IOWA STATE UNIVERSITY
Extension and Outreach

GIS
Training and Services

Geospatial Technology
Training Program

Mapping API's: Leaflet - Dash, Line Cap and Line Shape Path Options
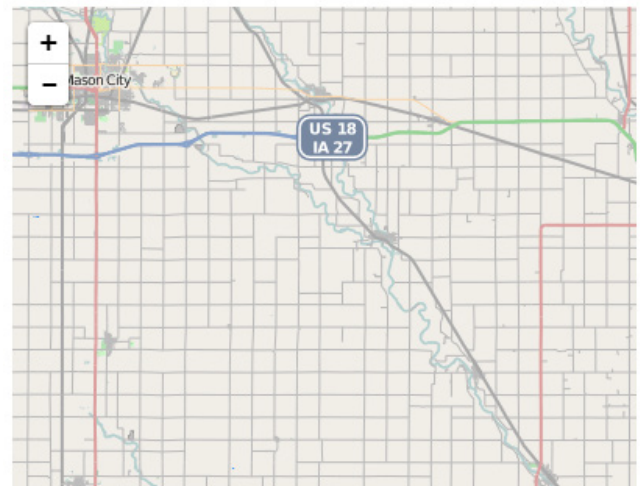
Welcome to the Essential ArcGIS Task Sheet Series. This series supplements the Iowa State University Geospatial Technology Training Program short course series. The task sheets are designed to provide quick, easy instructions for performing mapping tasks.

This task sheet builds off of *Mapping API's: Getting Started* **PM2082-14r** and *Mapping API's: Leaflet - Creating Polylines and Polygons* **PM2082-15j**. The code for those task sheets and this task sheet (**pathOptionsLeaflet.html**) can be found on the ISU Geospatial Technology Program GitHub page at https://github.com/ISUEOGTP/GISTaskSheets.This task sheet demonstrates how to create polygons and polylines and utilize three path options: dash, line cap, and line shape to modify how the stroke line appears.

1. Introduction and Setup

a. First, you will need to start with a basic Leaflet map setup. Reference the task sheet: *Mapping API's: Leaflet - Getting Started* **PM2082-14r** to learn how to get this set up, or get the starter code from our GitHub page at https://github.com/ISUEOGTP/GISTaskSheets/tree/master/Leaflet-Tutorials/helloLeaflet.htm.

b. Change the zoom level from 10 to **5**. *Hint: found at the end of line 24 in the starter code.*

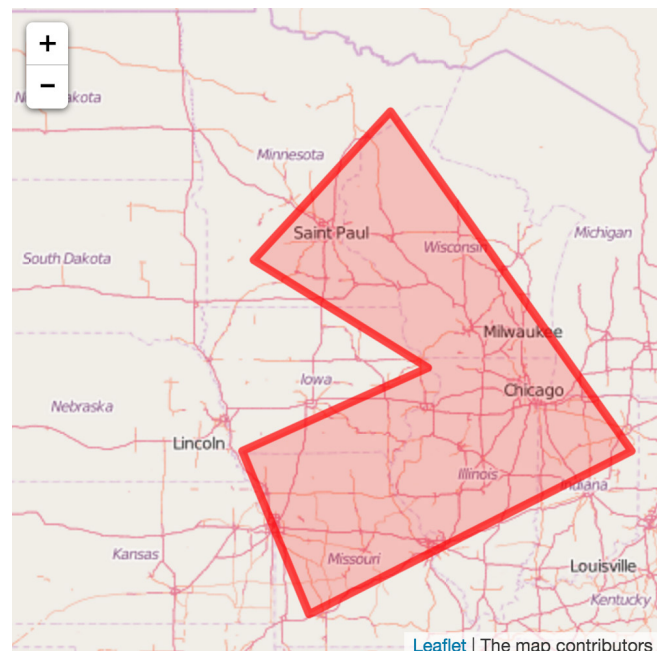```
var map = L.map('map').setView([43, -93], 5);
```



## 2. Add Polyline and Polygon

a. Following the map constructor, create a polyline and add it to the map. Be sure to include the options for the color, weight and opacity.

```
var polyline = L.polyline([
  [47.2, -91.5],
  [44.4, -95.2],
  [42.3, -90.5],
  [40.6, -95.5],
  [37.2, -93.7],
  [40.6, -85],
  ], {
  color: 'red',
  weight: 5,
  opacity: 0.7,
}).addTo(map
```

b. Change **L.polyline** to **L.polygon** from **step 2a** to create a filled polygon instead of a polyline.

3. Add Dash Line Pattern

a. To add a dash line pattern, add **dashArray: '10, 20',** after the opacity option. The dashArray parameter takes a set of parameters to define the line and space lengths. The measurements are in pixels and are repeated along the entire line path. *Note: The weight of the line will impact the appearance of the dash space by covering the open space and making it appear shorter.*

```
dashArray: '10,20',
```

b. If you wanted a dot space dash pattern you could input parameters of **dashArray: '1,4,10,4',**. *Note: on Retina display devices the actual pixel length will be longer than what is designated. Dash patterns Do not work on canvas-powered layers (e.g. Android 2).*

c. The lineJoin option is used to specify the shape to be used at the corners of paths. Four values can be used by this option: miter, round, bevel, or inherit. Add the **lineJoin** option below dashArray. *Note: make sure and include a comma following the dashArray option.*
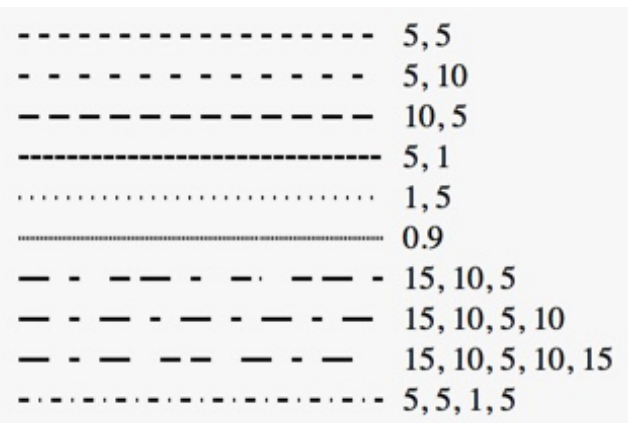
```
lineJoin: 'miter',
```

d. The lineCap option specifies the shape to use at the end of a line or line segment. A lineCap can have one of four values: butt, round, square, or inherit. Add the **lineCap** option below lineJoin. *Note: make sure and include a comma following the lineJoin option.*

```
lineCap: 'square'
```

e. Find more dash line patterns in the image to the right. Plug in the numbers to the dashArray option in Leaflet to visualize the pattern on the map.

```
var polyline = L.polyline([
  [47.2, -91.5],
  [37.2, -93.7],
  [40.6, -85],
  ], {
  color: 'red',
  weight: 5
  opacity: 0.7
  dashArray: '4,12,20,12'
  lineJoin: 'miter',
  lineCap: 'square'
}).addTo(map);
```


Pattern	dashArray
– – – – – – – – – – – – – – – –	5, 5
– – – – – – – – – –	5, 10
— — — — — — — —	10, 5
––––––––––––––––––––––––––	5, 1
· ·	1, 5
··	0.9
— – — — – – — — –	15, 10, 5
— – — – – — – —	15, 10, 5, 10
— – — — — – —	15, 10, 5, 10, 15
·– ·– ·– ·– ·– ·– ·	5, 5, 1, 5

Contact:

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