SANDAG and SDCWA Forecasting

San Diego Association of Governments (SANDAG) and San Diego County Water Authority (CWA): Regional Growth and Water Demand Forecasting

A. San Diego Association of Governments

1. INTRODUCTION

The San Diego Association of Governments (SANDAG) was formed in 1972 and is the regional planning agency and the technical and information resource for the 18 incorporated cities and County government, who are collectively, the "Association of Governments." SANDAG is governed by a Board of Directors composed of an elected official from each of the 19 local governments. Supplementing the voting members are seven advisory members including the County Water Authority (CWA). In addition to the mandated responsibilities as a regional transportation planning agency and a regional transportation commission, SANDAG provides technical and informational assistance in the areas of demographic and economic analysis, transportation studies, survey design and analysis, criminal justice studies, public facilities location, housing needs analysis, environmental planning, and other types of studies.

SANDAG has been producing long-range forecasts of growth in the region for over 25 years, which are now updated every 4 to 5 years. The latest forecast is called the 2020 Regional Growth Forecast. Two key ingredients drive SANDAG efforts to build accurate and reliable Regional Growth Forecasts. One is the extensive review of the forecast. The guidance, expertise, and insights of the committees and other groups that review the forecast are indispensable to the forecasting process and to the development of accurate information for regional decision-making. The other is that SANDAG's forecasting models and procedures are continually refined and updated to incorporate new information and to reflect state-of-the-art forecasting techniques and advances in computer technology. During 1997 and 1998, SANDAG completed a significant upgrade and revision to the modeling system for use in the 2020 Regional Growth Forecast.

This report describes the procedures and models used to prepare SANDAG's Regional Growth Forecast, which is done in two phases, and identifies its integration into the CWA's demand forecasting. The first phase forecasts population, housing, employment, income, and other growth related information

for the entire San Diego region. This region wide forecast is based on factors such as birth and death rates; domestic and international migration; and national, state, and local economic trends and conditions. The 2020 Region wide Forecast was approved for use by the SANDAG Board in July 1998.

The second phase, the 2020 Cities/County Forecast, allocates the region wide growth to jurisdictions, communities, and other geographic areas within the region. This allocation is based on land use policies, such as general plans, transportation system, and the spatial relationships between activity locations within the region. The 2020 Cities/County Forecast was approved for use by the SANDAG Board in February 1999.

SANDAG is currently in the lengthy process of preparing the 2030 forecast, which should be approved for use by the SANDAG Board in 2002.

2. DEFM-The 2020 Region wide Forecasting Model

The Demographic and Economic Forecasting Model (DEFM) produces the region wide forecast. DEFM is a blend of two widely used forecasting techniques: a cohort-component method for population change and econometric equations for economic factors. Changes in population are caused by natural increase (births minus deaths) and migration patterns. The cohort-component method uses information on age, sex, and ethnic composition and future trends in birth and death rates to forecast population changes due to natural increase. DEFM relates population change from domestic migration (migration from other parts of the US) to the future performance of the region's economy. In particular, job creation, wages, and the supply and demand of labor determine the future levels of domestic migration. International migration (from other countries) is determined by U.S. immigration policy and by the historical share of U.S. immigrants that located in the San Diego region.

The economic portion of DEFM consists of five sectors:

1. construction;
2. prices;
3. employment and output;
4. local revenues and expenditures; and
5. income

DEFM links all five economic sectors directly to each other and to the cohort-component model through equations based on regional, state, and national economic trends. DEFM's equations and statistical procedures accurately reflect the many complex interrelationships that underlie the region's economy.