Project GIS 4

Due Date: April 15

Purpose

In this project, you will pull together many different data files that are freely available from the Massachusetts government website. Using and analyzing this data, you will create a proposal for a major project to be built in the state. You will use many of the tools we have been working with to bolster your case. You may also need to do some other research on the Web to find relevant information regarding existing structures/areas in the state.

Important: This is more involved than previous projects. Therefore, I've decided that this will be worth 12% of your final grade rather than 8%. We are scheduled to have two more projects, but these may be reduced in scope **or** reduced to just one additional project.

Problem

Shopaholics, Inc. is a major developer of shopping centers and malls. The company has targeted the southeastern Massachusetts area for a new mall, especially the area outside (away from Boston) of Interstate 495. Your job is to find a good location for the mall.

The problem goes beyond finding a good location for the project. Another problem is that other companies are also vying for a good location in the state as well as possible town or state resistance because of traffic and other problems. Therefore, you must produce a short report with your "pitch" to the town and/or state to get approval of your project over other submissions.

Data

The data you will use comes from the Massachusetts GIS site:

`http://www.mass.gov/mgis/download.htm`

You will download whatever files necessary to complete the requirements below. Choose Census data from the year 2000, as there are more files available. Do not mix-n-match Census data from 2000 and 2010, because the files may be incompatible.

Specifics

The new mall Shopaholics, Inc. wishes to build is on a scale close to the Emerald Square Mall in North Attleboro, MA. They hope to build a complex that has four anchor stores and then a similar number of smaller shops as at Emerald Square. The new mall does not have to be the same shape or the same number of floors, however. You must find a site suitable for such a building, keeping in mind the following guidelines:

- Since the new mall will house the same number of stores, the available number of parking spots must also be about the same.
- The parking areas should have easy access to major roads/highways.
- A similar mall should not be situated too closely to the new site, although there could be extenuating circumstances that would make this issue moot.
- Water bodies should be avoided.
- Main power lines can not be relocated.

- The mall can not be built in protected areas, including but not limited to conservation land, town forests, watersheds, and cemeteries.
- Certified vernal pool areas should not be disturbed.

For this project, you need to find a good location that satisfies the requirements above. However, some of the rules are flexible:

- Within reason, roads, railroads, trails, and bike paths can be rerouted.
- The company is willing to relocate *some* families, if a good location must impinge on a housing area.
- Areas such as landfills/dumps, abandoned properties, sand/gravel pits can be reused.
- As in real life, deals can be made (within reason), such as using land occupied by a business, unused town land, etc. You can be creative with this (i.e., you can make stuff up!) *within reason*!

Deliverables

To complete the project, you need to:

- Create a map that includes all of the existing items listed above (roads, power lines, etc.). On this map, mark out the area where the new mall should be built. Export this map to jpg or tiff format with your name and GIS4 as in `GousieGIS4map1.tif`. Note that this will only save an *image* of your map, not the data. Thus, be sure to save *everything* (all the layers and data) so that the map can be recreated.
- Create another map that shows what the *finished* mall and surrounding area would look like. This map should include, but is not limited to:
  - a sketch of the mall building(s) using polygons, lines, etc.
  - parking lots/garages
  - new access roads
  - rerouted roads, railroads, trails, bike paths
  - any moved items, such as new housing, relocating a business, etc.

  Export this map to jpg or tiff format using the naming convention above.
- Create a third map that shows the state with the area of the above maps marked to give spatial context. Export this map to jpg or tiff format using the naming convention above.
- Write a report in Word or other word processor that includes the maps above. The report is your "pitch" to the town, so it should convince voters that your project is sound. The report should include details regarding traffic/access, new infrastructure, relocation of any housing/businesses, and any other pertinent information. Name the report as in `GousieGIS4report.doc`.

Submitting

Email your completed map images and your word-processed document to me at `mgousie@wheatonma.edu` before midnight on the due date. Hand in a printed copy of the document in class on Monday, April 16. Include a signed Honor Code statement on this copy. No need to make a color printout; this is why you are sending an electronic copy.