Regional Growth Management and Regional Transportation Planning (Tri-County Regional Planning Commission, Central Pennsylvania)

Case Study Developed for ConservationTools.org

In an effort to update both its Regional Growth Management Plan and Regional Transportation Plan, the Tri-County Regional Planning Commission implemented scenario build-outs throughout its entire service region, which includes 103 municipalities in the counties of Cumberland, Dauphin and Perry.

Commission staff, using CommunityViz GIS software, conducted the analysis based on both a residential and a commercial build-out scenario, implementing the following tasks:

- modeled a commercial build-out to define areas in the region that can hold more commercial development.
- updated the water and sewer service areas maps, based on up-to- date data from the water and sewer service providers.
- incorporated the results of the build-out analyses in the travel demand model to better understand how development patterns affect traffic congestion and air quality, which will help to integrate land use decision into transportation planning
- performed analysis to determine roadway level of service, crash rates, and potential environmental impacts from transportation projects that will impact the region in the future.

The power of CommunityViz enabled the Commission to place considerable restraints on the build out analysis, an important aspect of this tool. In particular, staff was able to isolate the build-out analysis to areas that the Commission considers "buildable", leaving areas designated as "environmental constraint" undeveloped. The environmental constraint areas consisted of a combination of the following layers for all three counties:

- Protected lands (e.g. state parks; lands with federal, state, municipal, and private/non-profit easements)
- agricultural easements
- wetlands
- floodplains
- areas with slopes 25% and greater.

Through the analysis, a table was created (Download Table) illustrating current projections for municipalities and final results of the build out. The buildings and dwelling units where additions to the existing buildings and CommunityViz verified ample space to compensate for the growth projected for the region. These results were based off the Commission's base line build out. This analysis was fairly conservative. The next build out scenario displayed that with proper planning, the region can more than compensate for population expansion.

For this particular project, CommunityViz was used to analyze specific planning goals that were implemented and their impacts on local municipalities. Because the scenarios did not differ

significantly with the data projected in the Commission's growth management plan, there was no change in regional land use goals.

Commission staff found that limitations of the program included its inability to produce predictions without the users manually choosing specific scenarios. In addition, the output of the software is only as good as the planners determining the scenarios, the data inputted and the variables chosen.

Commission staff also were unable to perform the 3D build out analysis of the tri-county region due to the large land area studied in the analyses. They concluded that the 3D build out analysis is appropriate for municipal-level analysis but is not realistic for large land areas because of the demands this specific software function places on the computer's hardware.

The greatest benefit of CommunityViz is the ability to visualize development patterns in the region. The software enabled planners to take the results of the analysis and conduct outreach to communities, illustrating how local land use changes can affect the region as a whole. The program provided the option to not just say how many more residential units there could be in the future but where they fit. The "where" information is the most helpful in the planning process.

Because of the cost of the software, the Commission has decided it most likely will not be utilizing CommunityViz in the foreseeable future.

Recommendations:
Depending on the application, CommunityViz can be a tremendous planning tool. Potential users should have clear goals and objectives for what they expect of the software before making the purchase. Because of the expense associated with the program and the investment in staff time and training, it is important to make sure that the results will be helpful in a wide range of planning applications.