**Basemaps**

**Zoom**

**Functionality**

**Trade off between abstraction and reality**

**A basemap is GIS data that has been planimetrically corrected. A planimetric image has had the effects of tilt and perspective removed and only displays the horizontal surface features of the Earth’s surface. The basemap is what we think of when we imagine the boundary lines defining countries and states, it provides the setting. A basemap can be as simple as a few boundary lines. However, with GIS technology base maps can include intricate details about natural and cultural surface features.**

**Leaflet maps use ‘tiles’ like most digital maps[[1]](#footnote-1). Tiles are individual map images that are joined along invisible seams when called. This preserves computational efficiency while enabling zoom. The process of building a map in Leaflet is described as stacking layers. For example, the first layer is the generally the base map so markers showing the location of police stations would be layered on top. This layering capability provides flexibility to selecting a basemap because even basemaps can be layered together assuming a level of opacity is used to allow the bottom basemap to show through the top basemap.**

**With Leaflet one does not need to build their own basemap, but that is still an option. Leaflet provides pre-designed basemaps created by Leaflet as well as third parties that can be printed to a screen in 3 lines of code or less.[[2]](#footnote-2) There are many impressive open source basemap tile designs available. Before choosing a basemap for crime display it is important to ask, “Who are these maps for and how will these maps be used?” and to remember that the quality of these maps also reflects on the LEA as a professional entity. The 1999 U.S. DOJ publication *Mapping Crime: Principle and Practice*, described the process of using maps as creating abstractions of reality. As the abstraction increases the further from reality we move. However, abstraction allows a complex story to be told simply [DOJ]. The process of selecting a basemap is a balance between abstraction and reality. The goal of police transparency revolves around telling what is true as best as possible. Transparency also depends on the ability of citizen users to understand. Figure X below shows a basemap of Dallas, TX that has a watercolor design and a basemap that has a more realistic topographical details. While the watercolor map is appealing, it does not allow a user to easily determine locations of interest in Dallas. On the other end of the spectrum, a basemap could potentially show so many details that when using the zoom feature incident depictions get easily lost in the chaos. The selection of a basemap should ultimately minimize frustration for the user.**

1. Using Basemaps, Leaflet for R, https://rstudio.github.io/leaflet/basemaps.html [↑](#footnote-ref-1)
2. Leaflet-providers preview, Leaflet, http://leaflet-extras.github.io/leaflet-providers/preview/index.html [↑](#footnote-ref-2)