

HIGHWAY STATISTICS

2011 Delaware Traffic for Local Roads and Streets

Current Process:

Estimation of daily AADT-type traffic data for HPMS reporting for local roads and streets is based on a set of traffic counts conducted over a series of years. For the past several years adjustments to those counts have been made annually during development and completion of the HPMS data set, according to population growth factors at the state and countywide level prepared by the Delaware Population Consortium and according to population growth factors at the “traffic analysis zone” (TAZ) level by Delaware’s two MPO’s (WILMAPCO for New Castle County and Dover/Kent MPO for Kent County). Sussex County TAZ-based population growth factors are developed by DelDOT Planning based on TAZ data used for travel demand modeling purposes.

The process generally accounts for shifts due to the small annual increases or decreases in population that occur each year, such as population growth from adding new dwelling units or from decreases due to increased vacancy rates. Note that growth rates for this data field are based on population change and not specifically dwelling units; this is due to the fact that population growth tends to lag behind dwelling unit growth in some traffic zones (as in some cases it takes time to “fill” recently constructed units) and that slight annual population declines for a short period may not reflect fluctuations in residential rental markets or areas that experience short-term trends in housing vacancy increases.

Process Under Development:

DelDOT Planning has developed a tax-parcel based travel demand modeling process which is able to be used to estimate daily and/or peak period travel for individual houses. The process is GIS-based and uses the CUBE Voyager, PTV VISUM, and PTV VISSIM software platforms. An example of the tax parcel process is shown in Figure 1. The process uses roadway centerline GIS files to establish a roadway network model, uses tax parcel boundaries to establish traffic analysis zones for individual properties, uses Census Bureau and ACS data to estimate demographic data for individual dwelling units, and is integrated with the DelDOT “standard” travel demand model as well. The process essentially creates a highly detailed “window” area within the DelDOT model, in which all roads and streets are able to be used to estimate traffic volumes.

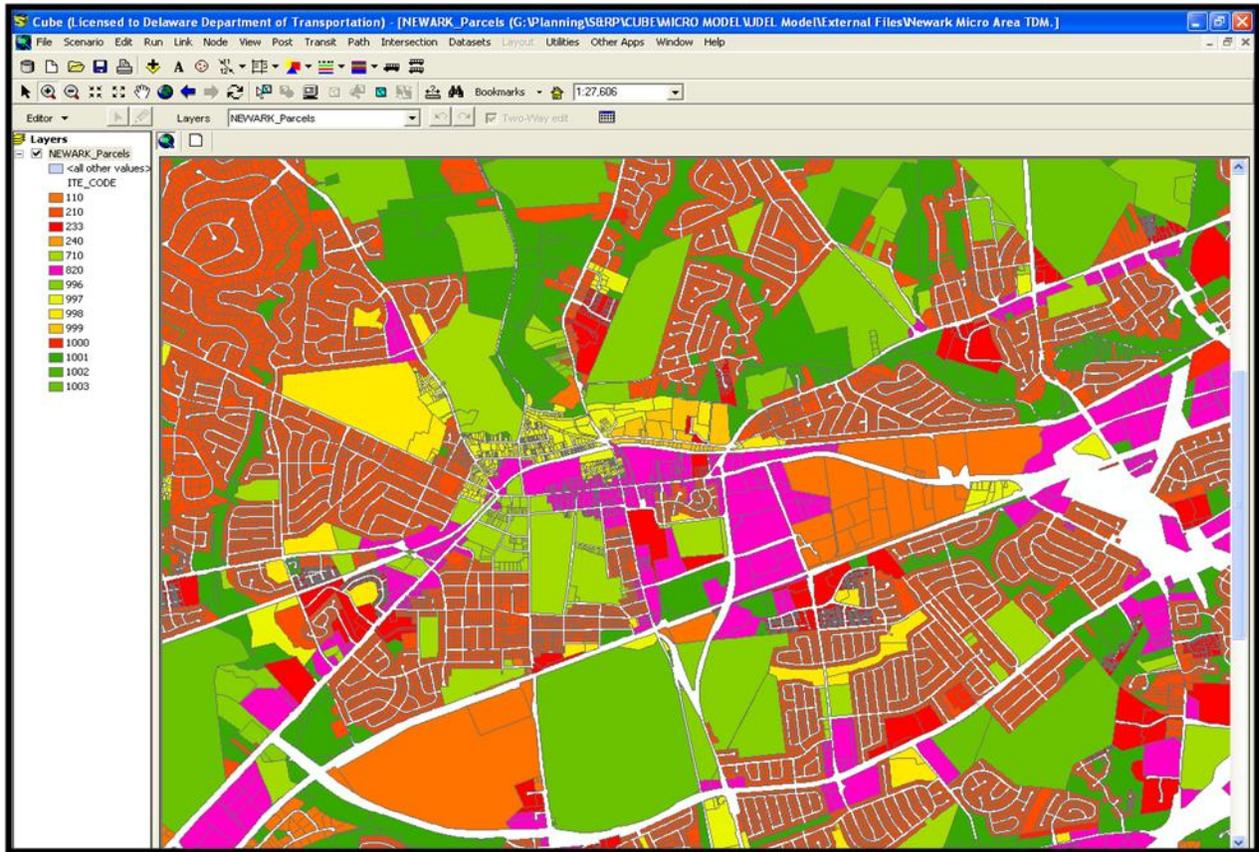


Figure 1: Sample of Tax-Parcel Based Travel Demand Model.

Figure 2 illustrates a typical output of this type of process, as it shows the color-coded Level of Service (LOS) results of a typical model run. Figure 3 illustrates the modeling interface that the process is located in, the “Land Use Transportation Simulation and Analysis Model” (or LUTSAM), that was generated using funding from the State Smart Transportation Initiative (SSTI).

Such a process could be used to support the HPMS process for generating or estimating travel and traffic on local roads and streets, especially those located in municipalities. The process generates daily or peak period traffic volumes for autos, buses, bikes, and pedestrians using a detailed mode choice model, and VMT can be estimated for individual road segments, individual roads, or summaries of towns or counties.

However, while it is technically feasible to use such a process to support the HPMS program, staff and/or consultant funding for that effort is not currently programmed or been formally discussed.

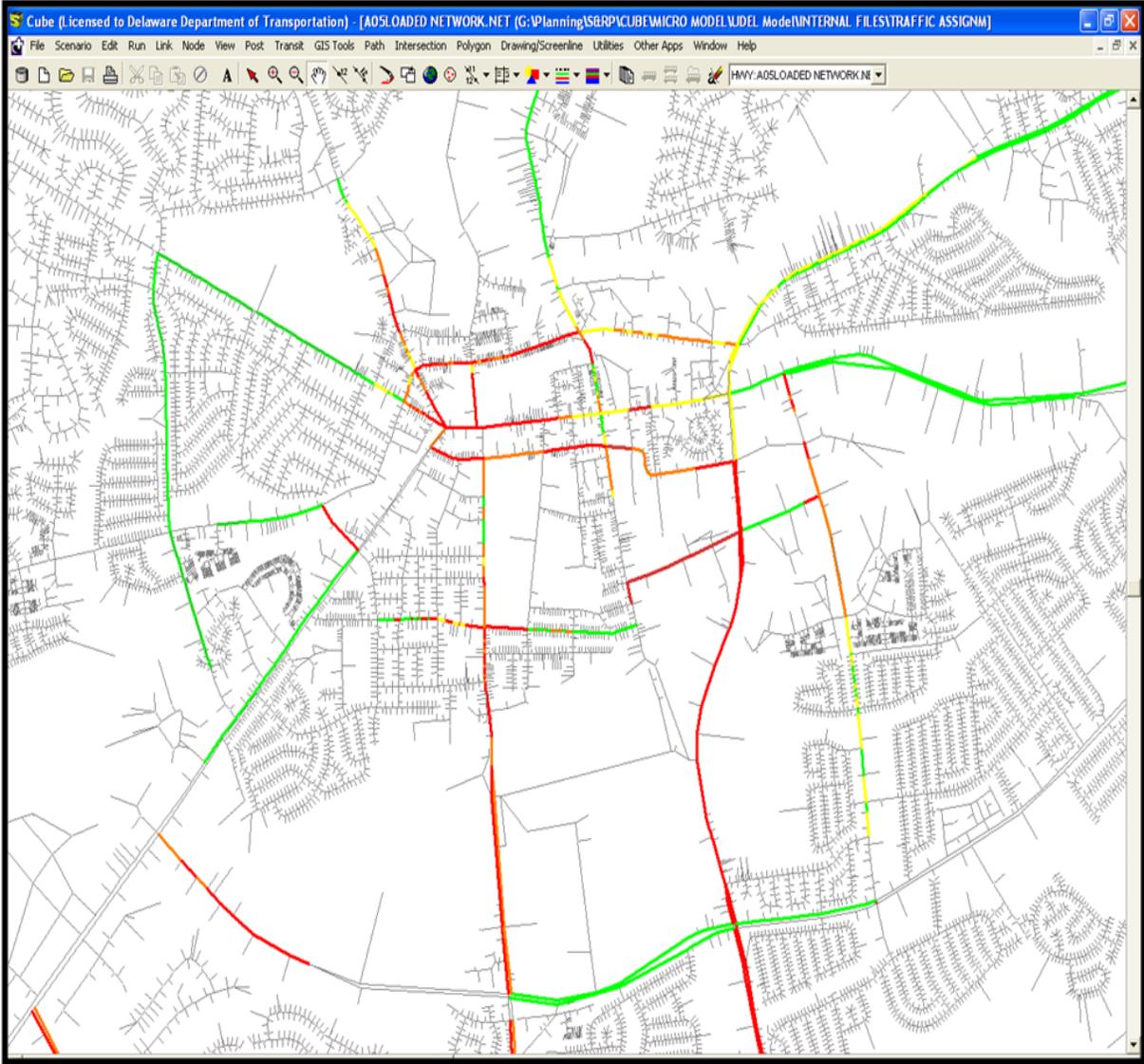


Figure 2: Example of Model Output.

LUTSAM – Connect Project to Model Network



Figure 3: Example of Model Interface.

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