Integrating tabular data into a GIS

For the 2010 Decennial Census I was tasked to come up with a way the Recruiting department could track staff hiring on Indian reservations. The only way to do this accurately was to look at applicant's residency at the block level. The block is the smallest geographic unit that the Census Bureau uses.

To do this I use a Decennial Applicant Personnel and Payroll System (DAPPS) recruiting report showing the number of recruits at the block level. This report was generated weekly from the Census Bureau. The report is emailed to me in a Comma Separated Values (CSV) file. I import the CSV into Excel, manipulate it by adding three fields (or columns) of data. The first field is ID used for sorting the data, the second field is State FIPS (Federal Information Processing Standards), and the third field is County FIPS. Each of the County and State FIPS fields must be populated. This encompasses around 140,000 entries. The three fields are required so I can join this file to a personal geodatabase file.

I import the modified Excel file into a personal geodatabase which is a MS Access file with the Census blocks geometry tables included. Once the table is in a personal geodatabase I run code to update the State and County FIPS fields. I wrote the VB code that runs the updates on the state and county FIPS fields. Using the FIPS fields I join the new table to the spatial Feature Class blocks table and filter out only the recruits that are in the Indian Reservations blocks. Then I run some queries that update a six page report that shows the recruits on the individual reservations. I save this off as a PDF and email the report to the recruiters. This report is run on a weekly basis. From this data I also create maps that show the geographic distribution of recruits on the individual reservations.

I was tasked with this tribal recruiting report because I have a broad understanding in dealing with the tribal governments due to my earlier research and compiling a Census Tribal 2010 database specific for Denver's ten state Regional Census Center.