Georgia's

State Water Plan

Population and Workforce

Methods for Projecting Future

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Population and Workforce

- Population – initial projections use demographic methods
- Workforce – initial projections use econometric/time series methods
- Population and Workforce projections brought into balance with each other

Population Projections

Demographic Method

Demographic Method

- Start with county population from 1990 and 2000 Census; and 2007 Census estimates
- Each county's population examined by
  - single year of age,
  - sex, and
  - race/ethnicity (Black, Hispanic, White, Other)

Components of Change

- Births – fertility rates calculated using birth records and census data
- Deaths – survival rates calculated using death records and census data
- Migration – net rates of migration calculated by “surviving” cohorts from 1990 to 2000; and 2000 to 2007

Alternative Projection Scenarios

- Births – assume fertility rates unchanged
- Deaths – assume survival rates unchanged
- Migration – four alternative rates
  - Zero net migration—births and deaths alone, for analytical purposes
  - 1990-2000 rate
  - Half the 1990-2000 rate
  - 2000-2007 rate

Review of Total Population

- Examine projection of total population
- Maintain consistency with historical pattern
- Reduce extremes of growth and decline
- Adjust for special events affecting population change
  - Natural disaster
  - Major employment change

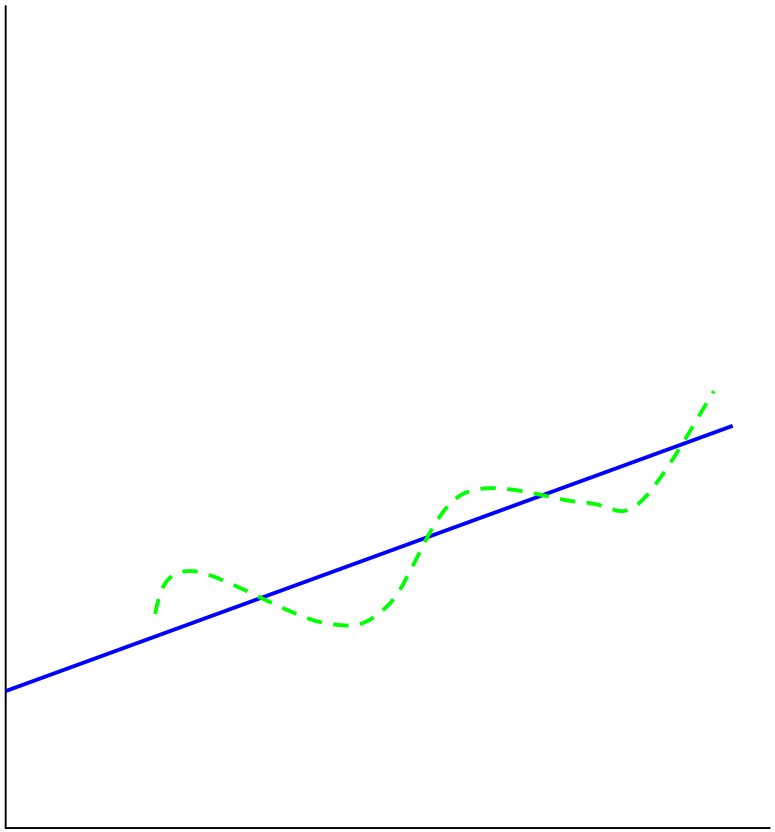
Population Projections

Econometric Method

Econometric Method

- Start with regional employment levels from 1990 to 2008 using GA DOL employment series
- Each region's employment examined by selected industries
- Statistical model captures both trends and cycles

How Does Such a Model Work?



- The lagged terms for employment allow for a cycle to exist in the forecasts.
- Thus, projections are not just a straight line or constant percentage growth.

Employment Projections

- Models developed for each industry by region
- Change in each industry influenced by:
  - Change in total employment for region
  - Change in statewide employment for that industry
- Adjustments are made to capture the current recession

Population and Workforce are Balanced

- Adjustments to employment in retail and services to fit preliminary populations
- Population adjusted to fit the demand for labor based on employment