Youngstown State University PIC Math Problem

Reorganizing Youngstown Police Beats

Industrial Sponsor: Youngstown Police Department

The City of Youngstown has experienced a significant decline in population over the last 25 years as well as shifting neighborhood demographics and crime patterns. In spite of these changes, the police patrol beats have not been analyzed since the mid-1990s. Recently, an in-house report used limited crime data to determine if restructuring the police beats should be recommended. However, controversy over the data used and other pressing issues within the police force caused that report and its findings to be largely ignored.

Our task is to use more comprehensive data for an entire year (December 2013-November 2014) to analyze the call service volume for the current police beats and recommend changes to the current beats in the city. We have been given freedom to determine the appropriate number of beats and their shape. We are asked to consider natural geographical boundaries such as rivers, lakes, and interstates, in the construction of these beats.

The students have been given then messy, raw data in Excel and will first analyze the data and then use ArcGIS to help construct police beats that will ultimately be presented to the Department.

Our primary industrial liaison is Julie Orto, a crime analyst for the YPD, but we will also meet frequently with Lt. Bodnar, who works the beats and trains officers on the beats. Overseeing all of our work is Cpt. Kevin Mercer.