

**Lab 1: Labeling and Representing Lines**  
(8%)

Section:	Tues	Wed	Thurs
	Sept.	Sept.	Sept.
Assigned:	1	2	3
Progress check:	8	9	10
Due:	15	16	17

Data Source: The National Map, USGS.

*Assisted by Jim Thatcher. Data processing by Doug Minnigh*

The goal in completing this lab is to become expert at labeling and symbolizing line features on maps.

Cartographic concepts:

- Positioning labels on line features.
- Representing line hierarchy with labels and symbols.
- Representing line categories with labels and symbols.
- Designing for black-and-white media.

Tools and skills:

- Maplex labels for lines
- Shields for highway labels
- Dictionary to shorten labels
- Cartographic lines: multilayer, dash, hash; caps, joins
- Stream tapering (line width by upstream drainage area)
- Symbol-level drawing

**Map requirements and grading criteria:**

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

- at least **10** stream/river labels
- at least **15** road labels, plus **3** shield labels
- at least **2** multilayer line styles that join/merge well
- at least **1** dashed line style
- at least **1** town is shown in the map area
- the map scale is between **1:24,000 and 1:50,000**
- the map fills most of one **8.5x11**-inch page
  
- Labels are **positioned** following cartographic placement guidelines
- Labels are easy to read (not crowded, collapsing, or upside-down)
- **Labels** are visually organized into **categories and hierarchies** using type characteristics (fonts, size, etc.)
- **Line symbols** are visually organized into **categories and hierarchies** using visual variables (lightness, width, pattern, etc.)
- Overall design shows suitable **figure-ground** relationships for a location map (more important features stand out and less important ones are in the background)
- No color hues are used on the map: this design is only **black, grays, and white**

**Due** (*beginning of lab, two weeks after lab is assigned, stapled in this order*):

1. Finished map (top),
2. Finished map with your edits/comments
3. Screen capture of TOC (table of contents)

Remember to write your **name** and **lab section** on your map.