ABSTRACT

Studies of air traffic flows in the United States have generally focused on hubs. When origin/destination traffic is analyzed at the final destination level a more nuanced picture emerges. This study looks at the final destination cities for flights originating in Tucson, AZ (TUS); Jackson, MS (JAN); and Appleton, WI (ATW). The flows were initially modeled using a simple gravity model based on destination population and distance/cost. The anomalies from the general pattern reveal cultural and economic links between the three cities and their destinations that have interesting implications for the national space-economy.

METHODS

Data for each statistical area was originally manipulated within Microsoft Excel. The data top 100-500 flight destinations were mapped for each city. Following the mapping of these cities, a spider diagram was used to enhance the visual appeal of the map. To create the anomaly maps for each hub, I used Microsoft Excel to find the regression model for the variables population/distance and passengers. This model predicts the 'expected' passengers for the population/distance ratio and provides a residual weight for each airport. Those residuals that are greater than one or less than negative one are considered anomalies. The anomalies were exported as a database and joined to existing data so that a map could be used to spatially analyze the anomalies.

REFERENCES