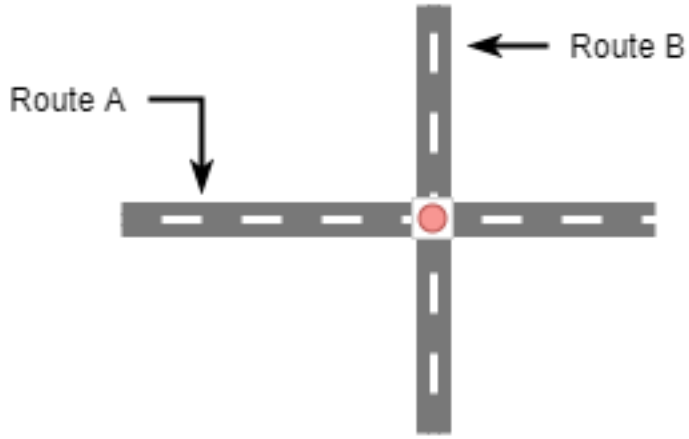
Using the Fix Intersections as Referents in LRS Events tool

An Overview of Intersections and Referents in ArcMap

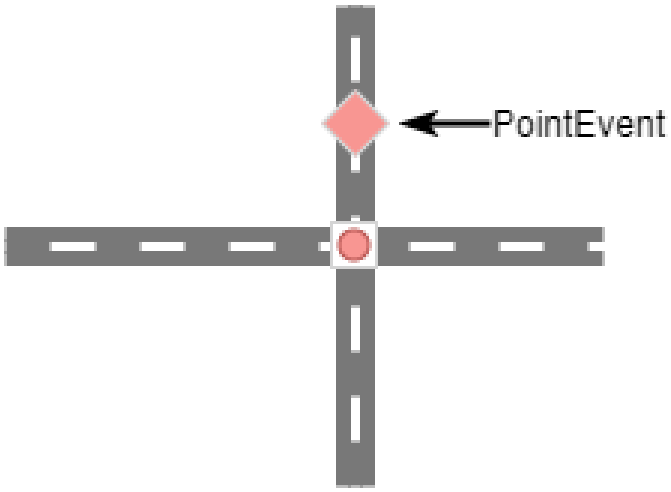
In ArcMap, intersection features were represented by several records in the attribute table of an LRS Intersection feature class. Consider the following intersection of two routes: Route A and Route B.



The red point represents the intersection of Route A and Route B. In ArcMap, there will be two overlapping points at the intersection of these routes. Each of these records would have their own IntersectionName and IntersectionID values in the attribute table for the LRS Intersection feature class.

IntersectionName	**IntersectionID**
Route A, Route B	{AAAAAAAAAAAAAAA}
Route B, Route A	{BBBBBBBBBBBBBBB}

An LRS event's location can be referent to some other location. In other words, you can describe the location of an event by describing its distance from another location. For example, you could describe a Traffic Accident Event as "1.26 miles from intersection 10th,Main". We can add an LRS event to the diagram above to show how referent events work in ArcMap.



Let's assume that this LRS event is referent to the Intersection with an IntersectionID of {BBBBBBBBBBBBBBB}. The attribute table for this Event might look something like the following.

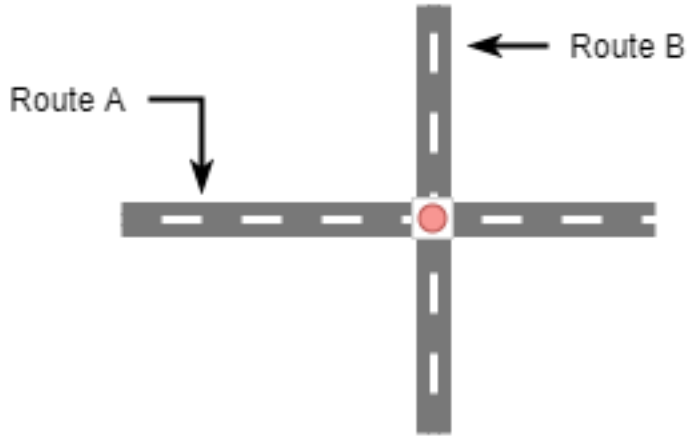
EventID	RouteID	Measure	RefMethod	RefLocation	RefOffset
PointEvent	Route B	1.26	Intersections	{BBBBBBBBBBBBBBB}	0.3

Notice how this LRS Event is referent to only *one* of the Intersection points present in the Intersection feature class.

IntersectionName	IntersectionID
Route A, Route B	{AAAAAAAAAAAAAAA}
Route B, Route A	{BBBBBBBBBBBBBBB}

Changes to Intersections in ArcGIS Pro

There are several important differences to note when using Intersections in ArcGIS Pro compared to ArcMap. The biggest of these differences is that intersections between routes are represented by a single point record, rather than several as was the case in ArcMap. Let's consider the previous example again, but this time, in ArcGIS Pro.



IntersectionName	IntersectionID
Route A, Route B	{AAAAAAAAAAAAAAA}

In ArcGIS Pro, the attribute table for the Intersection feature class contains a single record for the intersection of Route A and Route B. This greatly simplifies the dataset for Intersections in ArcGIS Pro. Recall, however, in the previous example that the LRS event placed on Route B was referent to the Intersection feature with an IntersectionID of {BBBBBBBBBBBBBBB}. Since the Intersection feature with the IntersectionID of {BBBBBBBBBBBBBBB} is no longer present in the new ArcGIS Pro Intersection feature class you need to update the ReferentLocation field of the Event records to correspond with an existing Intersection feature in the new dataset.

The Fix Intersections as Referents in LRS Events tool

To address issues migrating referent LRS events from ArcMap to ArcGIS Pro, Esri has developed a tool that can update ArcMap referent events given a dataset of ArcMap Intersection features and new ArcGIS Pro Intersection features. The tool, called the Fix Intersections as Referents in LRS events, is part of the LRS Migration Python toolset This tool is intended to be run only once as a step in a larger LRS migration.

You should run this tool on any LRS event feature class that has referent location fields configured, otherwise, the referent information from ArcMap will become out of date. If your LRS events don't have referents configured, you do not need to run this tool. If you are unsure, it is recommended that you run the tool anyway.

Usage Notes

- The Old Intersection Feature Class parameter value must be a valid ArcMap Intersection feature class populated with intersection features.

- The New Intersection Feature Class parameter must be a valid ArcGIS Pro Intersection feature class populated with intersection features.

- The LRS Event Feature Class parameter values must be valid LRS Event feature classes.

- This tool accepts parameter values from a file geodatabase or an enterprise geodatabase connection. Parameter values from a feature service or feature layer are not supported by this tool.

- You must run the Modify LRS geoprocessing tool on your ArcMap data to convert your dataset to the ArcGIS Pro LRS schema. Your LRS feature classes must also be in a controller dataset.

- After running the Modify LRS geoprocessing tool, you must run the Generate Intersections geoprocessing tool to create an ArcGIS Pro LRS schema Intersection feature class.

Tool Parameters

- Old Intersection Feature Class: The input ArcMap Intersection feature class.

- New Intersection Feature Class: The input ArcGIS Pro Intersection feature class.

- LRS Event Feature Class: The LRS Events containing referent locations that will be processed by this tool.