

Developing a Geographic Information System (GIS) for Simulating City Bus Movements

The Oak Ridge National Laboratory's (ORNL) Geographic Information Science and Technology (GIST) Group has been developing and refining a high-resolution population distribution model and database, called LandScan USA. It is in a geographical information system raster and ASCII data formats. LandScan USA provides detailed demographic information to support geographic analysis anywhere in the United States. It is important to understand the effects of environmental exposure on school kids, as they commute from residences to schools. The research process will begin with searching the internet for Philadelphia, PA bus route schedules to get the exact times of each stop and the location. This information will be used to create a GIS, using ArcView GIS, of each bus route. Once that is completed, the information needed out of each GIS will be put into an excel file. That information will then be applied to a model that will simulate the buses on each of its routes with exact times and stop locations. The results of this project will be used to calculate how much environmental exposure school kids are exposed to as they commute between residences to schools.

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