



Project Summary

Texas Department of Transportation

0-5392: Impacts of Current and Future Demographic Trends on Transportation Planning in Texas

Background

After years of sustained growth, the population of Texas in 2006 was five times the size it was in 1917 (the year the Texas Highway Department was established) and population projections anticipate a doubling of the State's population by 2040. The largest part of this population growth continues to occur primarily in metropolitan, and increasingly suburban, areas of the State. In addition to population growth, changes in the demographic characteristics of Texas' population will challenge the delivery of transportation services in Texas. The most significant of these changes include the rapid growth of those aged 65 and older, and the shift to a non-Anglo, and eventually, Hispanic majority. Changes in household and socio-economic characteristics are likely to change as a result of these demographic trends, which, in turn, will impact the transportation system in Texas. Clearly, such changes may have substantial impacts on the Texas Department of Transportation (TxDOT). TxDOT utilizes population data extensively, primarily in referencing data on population size, employment, and income in various analyses; however, data on population characteristics could be usefully expanded to more effectively guide district and state-level policy development. This project was intended to improve TxDOT planning by: 1) examining the broad implications of demographic change for Texas' transportation system and TxDOT, 2) reviewing the demographic data use and needs for transportation analysis, and 3) developing demographic data sets in easy to use forms.

What the Researchers Did

The research was divided into three major phases. In the first phase, the research team reviewed the uses of demographic data at TxDOT and in related agencies. This review consisted of an inventory of demographic data resources available to and useful for transportation planners. We conducted interviews and a survey of a cross-section of TxDOT and Metropolitan Planning Organization (MPO) staff. This phase of the research was completed in order to understand how demographic data is used and to uncover any needs for data content or access. The results of this research were reported in research report 0-5392-1: *Demographic Data Use and Demographic Data Needs at the Texas Department of Transportation and Related Agencies*. These findings helped guide the development of a CD-ROM based demographic database program, *The TxDOT One-Stop Demographic Data Analysis Tool*, during the second phase of the research.

Research Performed by:

The University of Texas at San Antonio (UTSA)
Center for Transportation Research (CTR),
The University of Texas at Austin

Research Supervisor:

Karl Eschbach, UTSA

Researchers:

Michael Cline, UTSA
John McCray, UTSA
Alan Meers, UTSA
Rick Ramirez, UTSA
Rob Harrison, CTR
Jolanda Prozzi, CTR

Project Completed: 8-31-08

The program provides a central location from which demographic data could be accessed with relative ease. The initial program, which included data for TxDOT districts and Texas counties was completed at the end of 2007 and distributed in 2008. In addition, the *One-Stop Demographic Data Analysis Tool* was modified in 2008 to include data for places of 5,000 or more people, census tracts, and urbanized areas; to add projections of selected socio-economic characteristics; and to augment program functionality. Finally, the research team reviewed demographic trends and their implications for the demand for and delivery of transportation services in Texas. The result of this review was reported in research report 0-5392-3: *Impacts of Current and Future Demographic Change on Transportation Planning in Texas*.

What They Found

The results of the first phase of the research indicated a gap in availability and knowledge about sources of demographic data available for TxDOT planners. Demographic information is used at TxDOT, although the number of individuals using demographic data on a regular basis is limited. For environmental justice (EJ) and other transportation planning purposes, a number of demographic data sources are available to demographic data users; however, users do not always know where to locate those resources, evaluate their usefulness, or access the information. The research team developed the *One-Stop Demographic Data Analysis Tool* in order to meet the needs of those users.

A major portion of the research involved the analysis of demographic change and the implications of those changes on the transportation system in Texas and for TxDOT. The overall findings suggest several broad challenges for transportation in Texas should trends in population and household characteristics continue. These challenges and the implications for Texas and TxDOT are summarized in the Executive Summary in research report 0-5392-3: *Impacts of Current and Future Demographic Change on Transportation Planning in Texas*.

What This Means

Rapid population growth and changes in the demographic and socio-economic characteristics of Texas will require transportation professionals to pay closer attention to demographic and household characteristics in order to plan for transportation needs. Although the future cannot be predicted with absolute certainty and factors beyond demographic change will influence future transportation needs, this research can be used as a starting point for considering the challenges facing transportation agencies in Texas. On a more immediate level, the *One-Stop Demographic Data Analysis Tool* will provide a starting point for reporting and comparing demographic characteristics of selected areas for transportation professionals.

For More Information:

Research Engineer - Duncan Stewart, TxDOT, 512-465-7403
Project Director - Greg Lancaster, TxDOT, 512-486-5126
Research Supervisor - Karl Eschbach, UTSA, 210-458-6798

Technical reports when published are available at:
<http://library.ctr.utexas.edu/index.html>

www.txdot.gov
keyword: research



Research and Technology
Implementation Office
P.O. Box 5080
Austin, Texas 78763-5080
512-465-7403

This research was performed in cooperation with the Texas Department of Transportation and the Federal Highway Administration. The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official view or policies of the FHWA or TxDOT. This report does not constitute a standard, specification, or regulation, nor is it intended for construction, bidding, or permit purposes. Trade names were used solely for information and not for product endorsement.