

Lab 2: Labeling and Representing Areas (8%)

Section:	Tues	Wed	Thurs
Assigned:	Sept. 14	Sept. 15	Sept. 16
Progress check:	21	23	23
Due:	28	29	30

Data Source: Pennsylvania Department of Transportation, 2010

Assisted by Jim Thatcher. Data are state-wide boundaries downloaded from PASDA (Pennsylvania Spatial Data Access) at www.pasda.psu.edu

The goals in completing this lab are to become expert at labeling and symbolizing complex area features on maps, and to gain initial experience with map layout tools.

Cartographic concepts:

- Representing area categories with labels and symbols
- Clarity in showing extents of nested and overlapping area features
- Positioning labels for area features
- Map layout

New tools and skills:

- Map projection
- Polygon-to-line geoprocessing
- Maplex labels for areas
- Label expressions (augment and combine label fields)
- Annotation
- Layout view
- Drawing toolbar (create graphic text for title and map author)
- Create marginalia (insert legend and scale bar)

In working through your design choices, consider the **map purpose** for this lab is to **educate and update Pennsylvania voters** on boundaries of state house, state senate, and U.S. congressional districts in their region, as well as current legislators for these districts.

Map requirements and grading criteria:

Create a map for any location in Pennsylvania that has enough content to meet the following requirements:

- center the map on a **nameable place** and use that name in map title
- at least **25** labels, including at least **5** municipality names
- at least **3** categories of area features are labeled (e.g., house, senate, and municipal)
- at least **3** line styles for boundaries
- at least **1** dashed line style
- the map scale is between **1:70,000** and **1:300,000** (rough guidelines)
- the map fills most of one **8.5x11**-inch page with at least one inch of empty margin on all sides

- Labels are **positioned** following cartographic placement guidelines
- Labels are easy to **associate with the areas** they label
- **Labels** are visually organized into **categories and hierarchies** using type characteristics (fonts, size, etc.)
- **Area fill and outline symbols** are visually organized into **categories and hierarchies** using visual variables (lightness, width, pattern, etc.)
- Map **layout** is well balanced and elements are sized to suit their role in map reading (e.g., no huge scale bars please)