Florida Department of Transportation Research

Identification of Tourist Flows in Florida to Support Development of Tourist Travel Module for FDOT Florida Transportation Model

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Current Situation

Florida is one of the most popular tourist destinations in the world, with over 100 million visitors each year. Most will either travel in a car or rent one when they arrive. Understanding where these millions of drivers want to go is important for planning, which must look five, ten, or twenty years into the future. Over 40 years ago, Florida planners created the Florida Standard Urban Transportation Model Structure (FSUTMS), a computer-based transportation modeling package, to serve as a standardized planning tool throughout the state. FSUTMS has been updated and enhanced many times with the latest transportation data and the latest techniques in transportation modeling. One of the many components of FSUTMS is the Florida Statewide Model (FLSWM), which focuses on freight and passenger travel on highways to understand large-scale movement on Florida largest roadways.

Florida's many miles of brilliant beaches are one of the state's many tourist attractions.

Research Objectives

University of Florida researchers developed the basis for a component of the FLSWM that focuses on tourism traffic to provide the Florida Department of Transportation with better means of forecasting tourism traffic flows.

Project Activities

The main obstacle to developing a tourist component in the FLSWM is a lack of visitor data. There are datasets of traffic to specific destinations in Florida, but not one that includes the entire state. The authors brought together traditional traffic data and innovative data such as social media and cell phone tracking data to estimate tourism flows at the scale of census tract or county, with special attention to data validation by cross-referencing data sources.

The researchers analyzed tourism resources in Florida, developing maps of numbers and types of tourist resources, including lodgings like hotels, campgrounds, and timeshares and destinations like beaches, historic structures, shopping, dining, and many others. Destinations were divided into 12 categories, and for each one, maps were produced showing the distribution of a category's resources around the state by county and by census tract. The data in these maps were then spatially correlated with highway accessibility.

The researchers used social media data from out-of-state and in-state travelers to develop lists of resources that people visited in the same trip. These data begin to define tourism-related trips and the specific routes used or needed by tourists. Cell phone tracking data were used to validate tourism trip data derived from social media and to revise it where needed.

The researchers provided recommendations about data collection, processing, validation, and storage to support FLSWM modeling. They used project data to estimate the impact of tourism travel on Florida's transportation system and to understand patterns of tourism accessibility in each of Florida's counties.

Project Benefits

Adding travel tourism to Florida's standard transportation modeling will assist planners in developing designs that facilitate tourism throughout Florida.

For more information, please see www.fdot.gov/research/.