ABSTRACT

The goal of this project is to develop an Ethington Transection Toolbox (ETT) to automate, increase the efficiency, and improve the efficacy of creating "Ethington Transections." Ethington presents these hybrid charts/maps to visualize social change in space and time, along urban streets in his forthcoming book, *Ghost Metropolis: A Global History of Los Angeles since 13,000*. A new technique for visualizing the act of moving through the landscape over time, "Ethington Transections" are defined as a cross-sectional sample of data from polygons to simulate a single, directional line of transit. The objective of this thesis is to streamline the creation of transections resulting from the input of common polygon-distributed data, and to share such a tool so that others may benefit from increased efficiencies. The final result is a custom toolbox in Esri's ArcGIS ModelBuilder of seven custom models with contextual help, written documentation and video walkthroughs. This series of models creates an editable map and graph layout and an organized geodatabase of intermediate outputs that can be reused for additional analyses or presentations. The ETT shortens the time to complete an "Ethington Transection" from 8 hours to slightly less than 1 hour. The previously tedious and time intensive task of creating transections was automated and made accessible to a wider range of researchers, facilitating new perspectives and interpretations of data. Therefore this toolbox should enhance the analytic skills of those looking to study how changes occur through space and time along any linear sample of data to simulate a transit in polygonal datasets.