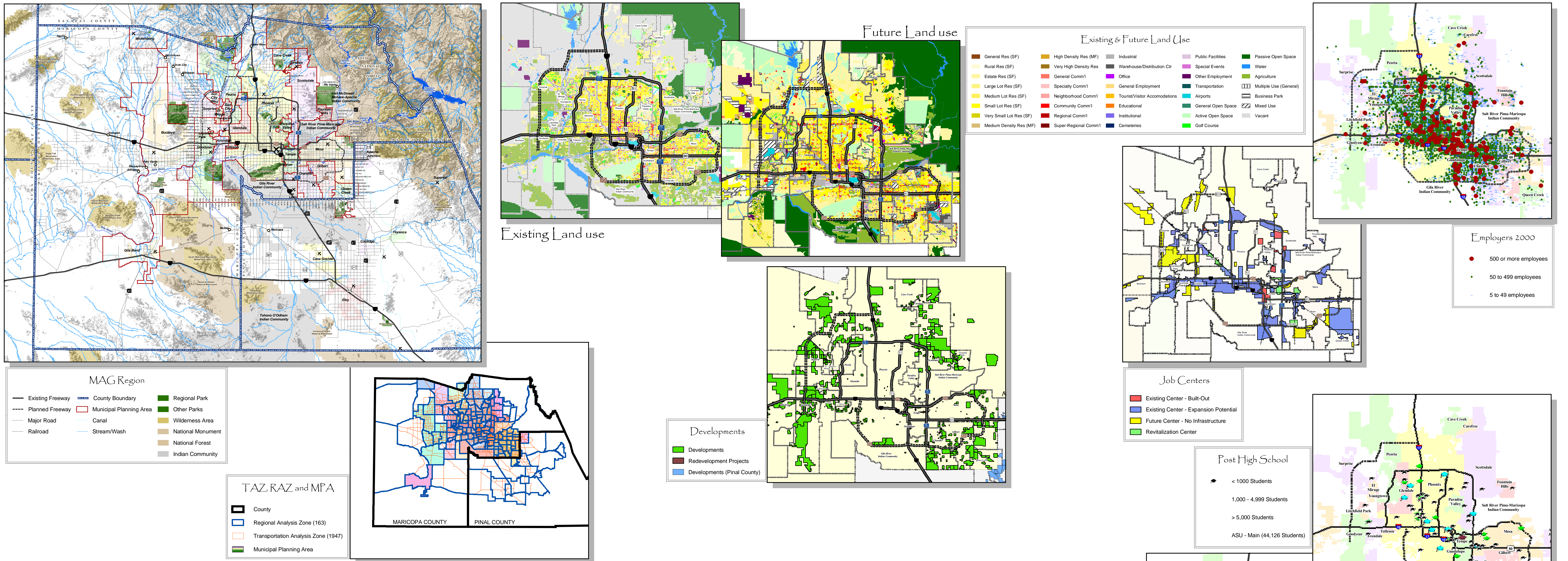
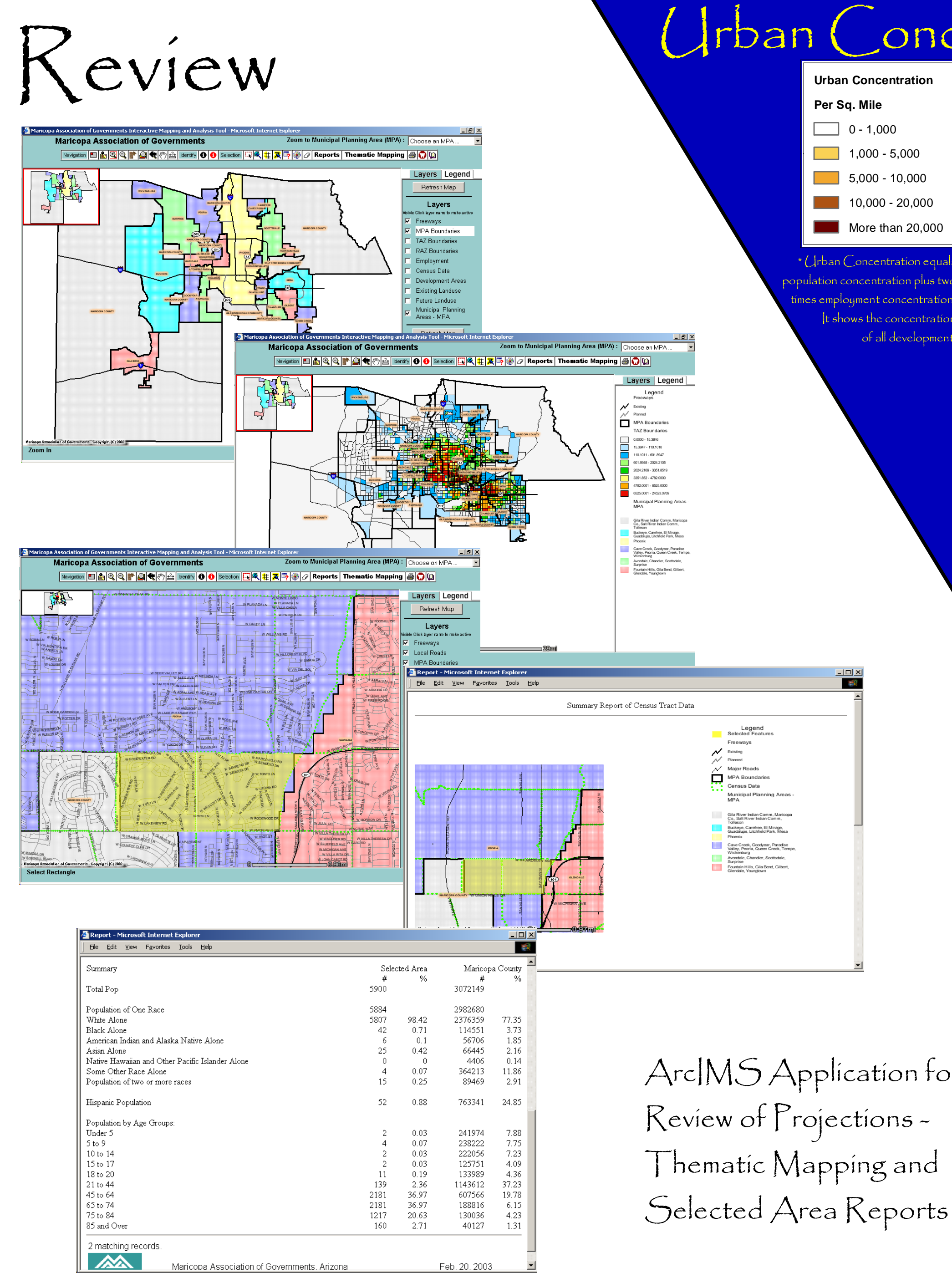


Land Use and Socioeconomic Modeling at MAG

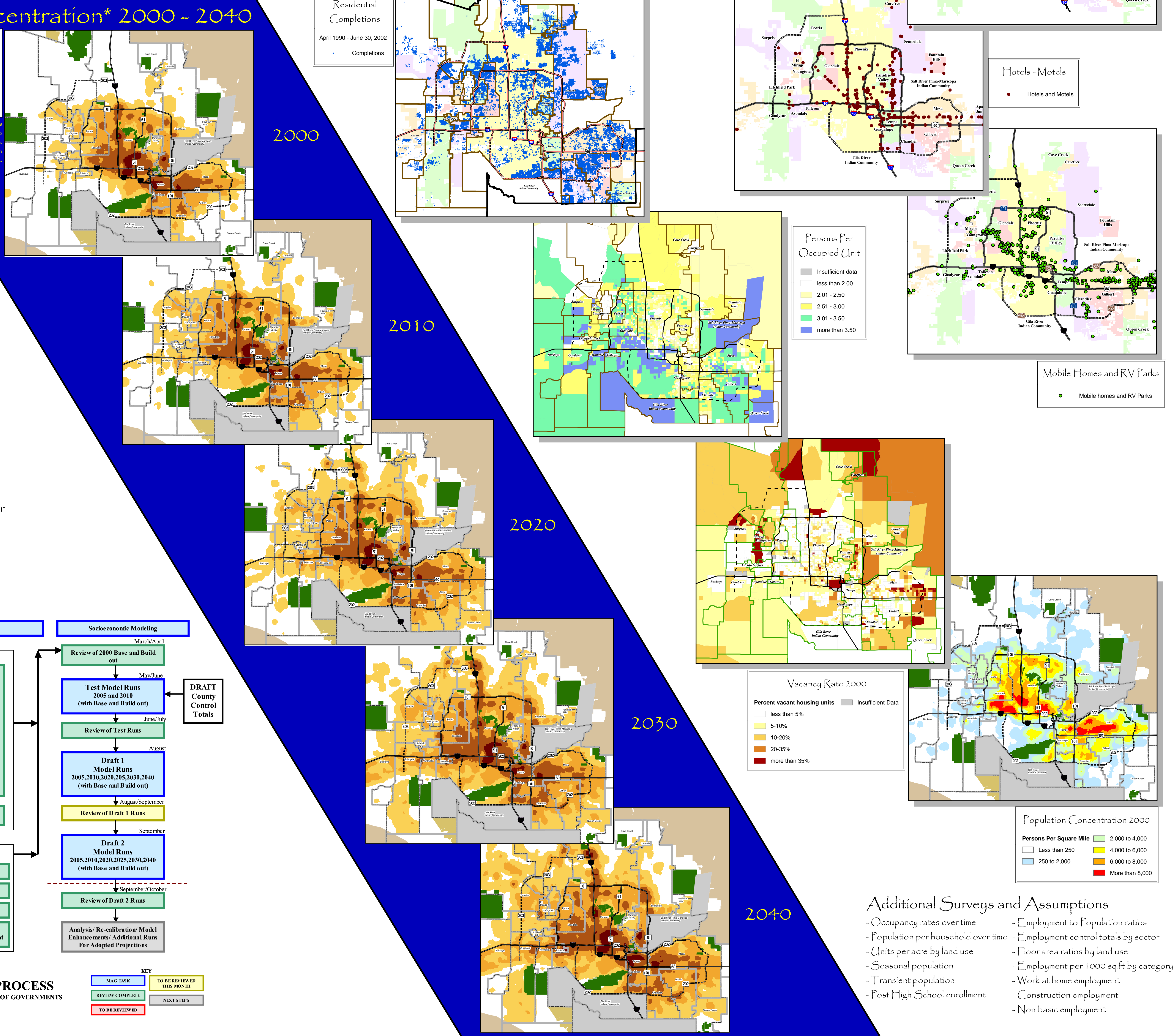
Data, Surveys, and Assumptions



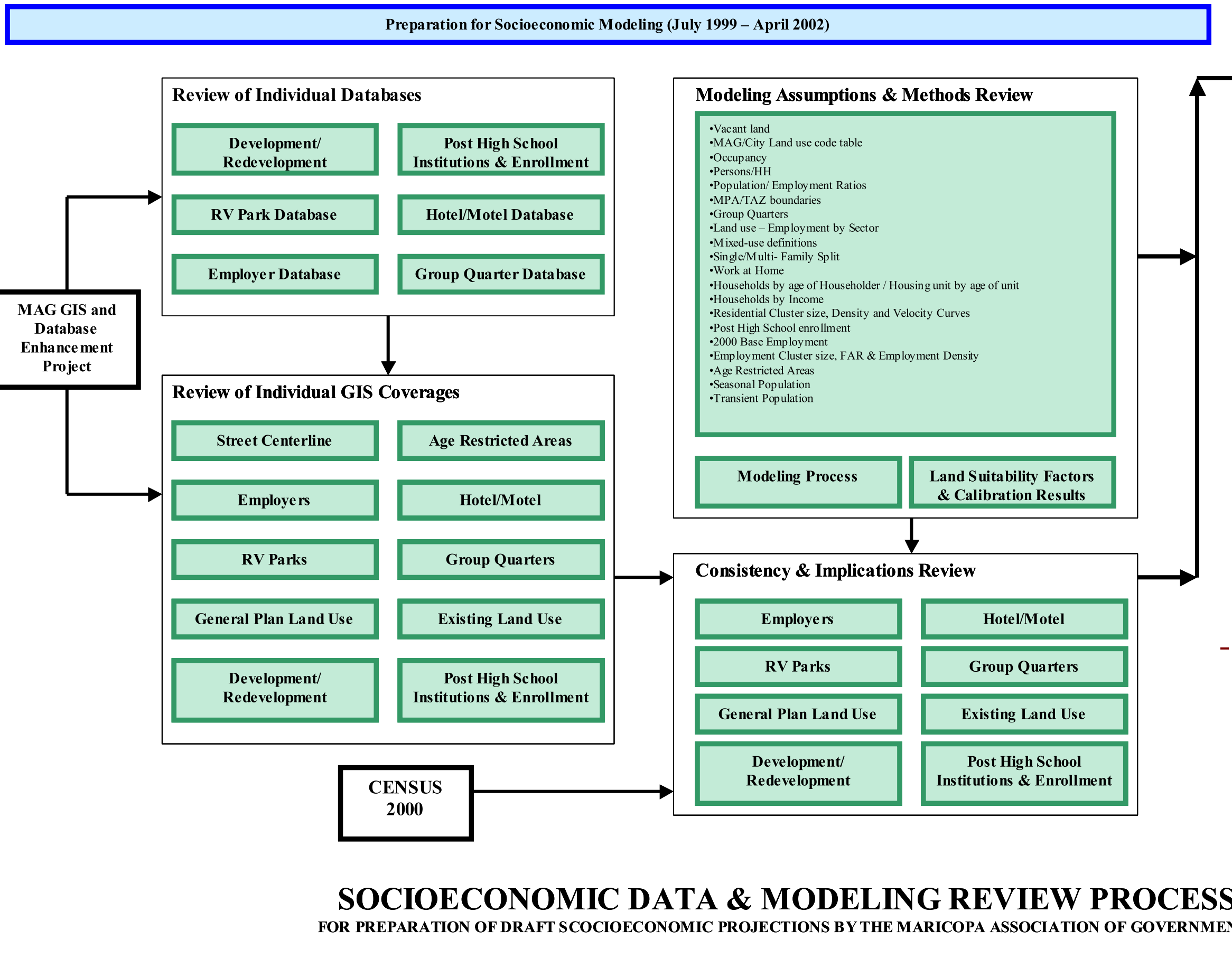
Review



Urban Concentration* 2000 - 2040

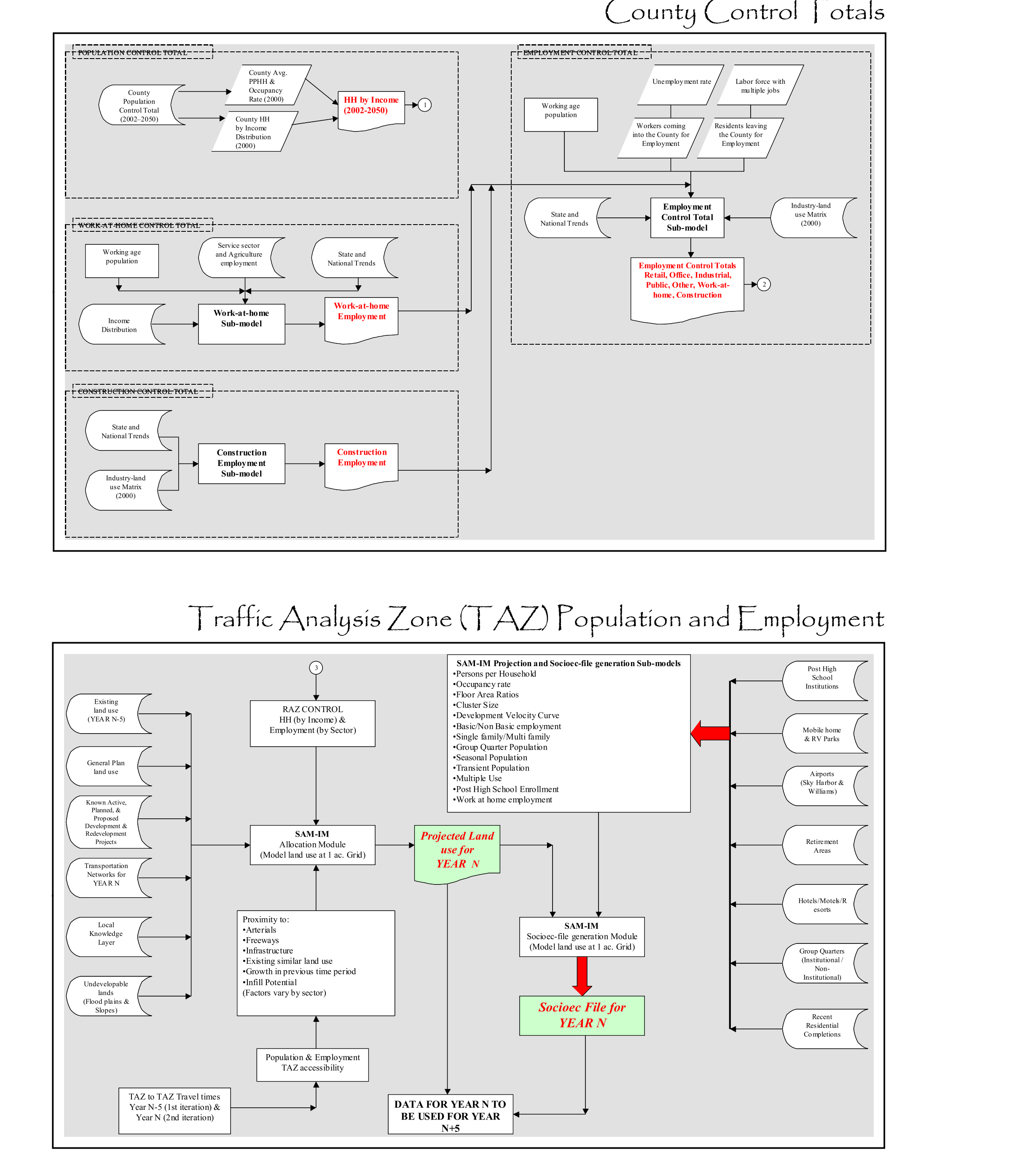
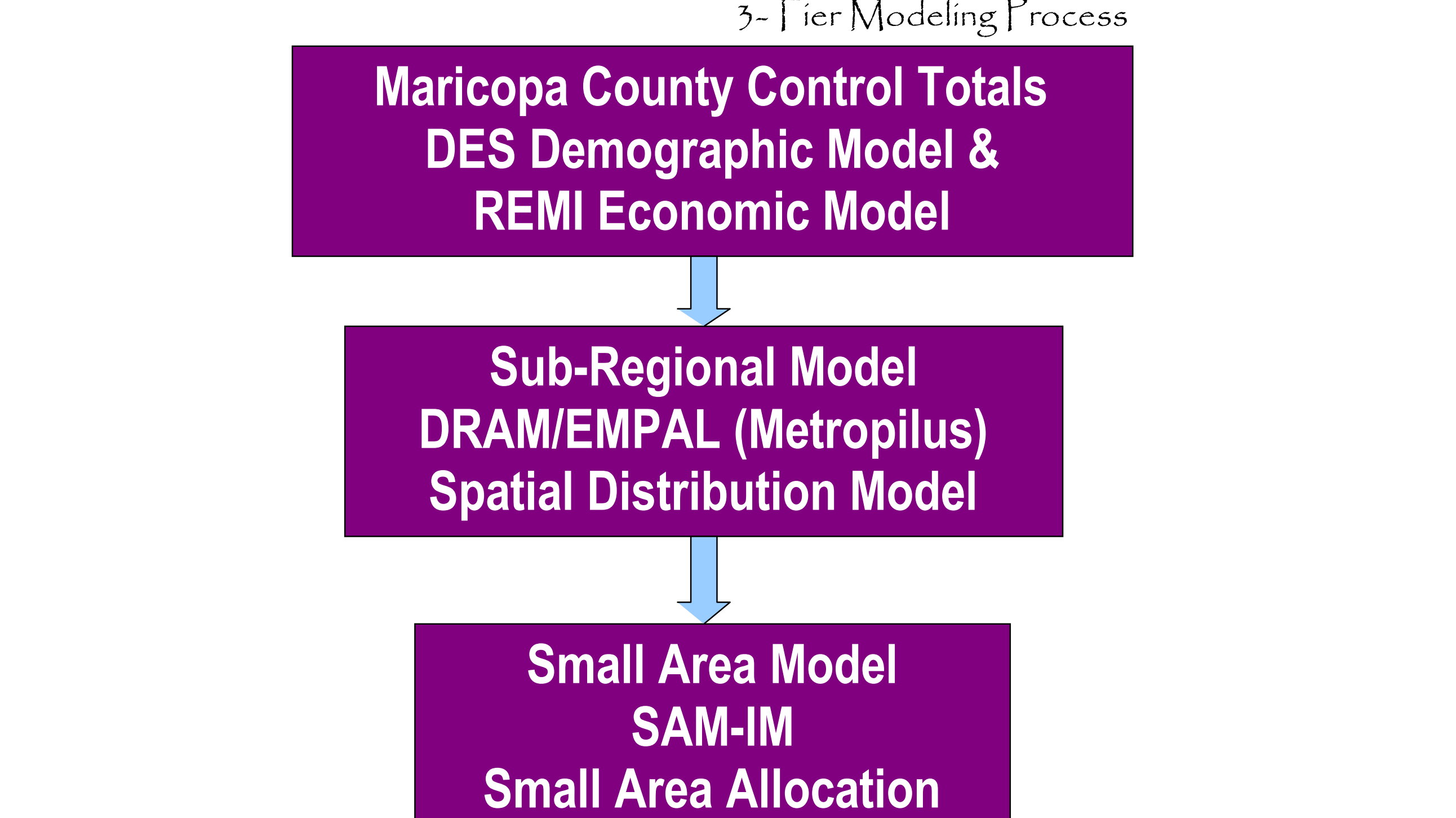
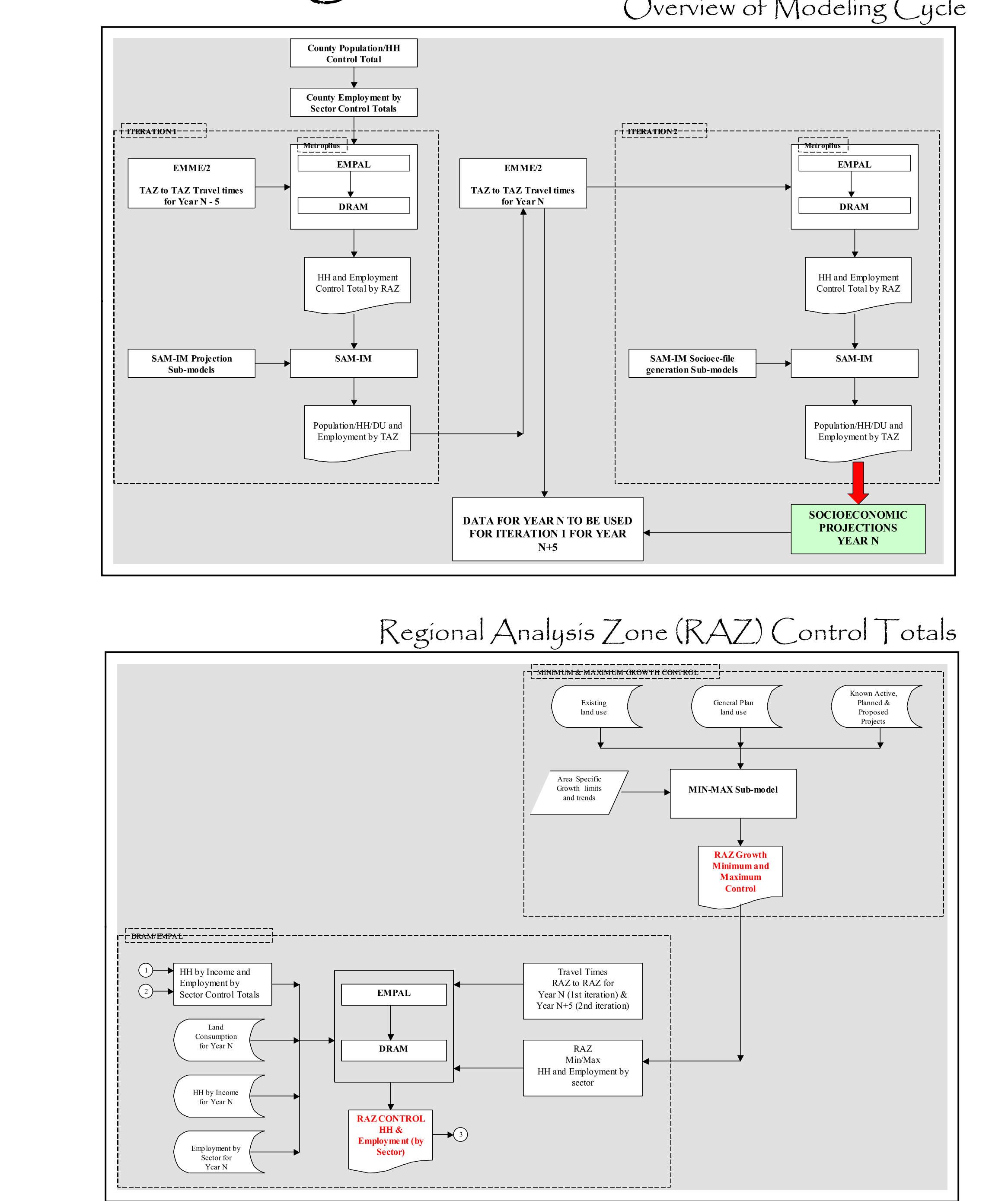


ArcIMS Application for Review of Projections - Thematic Mapping and Selected Area Reports



- Additional Surveys and Assumptions
- Occupancy rates over time
 - Employment to Population ratios
 - Population per household over time
 - Employment control totals by sector
 - Units per acre by land use
 - Floor area ratios by land use
 - Seasonal population
 - Employment per 1,000 sq ft by category
 - Transient population
 - Work at home employment
 - Post High School enrollment
 - Construction employment
 - Non basic employment

Modeling Process



The purpose of this poster is to explain the socioeconomic projections process used to prepare socioeconomic projections by Traffic Analysis Zone (TAZ) for population, housing, and employment variables.

Subregional projections are used by MAG as input into the MAG transportation models to predict automobile traffic, by MAG as input into the MAG air quality models to predict emissions and concentrations, by local governments to evaluate infrastructure improvements, for gauging regional development and land use plans, by local governments to prepare general plans, by developers to identify sites for residential and commercial development, by human services providers for planning, and by school districts for planning infrastructure.

The 2000 Census provided a good base of population and housing units by small area. MAG also collected other data, using numerous sources and methods, to form a complete base and to assist in the projections process. Aside from the data collected, numerous surveys were undertaken and assumptions for modeling made by the MAG Population and Technical Advisory Committee. For example, the persons per household over time or the number of office employees generated from an acre of land in downtown Phoenix.

A three-tiered modeling process is used in the development of the MAG socioeconomic projections. The Arizona Department of Economic Security uses a demographic model to establish County resident population projections as control totals. The second tier model - a proprietary spatial allocation model - distributes the county projections to 150 Regional Analysis Zones. A GIS-based Subarea Allocation Model (SAM) model is then used to distribute the projections from Regional Analysis Zones to one-acre grids, which are then aggregated to 1,666 Traffic Analysis Zones (TAZ). The beauty of using GIS in the modeling process is that the projections generated can be summarized from the one-acre grids to any level of geography.

MAG is developing an interactive mapping section to its Web site using ArcIMS, where member agencies will be able to review the projections data. The site not only allows for such standard activities as mapping, querying and identifying data, but also allows for thematic mapping of selected variables or combinations of variables and then reporting on the results. This innovation has facilitated the way in which MAG receives input on draft projections by enabling the member agencies to evaluate the information online without having to install any software or data locally.

In October, 2002 MAG produced a Draft set of projections which is still undergoing review. Detailed documentation for the projections process was also produced. For further information contact mag@mag.maricopa.gov.