

# Linear Referencing – Displaying Events Along a Line

Course Length: 8 hrs

ArcGIS Version: 10.x

## Overview

Various real-world features, such as street networks, pipeline systems and seismic lines, are best represented in ArcGIS as a set of point or linear events along a line. For example, in a street network, you can represent pavement quality, speed limit, number of lanes, jurisdiction and various other attributes each as a set of events along a linear route. Doing this allows you to break the route up in many places (i.e. each time pavement quality changes or each time jurisdiction changes) without creating multiple copies of the line feature class. This 1-day course teaches students the foundational concepts of linear referencing and their application in real world situations. Students are instructed how to create and edit routes and their measurements in an ArcMap edit session, and how to use the Linear Referencing Toolbar to effectively display and label those routes.

## Audience

This course is for those who are already comfortable with the basics of ArcGIS, including editing, but wish to know how to create and use linear referencing to manage their linear GIS database.

## Topics covered

### Introduction and Display of Routes

- Routes and Events (Understanding the linear referencing data model and the structure and uses of routes and events)
- Measures (Working with linear measures along a line; Creating routes)
- Hatching (Labeling and putting markers along routes and measures along a route)

### Complex Routes and Events

- Creating Complex Routes from existing features (Creating routes; updating routes; Setting measure values)
- Point and Line Event Tables (Creating point and linear event tables; Using existing polygon and point feature classes to create event tables)
- Displaying Events (Displaying events along a route; Working with colors and symbols for routes and events)

- Event Table Calculations (Making edits to event tables)

#### Route Edits and Calibration

- Measure Calculations (Updating measures along a route)
- Route Edits (Editing routes)
- Calibrations (Recalibrating routes)

#### Route Tools and Analysis

- Linear Referencing Toolbox (Using the Linear Referencing Toolbox for creating and maintaining routes and events)
- Route Event Geoprocessing Wizard (Using the Route Event Geoprocessing Wizard)

## **Prerequisites and recommendations**

Students should be familiar with the basic use of ArcGIS 10.X, including the topics covered in the **Fundamentals of ArcGIS** class. Students should also be familiar with basic editing concepts and tools.