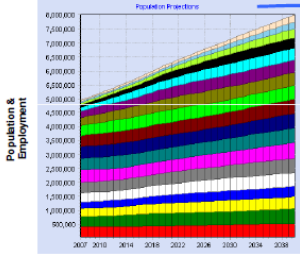


# Atlanta Population Projection and Transportation Planning

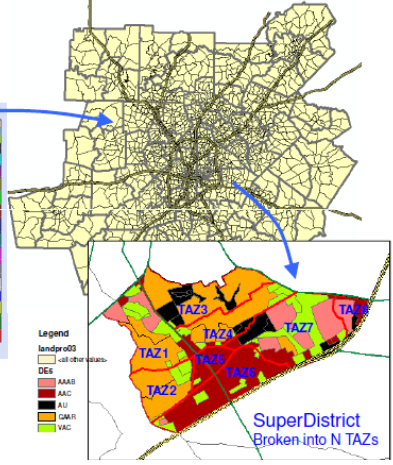
## Atlanta, Georgia



**Goal - Disaggregate regional scale jobs/households projection into traffic analysis zone projection.**



Source: REMI (regional economic models, inc.)



With three quarters of the world's population expected to live in cities by 2050, cities will be at the forefront of managing the challenges of resource scarcities and infrastructure improvements. The 22-county Atlanta metropolitan area is one of the fastest growing urban regions in the United States. As part of its mission of regional transportation planning and intergovernmental coordination, the Atlanta Regional Commission (ARC) required a better understanding of the relationship between this growing population and the regional transportation plan. Atkins employed a unique

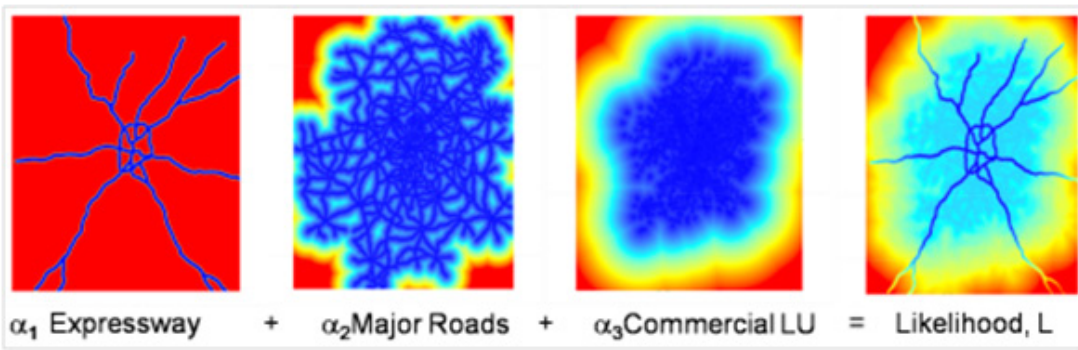
combination of planning and technology expertise to improve the predictions for growth and therefore better prepare for these changes. The resultant Traffic Analysis Zone (TAZ)-Disaggregator is a highly visual tool, which makes the numerical process of population projection considerably more intuitive and less prone to errors. The tool is embedded in commercially available mapping software, allowing users to visualize forecast results as charts, tables, and even as location-based animations of regional growth over the forecast time horizon (30 years).

Atkins collaborated with ARC to best use various map-based factors to determine where new growth will be allocated within the region in any given year. Each of these factors—proximity to major roads, density of similar land use, etc.—is allocated a weight to govern its importance relative to the other factors. The calibration process uses hindcasting, where the tool is used to forecast growth in an historic period to fine tune the weights to historic growth patterns. By comparing the hindcast to the actual historical growth, estimates of forecast uncertainty are produced and can be used by planners to understand the accuracy of their long-term forecasts.

Forecasting tools like the TAZ-Disaggregator are critical in the community master planning process. Because they emulate the land development process over time, they can be used to produce detailed spatial forecasts of demand for water, power, energy, and even communication to help future proof cities.



- Client**  
Atlanta Regional Commission
- Completion date**  
2009
- Services provided**
- Needs assessment
  - Rapid prototype development
  - GIS application development



Likelihood is estimated by calculating a likelihood raster, which is a weighted sum of map-based factors.