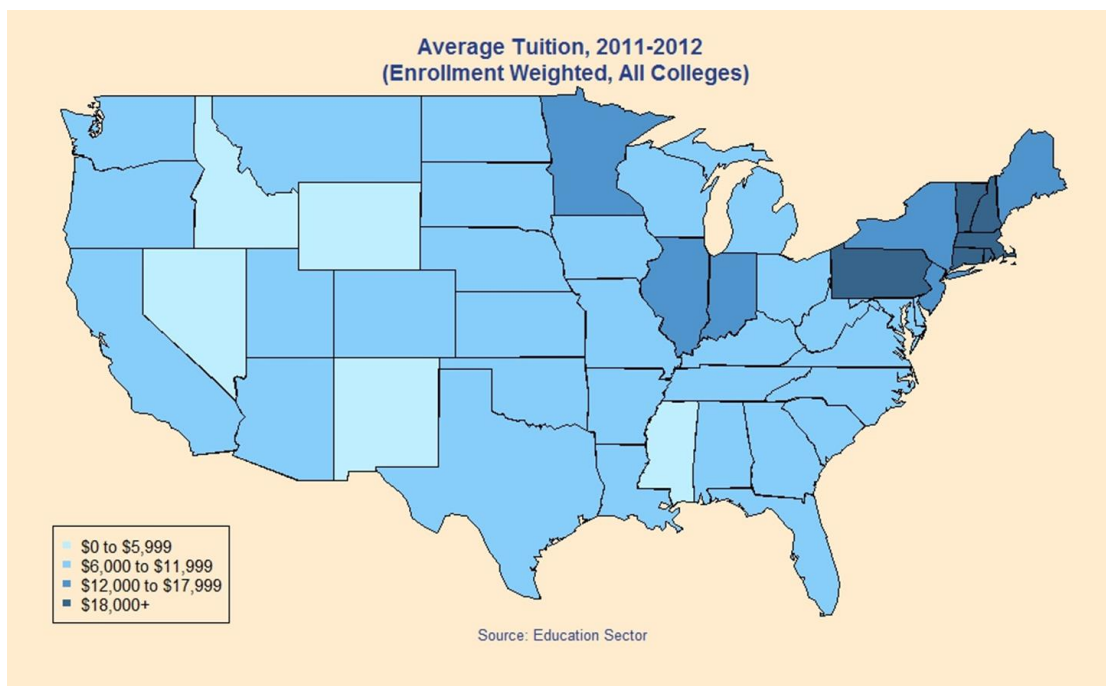


Cookbook 7 October 2013 *GIS Analysis (Part 5)*

Overview

1. Site Selection Project: Progress Presentations
2. Site Selection Project: Some Ideas!
3. Printing ArcGIS Desktop Maps
4. The Tuition Project



Source: <http://www.quickanded.com/2013/04/higher-ed-data-central-tuition-maps.html>

1) Site Selection Project: Progress Presentations

How many parcels in Westfield are suitable for this type of development?

	Number of Parcels
Team 1 John, Catherine, Renee	
Team 2 Mike H., Tori, Jeffrey	
Team 3 Mike F., Cindi, Olivia	
Team 4 Carsten	

Now...how do we reconcile that?

Which site is the best?

- Current land ownership?
- Current land use = what's on the land now?
- Traffic and accessibility
- Water, sewer, energy supply situation
- Proximity to other industry, neighborhoods, schools, etc.
- Site Ranking!
- Alternatives?

2) Site Selection Project: Some Ideas

A convenient way to organize your data layers is to think in terms of base layers and analysis layers. Try it!

Base Layers

- Base layer from ArcGIS Online (optional, only if it adds to the visual appeal of the map *without* distracting = function over form!).
- Road layer for Westfield – not used in the actual analysis, but helpful to orient the audience as to where these parcels are located and to visualize traffic and access to the parcels.

Base/Analysis Layer

- City limits = town line (polygon) – used on final map as a base layer, but needed for the data prep, analysis, and selection.

Analysis Layers

- Parcel layer (polygon).
- Water body layer (streams, lakes, ponds, wetland, etc.), line and polygon, buffered.
- Zoning layer – polygon – select industrial and commercial zoning.

Hidden Criteria	In Westfield	Select (by Attributes) Select Westfield town line, save as new feature class
Criteria 1	>10 acres	Sort attribute table of parcels layer by area Data Prep: Edit parcel layer, save as new feature class
Criteria 2	100 ft	Buffer Tool around hydrography Review in Help! (Dissolve = ALL) Data Prep: Merge hydrography layers Clip or Select by Location inside Westfield Save as a new feature class
Criteria 3	Zoning	Zoning Data Data Prep: Select by Attributes Industrial/Commercial Save as a new feature class

A logical combination and sequence of Select by Attribute, Select by Location, Merge, Buffer, and sorting of the attribute table will get you down to the parcels meeting the requirements.

➔ Always check your selection outputs to make sure that they are indeed what you intended = quality-control!

3) Printing ArcGIS Desktop Maps

There are many ways to print an ArcGIS Desktop map: directly from ArcGIS Desktop or after exporting the map as a PDF, JPG, or TIFF file.

Printing directly from ArcGIS Desktop is usually the best, but obviously requires that the computer doing the printing has the correct version of ArcGIS Desktop installed. Or, that your computer can be attached to the printer! These problems can be avoided by first exporting your map as a PDF, JPG, or TIFF file. However, occasionally you get export errors where certain symbols and fonts are not properly exported.

Export Resolution

Here you are trying to find a good balance between resultant file size and print quality. Remember, the higher the resolution, the better the print quality and the larger the resultant file: 150 or 300 dpi give you a good balance between file size and print quality, 600 dpi is usually only needed for publication quality printing. FYI: a 300 dpi file is 4 times the size of a 150 dpi file = doubling the resolution means that the file size quadruples!

As a PDF File

PDF files are great for viewing and printing – and everyone these days has the needed software installed on their computers to view and print PDF files. Export settings:

- General Tab: Set Resolution = 150 dpi, 300 dpi, or 600 dpi (see above)
- Format Tab: Keep the default selections
- Advanced Tab: Keep the default selections
- Pages Tab: Keep the default selections

As a JPG File

JPG files are great: you can look at them, but also easily insert them in MS Word documents, MS PowerPoint presentations, or websites.

- General Tab: Set Resolution = 150 dpi, 300 dpi, or 600 dpi (see above)
- Do not check the Write World File checkbox.
- Format Tab: Keep the default selections.

As a TIFF file

TIFF files are popular within the graphic design community.

- General Tab: Set Resolution = 150 dpi, 300 dpi, or 600 dpi (see above)
- Do not check the Write World File checkbox.
- Format Tab: Keep the default selections (unless you know what you are doing and why!)

Always open your exported map and make sure that nothing got distorted or omitted during the export. That can be a problem, especially when exporting as a PDF file.

More Information

- About map printing
<http://resources.arcgis.com/en/help/main/10.1/index.html#//00sm00000003000000>
- Exporting your map
http://resources.arcgis.com/en/help/main/10.1/index.html#/Exporting_your_map/00sm00000004000000/
- Exporting to PDF
http://resources.arcgis.com/en/help/main/10.1/index.html#/Exporting_to_PDF/00sm00000007000000/

4) The Tuition Project

Proximity Analysis: How far is something from something?

Nice example: <http://vizual-statistix.tumblr.com/post/53285918211/we-often-claim-to-be-in-the-middle-of-nowhere-but>

Proximity-Based Tuition

In New England, students qualify for a tuition break when they attend an out-of-state college is closer to their home than the in-state college offering the same program.

See <http://www.nebhe.org/programs-overview/rsp-tuition-break/eligibilityfaqs/> or http://www.nebhe.org/wp-content/uploads/2013-14_RSP_TuitionBreak_Policies.pdf for background information and details.

For us, the question is simple: which cities and towns in Connecticut are *closer* to Westfield State than to any of the Connecticut State University or University of Connecticut campuses?

This is a perfect example of a proximity analysis and perfect application for map!

Intrigued?

- Proximity Analysis
<http://resources.arcgis.com/en/help/main/10.1/index.html#//018p00000007000000>
- An overview of the Proximity toolset
http://resources.arcgis.com/en/help/main/10.1/index.html#/An_overview_of_the_Proximity_toolset/000800000018000000/
- Near (Analysis)
<http://resources.arcgis.com/en/help/main/10.1/index.html#//00080000001q000000>