands and floodplains; prime agricultural soils; public water and wastewater systems; private sewage treatment facilities; water system service areas; highways of various classifications as well as railroads, and airports, public facilities such as schools, municipal buildings, police, and fire stations; historic resources; open space protected under one or more forms of public ownership, agricultural easement, etc.; Act 319 lands; major residential subdivisions including vacant lots at various scales and other natural resources and physical features.

Part II . . . The Analysis

Through analyzing these data by spatial location it is possible to identify sensitive land and water areas, areas that have great potential for further development because of potential accessibility to utilities and areas where soil conditions or topography make further growth unwise. By being able to drill down through various layers of spatial information related to a specific planning problem or issue, new patterns emerge to help decision-makers establish priorities and allocate resources. An illustration of how the various data layers can be viewed is indicated below.

GEOGRAPHIC INFORMATION SYSTEM (GIS) A Tool for Decision-Makers



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Notes