

ArcGIS Pro: Advanced Map Labeling

Wendy Harrison, Sally Hill and Ciara Rowland-Simms



esri | THE
SCIENCE
OF
WHERE®

2021 ESRI USER CONFERENCE

Overview

- Label classes
- Types of labeling
- Priorities and deconfliction
- Fitting strategies



Types of Text

- **What are Labels?**

- Dynamically placed by a label engine
- Change of content or map refresh generates new locations

- **What is Graphic Text?**

- Stored in graphics layer
- Editable

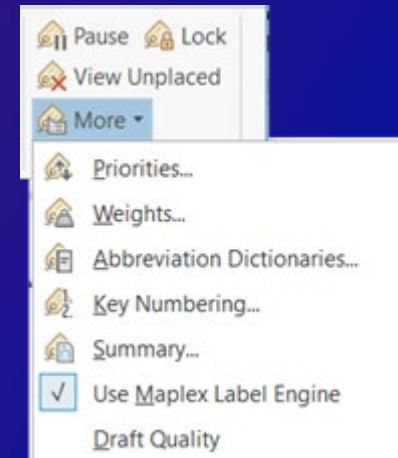
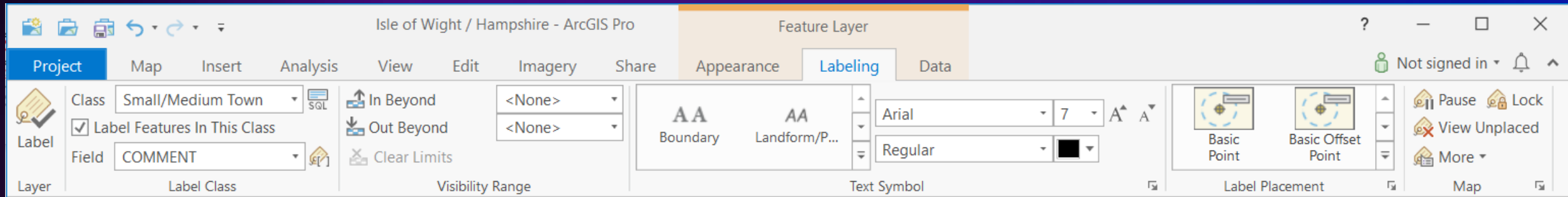
- **What is Annotation?**

- Stored text – two types – standard and feature-linked
- Editable



Labeling Ribbon

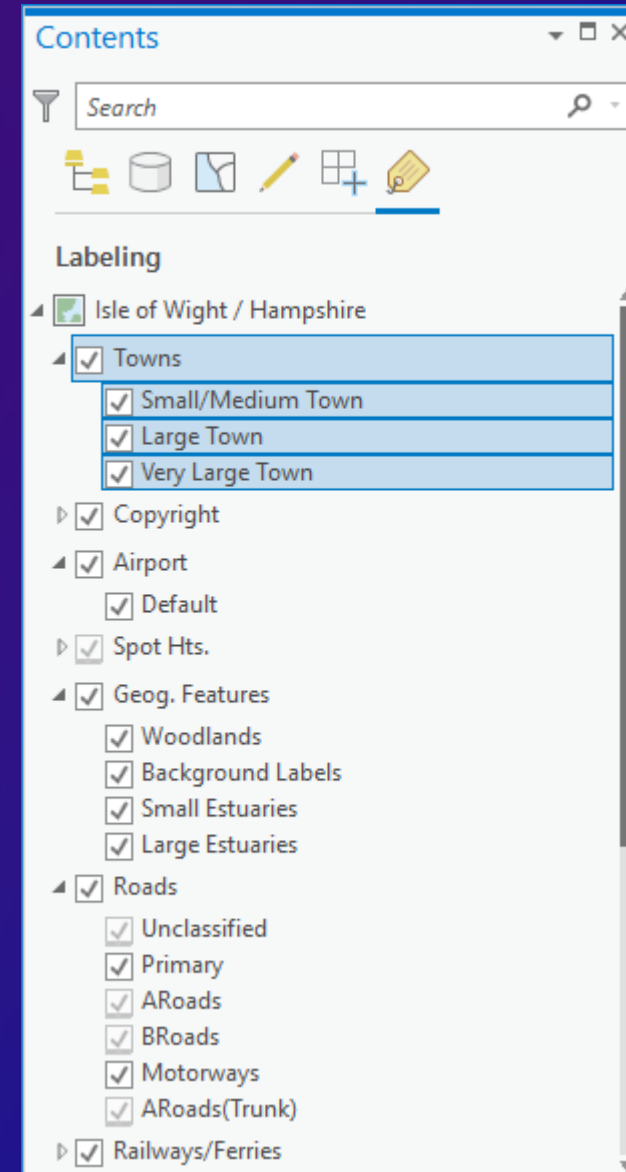
Access to the frequently used label class properties



Labeling View of the Contents pane




Best place to select and manage your labels classes

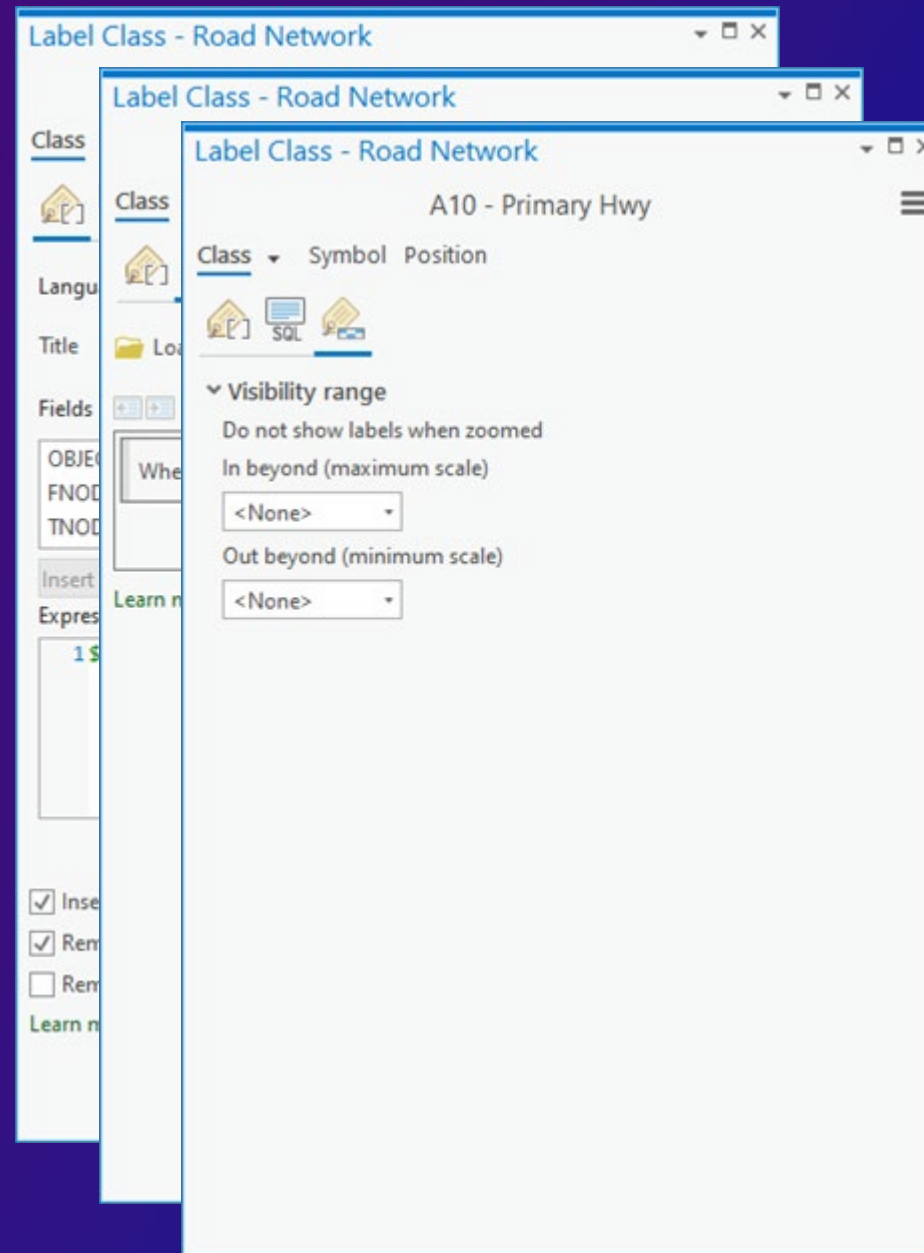
- **View label classes**
- **Add, remove or rename a label class**
- **Duplicate label class**
- **Copy and paste properties**
- **Reorder**
- **Multi-select workflow**



Label Class Pane



Class tab

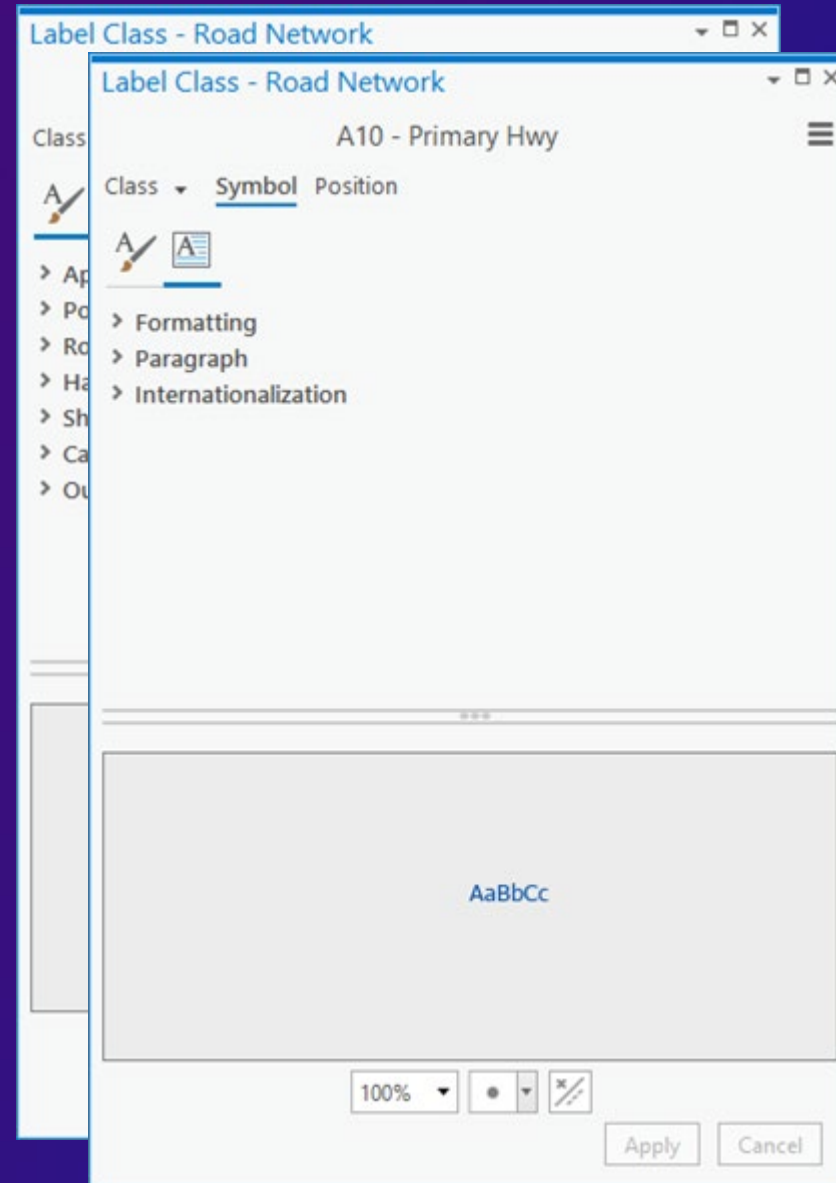
- **Label expression** 
 - specifies how to extract the label text from the feature attributes
- **SQL query** 
 - defines the set of features to label
- **Visibility range** 
 - scale range of labels



Label Class Pane




Symbol tab

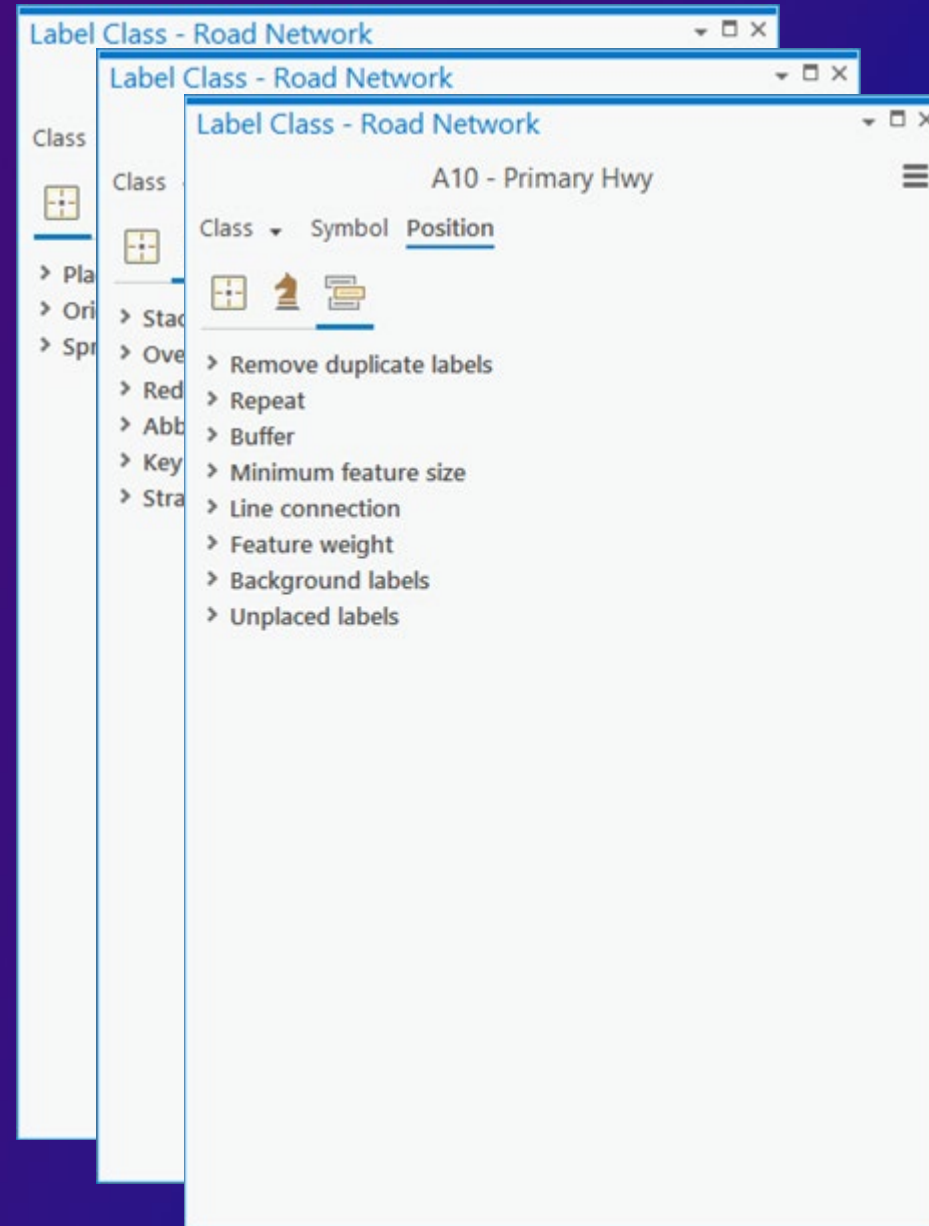
- **General** 
 - font
 - halo properties
 - shadow properties
 - callout properties
 - overprint
- **Formatting** 
 - word spacing
 - indenting paragraphs
 - text direction (right to left)



Label Class Pane

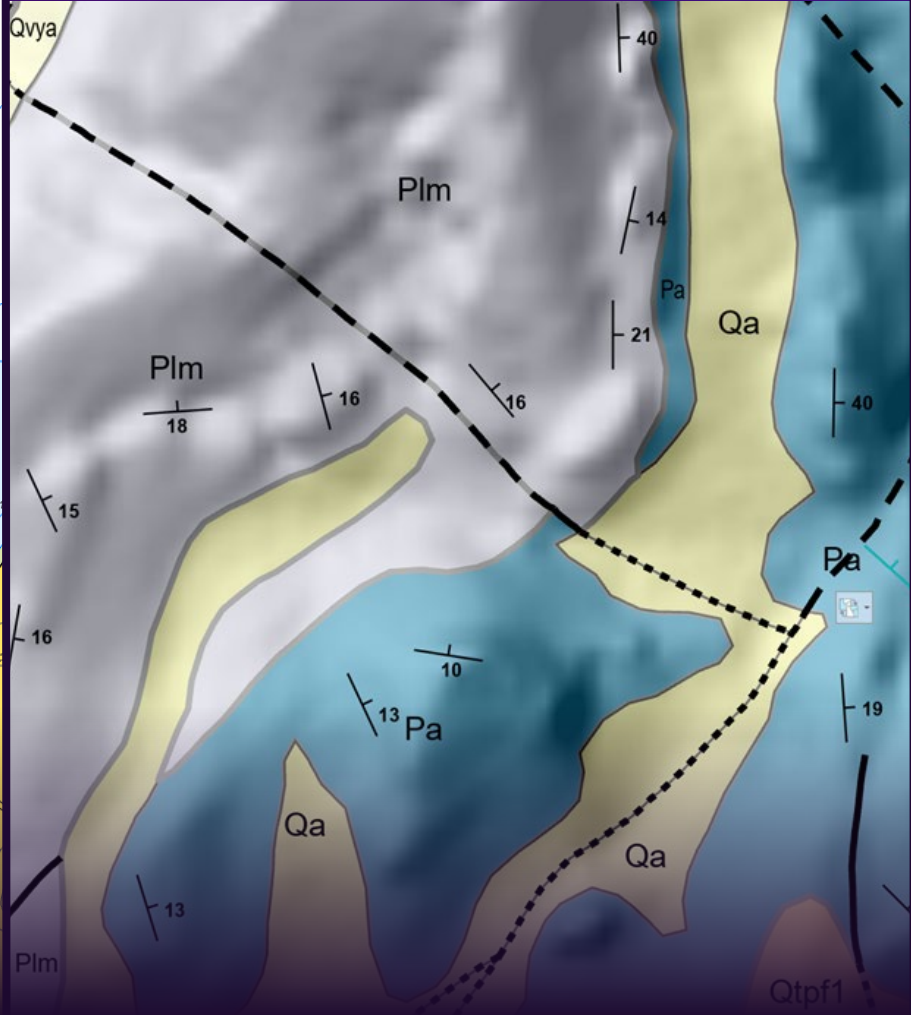
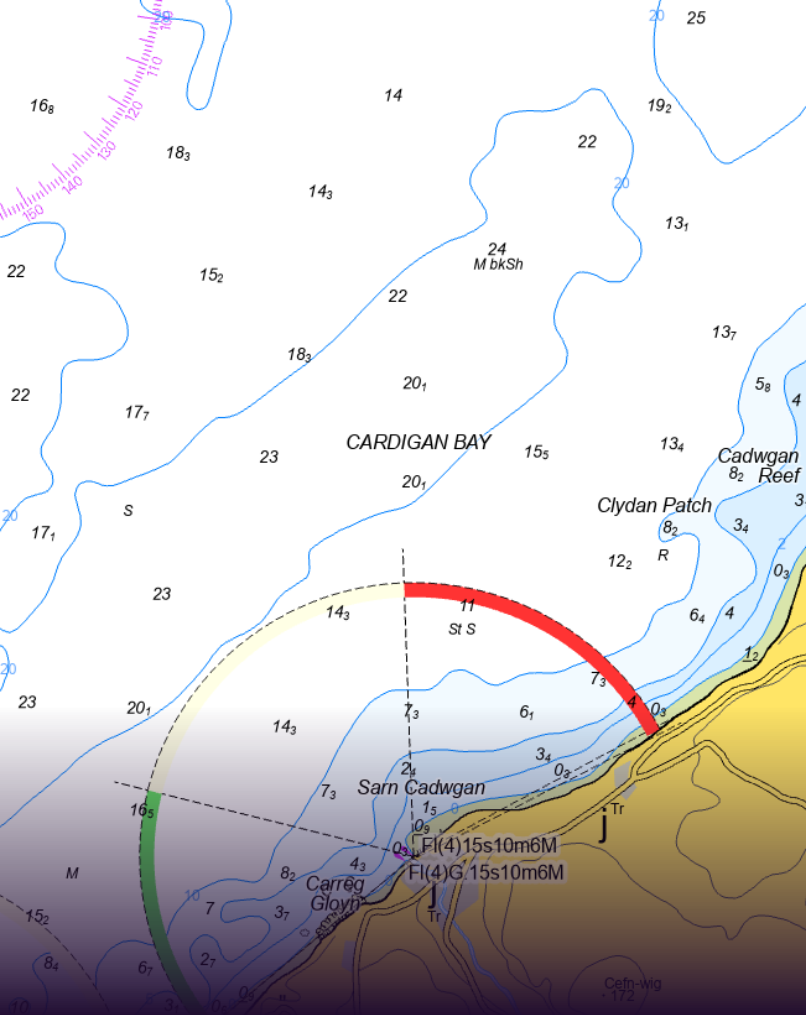
Position tab

- **Position** 
 - where does the label go?
- **Fitting Strategies** 
 - how to make the label fit?
- **Conflict Resolution** 
 - which label places when multiple are competing for space?
 - how densely to place the labels?



Types of Labeling

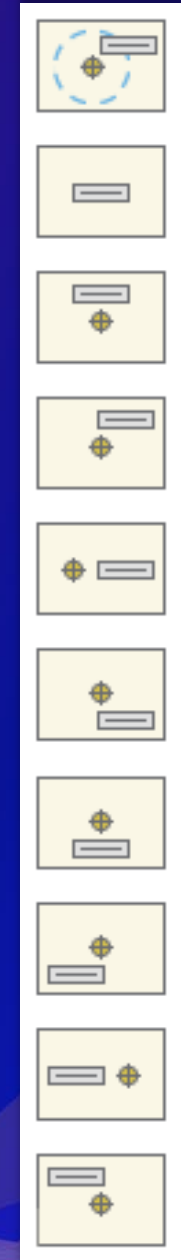
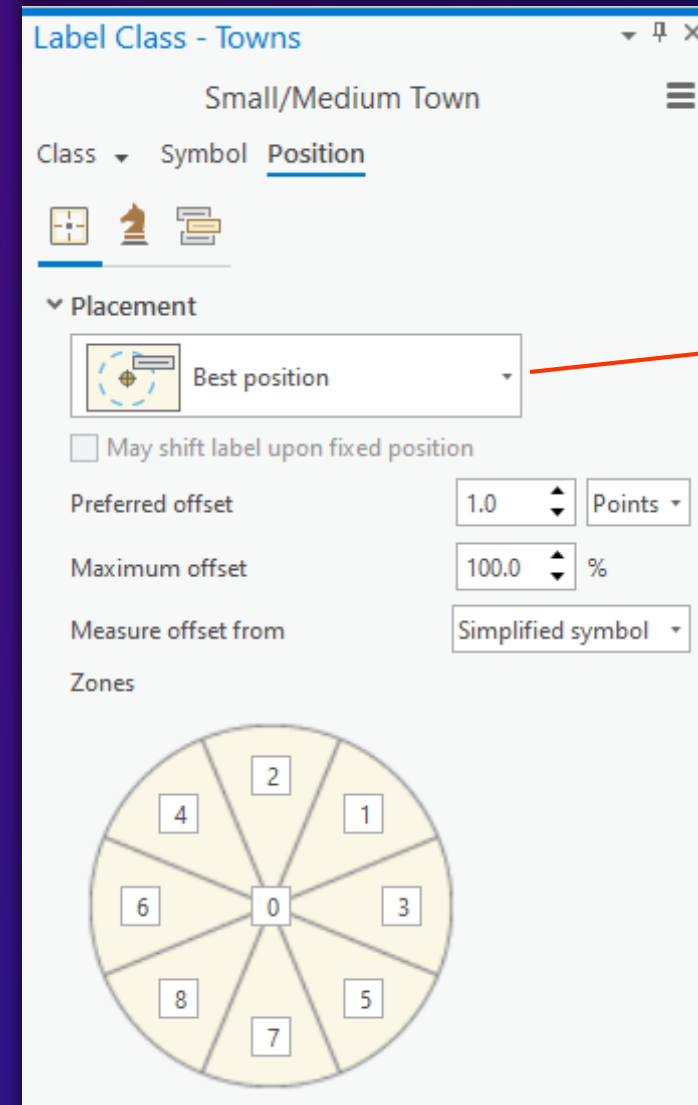
Points, polygons and lines



Point Labeling

Point Labeling

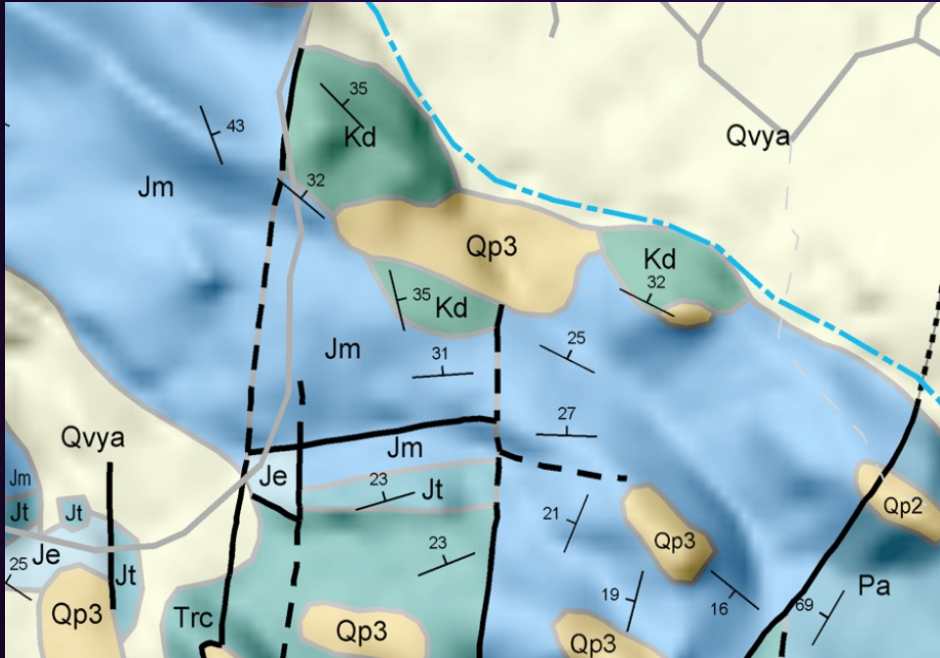
- **Default positioning is best position**
 - Control over which zone is preferred
 - Cartographic preference often top right
 - Zone grid (1- 9 preference, 0 to block)
- **Fixed positions**
 - Centered on the point
 - Cardinal positions around the point



Point Label Rotation

Angle the label using an attribute in the data

- Select the field or use an expression to set the angle
- Select the alignment
 - Horizontal, Straight or Perpendicular



Label Class

Minor Geologic Formations - Default

Class ▼ Symbol Position

Placement Orientation Rotation

Rotation field Azimuth X

Additional rotation 90°

Rotation type Geographic

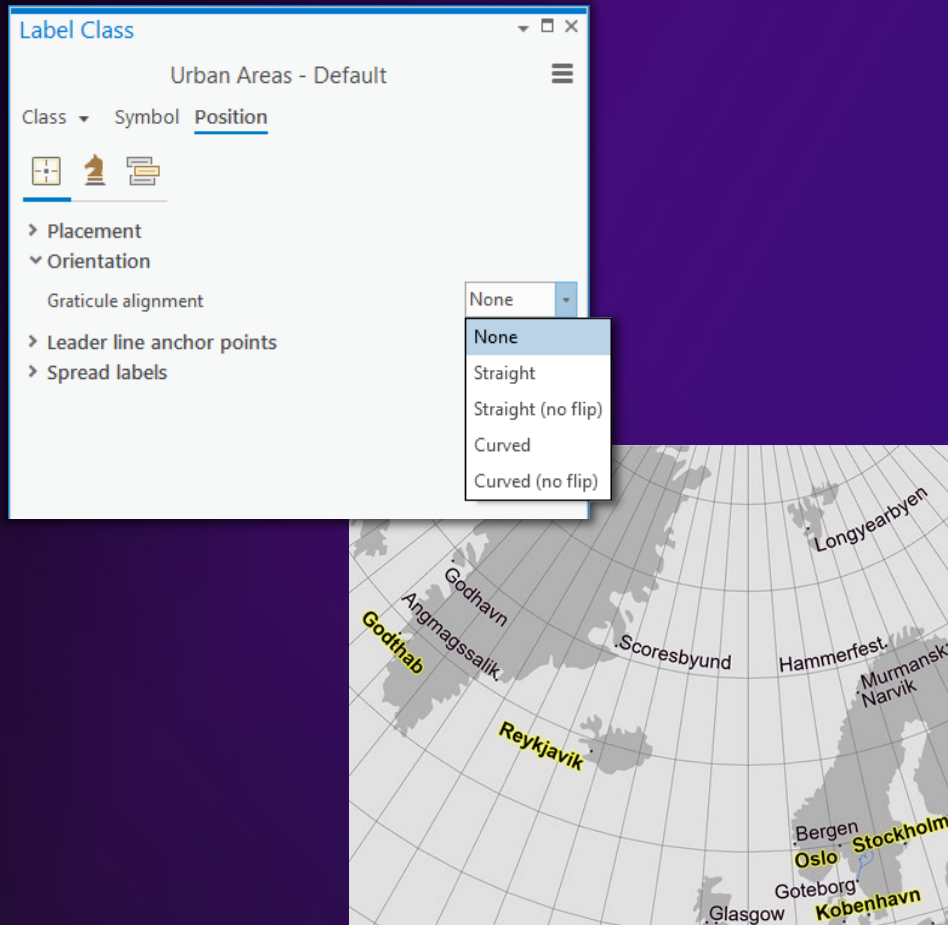
Alignment type Horizontal

☒ Keep label upright (may flip)

Label Orientation

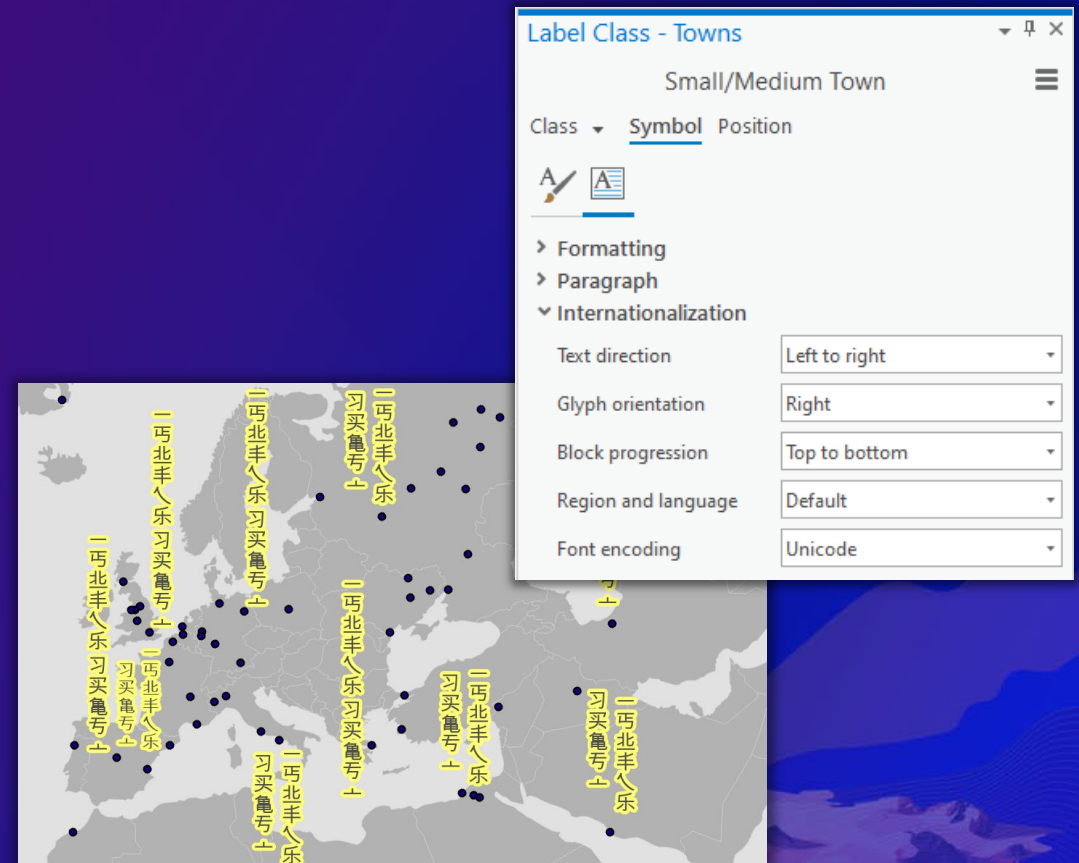
Applies to any label with a horizontal style

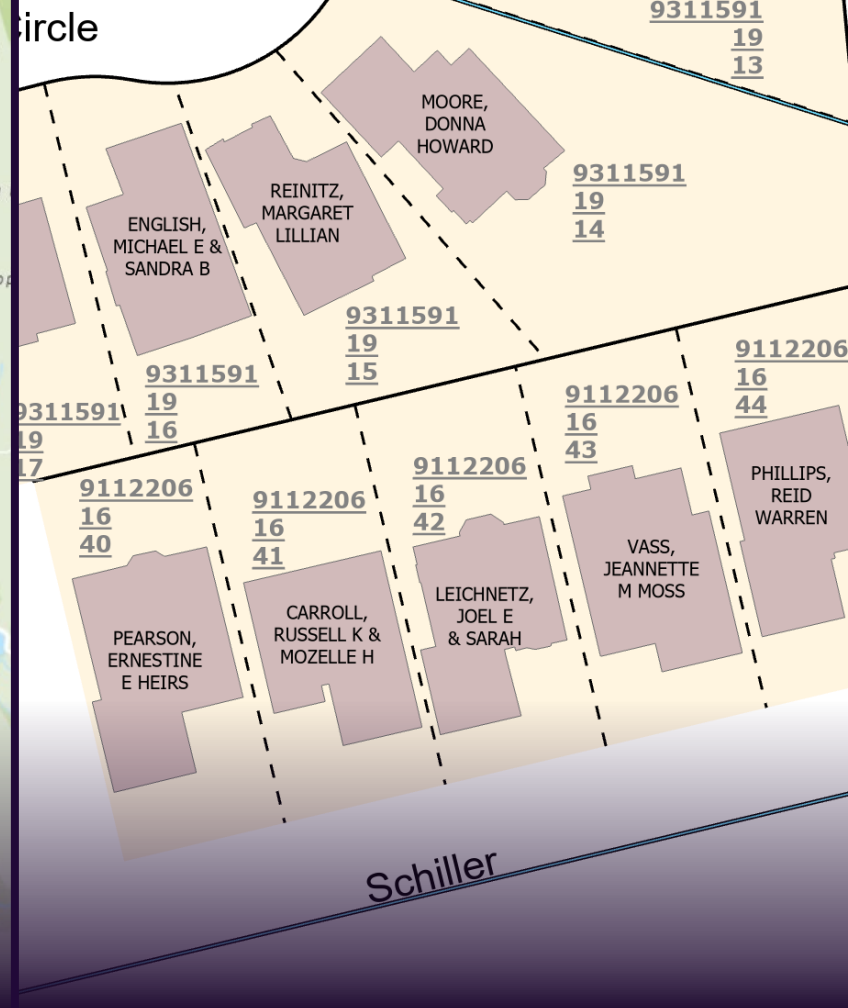
- Graticule alignment



- Vertical text placement

- East Asian languages
- Font must have vertical text metrics





Polygon Labeling

Polygon Labeling

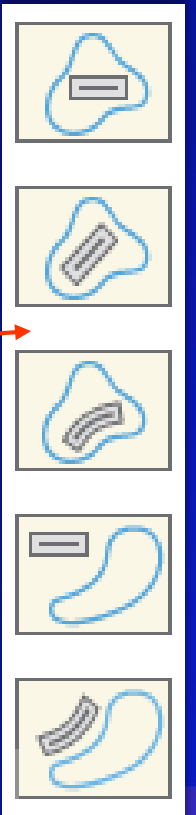
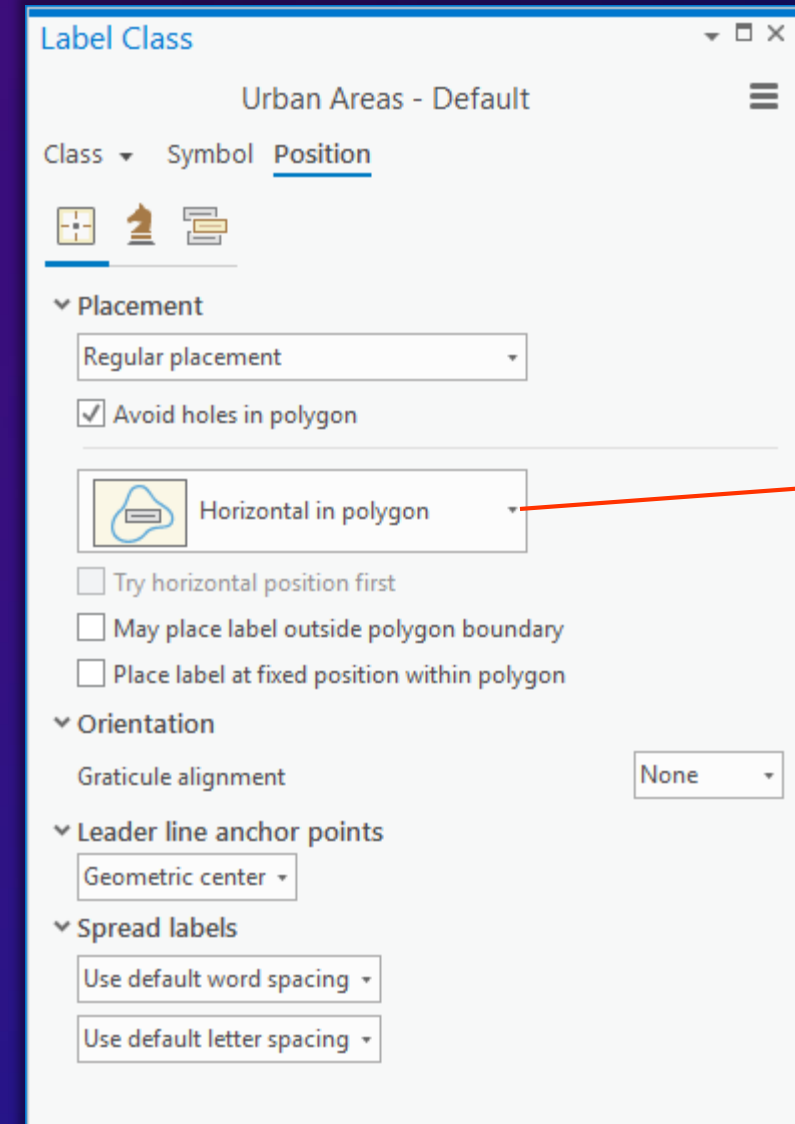
- **Placement Types**

- Regular placement
- Land parcel placement
 - *only useful if you have building footprints
- River placement
- Boundary placement



- **Positions**

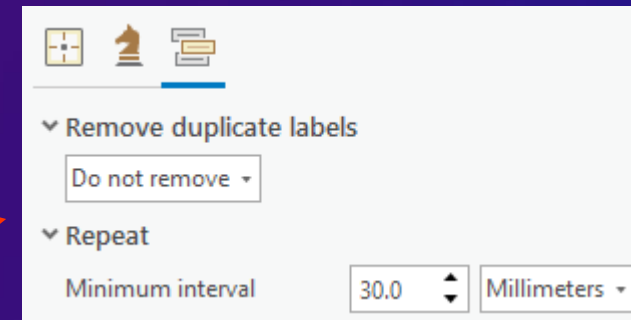
- Centered or offset
- Various orientations (horz, straight, curved)
- Straight and curved good for spatial extent



Polygon Boundary Labeling

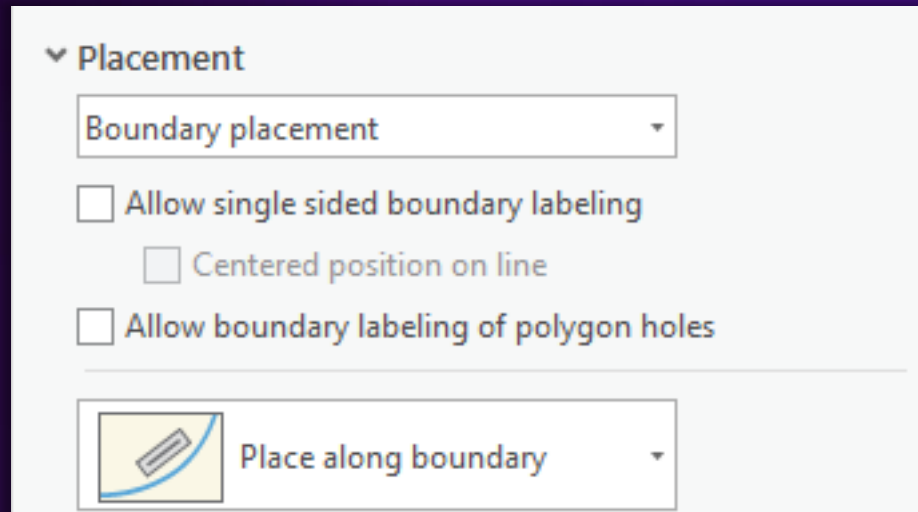
Adjacent polygons are labeled at their boundary

- Internally generates boundary line
- Option to repeat labels at an interval
- Single sided boundaries and holes are optionally labeled



Remove duplicate labels
Do not remove ▾


Repeat
Minimum interval 30.0 ▴ ▾ Millimeters ▾

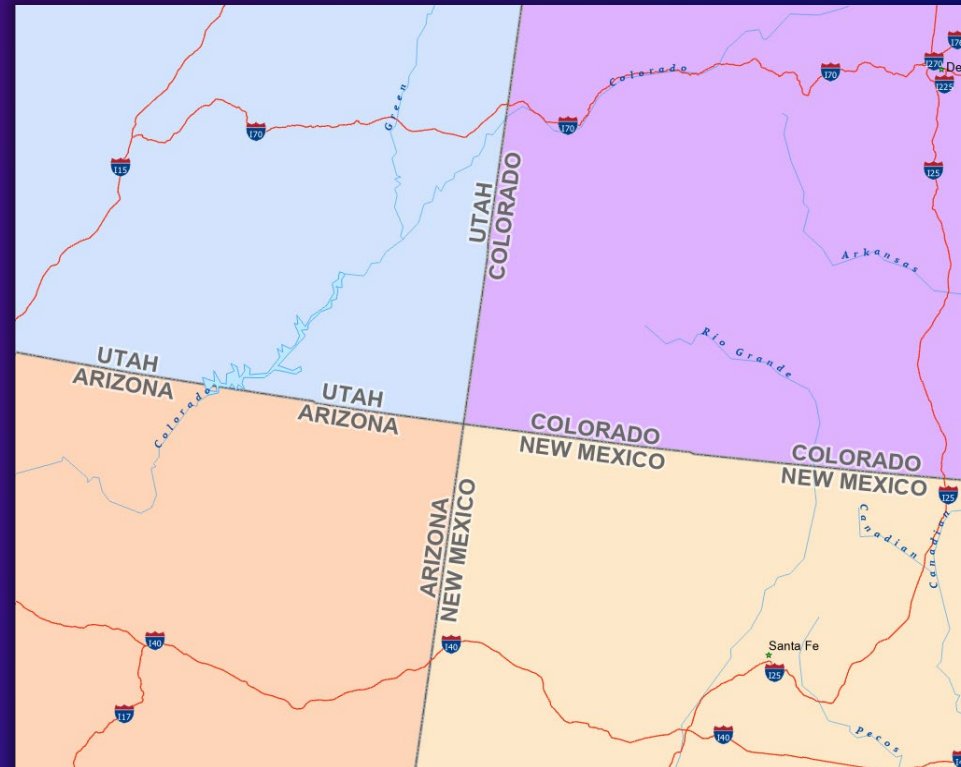


Placement
Boundary placement ▾

☐ Allow single sided boundary labeling
☐ Centered position on line

☐ Allow boundary labeling of polygon holes

 Place along boundary ▾



Fixed Position Within a Polygon


- **Place label at fixed position within polygon**
 - Specify internal zones
 - Refers to the unclipped polygon
- **Best with rectangular features**

	37120-E1 37120-A1	37119-E1	37118-E1 37118-A1
	36120-E1	37119-A1 36119-E1	36118-E1
	36120-A1	36118-A1	36118-A1
	35120-E1	36119-A1 35119-E1	35118-E1

▼ Placement

Regular placement ▼

☒ Avoid holes in polygon

 Horizontal in polygon ▼

☐ Try horizontal position first

☐ May place label outside polygon boundary

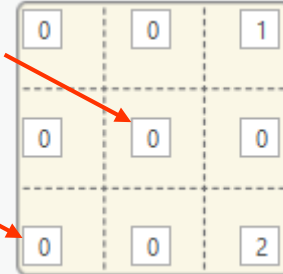
☒ Place label at fixed position within polygon

Preferred offset

Maximum offset %

☐ Measure offset from the feature geometry

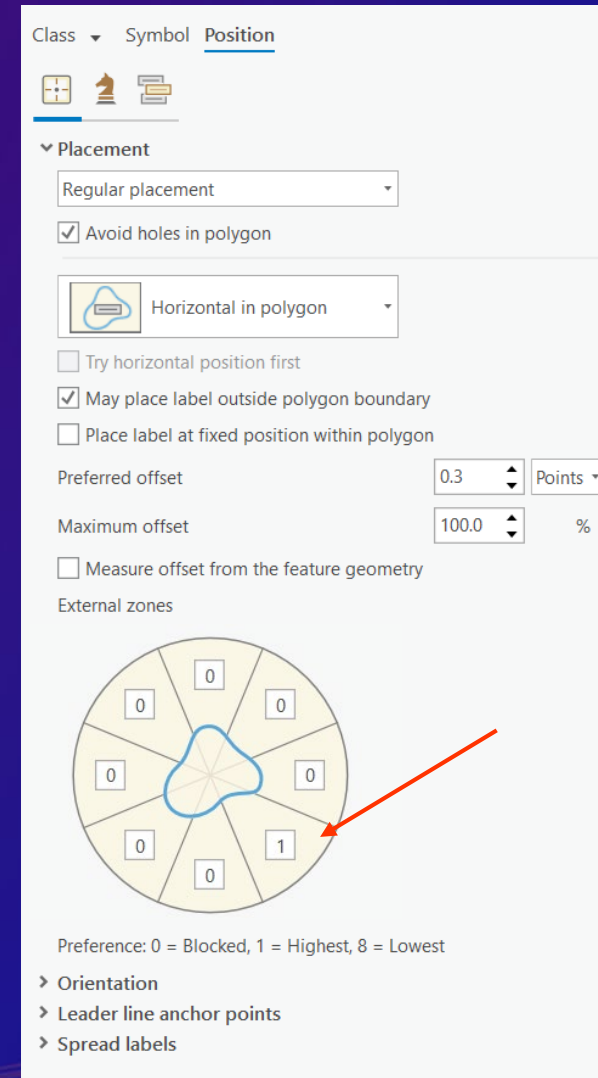
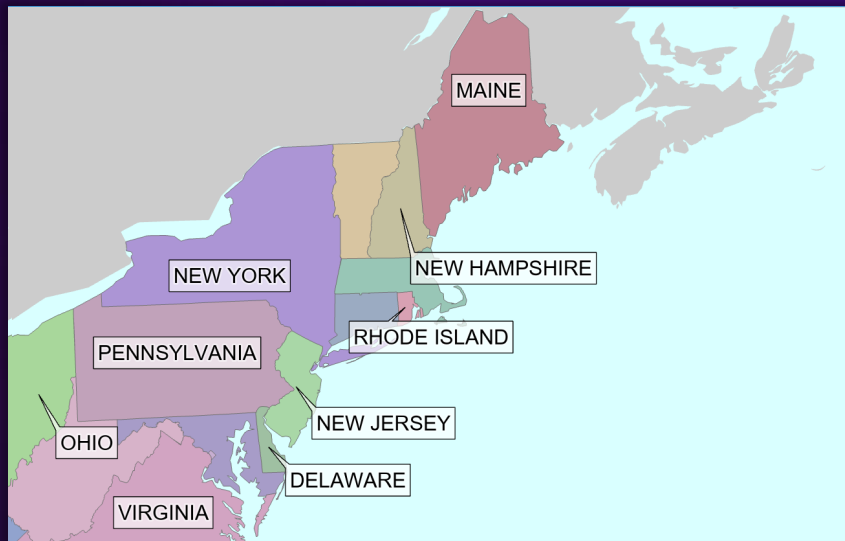
Internal zones



Preference: 0 = Blocked, 1 = Highest, 9 = Lowest

Fixed Position Outside of the Polygon

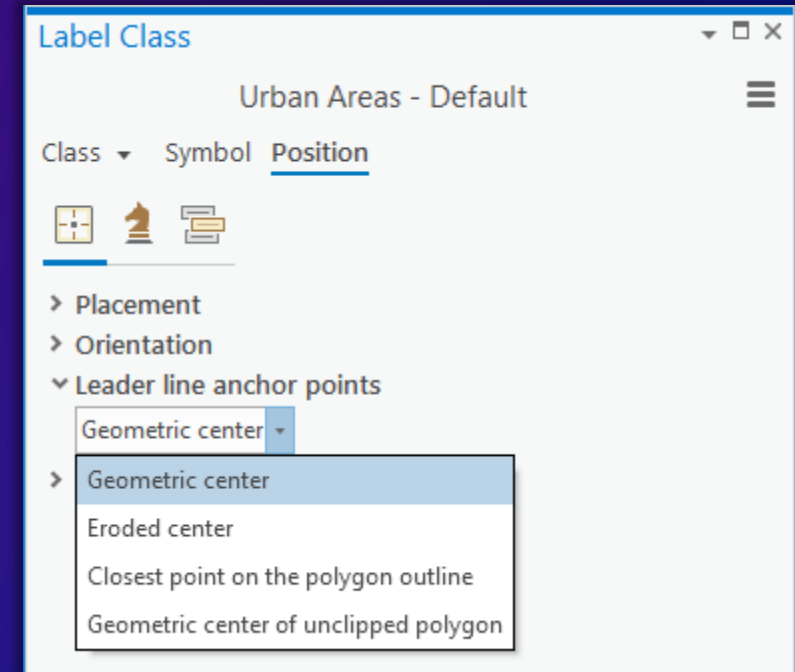
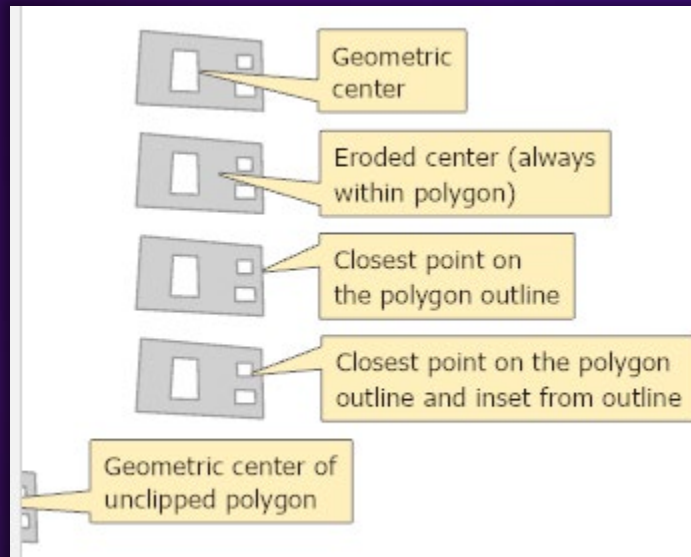
- **Similar to placing a label around a point**
 - Specify external zones
- **May place label outside of the polygon**
 - Mixed size features such as lakes
- **Often used with a leader line style**

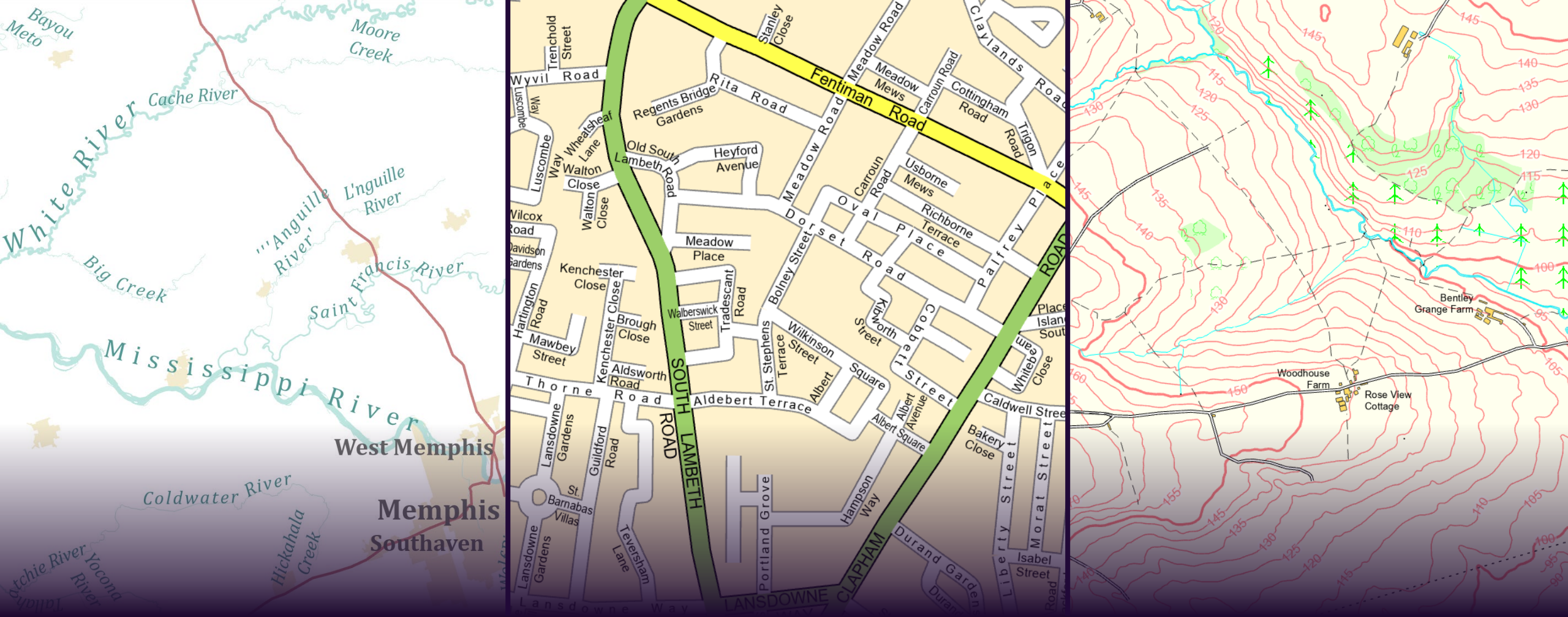


Polygon Leader Anchor Points

Controls the position of the anchor point on the feature

- **Closest point to polygon outline**
- **Anchor point within the polygon**
 - Depends on complexity of polygon (holes)
 - Clipped or unclipped polygon





Line Labeling

Line Label Position

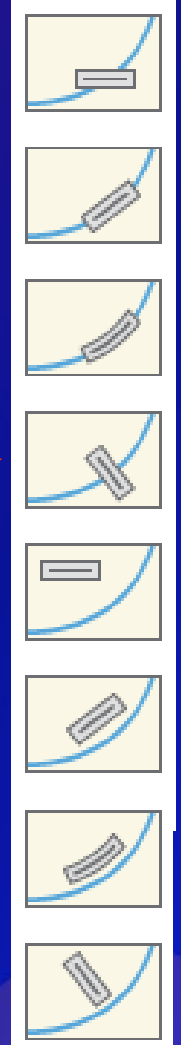
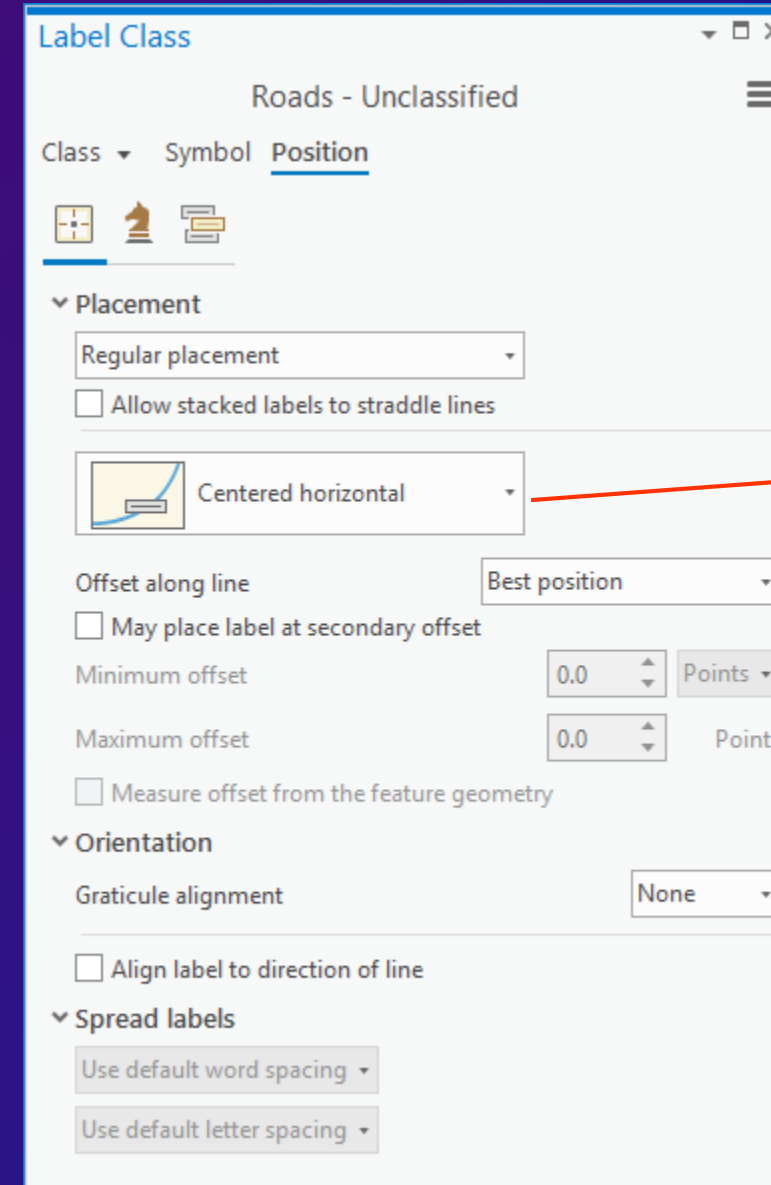
Options for placing a label on a line feature.

- **Placement types**

- Regular placement
- Street placement
- Street address placement
- Contour placement
- River placement

- **Positions**

- Centered or offset
- Various orientations
 - Horizontal, straight, curved, perpendicular



Line Label Offset

- **Offset label from the line**
 - Preferred offset
 - Constrain the label to one side of the feature
 - Measure offset from geometry or symbol
- **Offset label along the line**
 - Default is best position along the line
 - Prefers central, smooth section
 - Fixed position
 - Offset distance
 - Measure to left, center or right of label
 - Tolerance to give some freedom of movement

Label Class

Roads - Unclassified

Class ▼ Symbol Position

Placement

Regular placement ▼

☐ Allow stacked labels to straddle lines

Offset straight ▼

Primary offset 1.0 Points ▼

Constrain offset No constraint ▼

☐ Measure offset from the feature geometry

Offset along line Along line from start ▼

Measure to Center of label ▼

Distance 0.0 Percent ▼

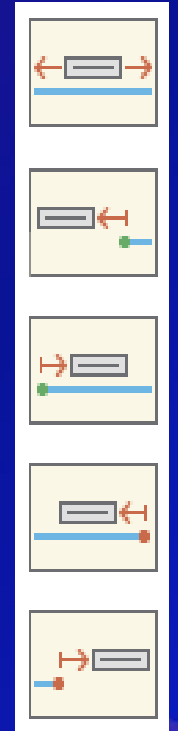
Tolerance (+\-) 0.0 Percent

☒ Use line direction

☒ May place label at secondary offset

Minimum offset 0.0 Points

Maximum offset 0.0 Points



Street Labeling

Where you categorize a line as a street feature

- **Street Feature Type**

- Different placement methods
- End of street clearance
- Automatically spread words and/or characters
- *Special rules for line connection*

Label Class - Road Network

Class 1

Class ▾ Symbol Position

▾ Placement

Regular placement ▾

☐ Allow stacked labels to straddle lines

Offset curved ▾

Primary offset 1.0 ▾ Points ▾

Constrain offset Above line ▾

☐ Measure offset from the feature geometry

Offset along line Best position ▾

☐ May place label at secondary offset

Minimum offset 0.0 ▾ Points

Maximum offset 0.0 ▾ Points

> Orientation

▾ Spread labels

Use default word spacing ▾

Use default letter spacing ▾

Label Class - Road Network

Class 1

Class ▾ Symbol Position

▾ Placement

Street placement ▾

☐ May place label horizontal and centered on the street

☐ Reduce the leading of stacked labels that overrun the end of the street

☐ May place primary name under street ending when label is stacked

End of street clearance

Minimum 0 ▾ %

Preferred 0 ▾ %

Offset curved ▾

Primary offset 1.0 ▾ Points ▾

☐ Measure offset from the feature geometry

☐ May place label at secondary offset

Minimum offset 0.0 ▾ Points

Maximum offset 0.0 ▾ Points

> Orientation

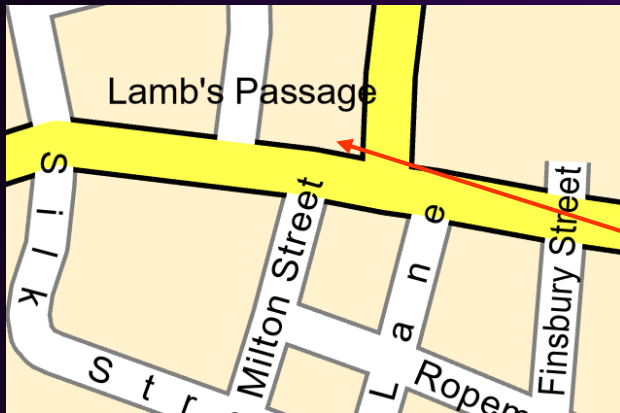
▾ Spread labels

Use default word spacing ▾

Use default letter spacing ▾

Street Placement

Where you categorize a line as a street feature



Label Class - Road Network

Class 1

Class Symbol Position

Placement

Street placement

☐ May place label horizontal and centered on the street

☐ Reduce the leading of stacked labels that overrun the end of the street

☐ May place primary name under street ending when label is stacked

End of street clearance

Minimum 0 %

Preferred 0 %

Centered curved

☐ May place label at secondary offset

Minimum offset 0.0 Points

Maximum offset 0.0 Points

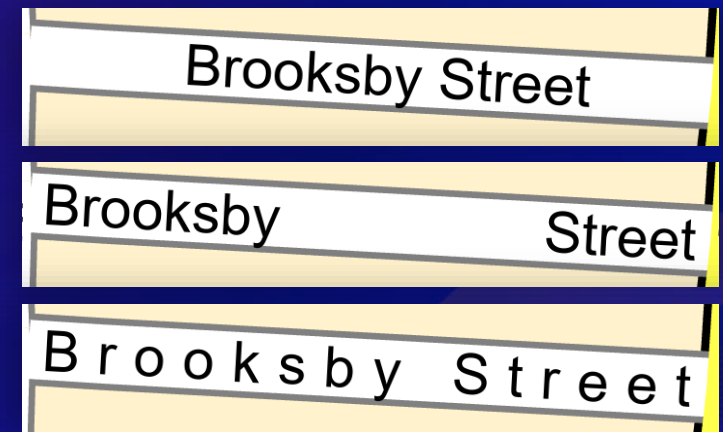
☐ Measure offset from the feature geometry

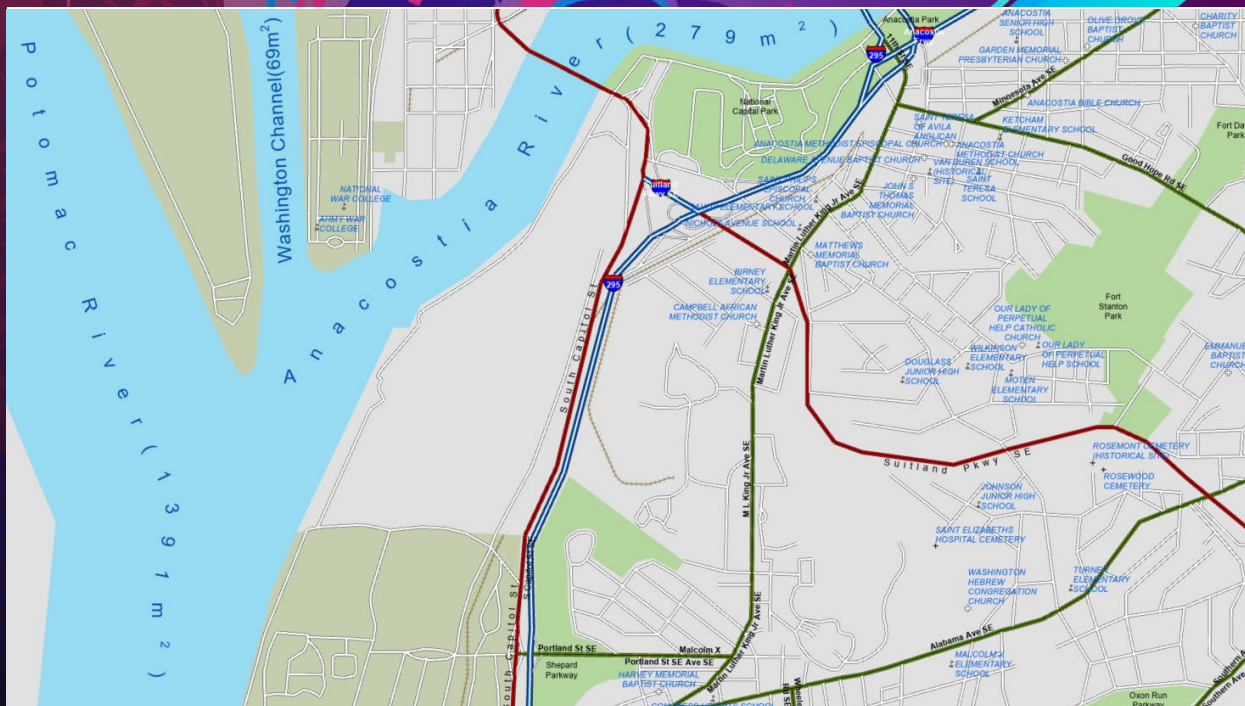
Orientation

Spread labels

Use default word spacing

Use default letter spacing





Placement Styles Demo

Conflict Resolution

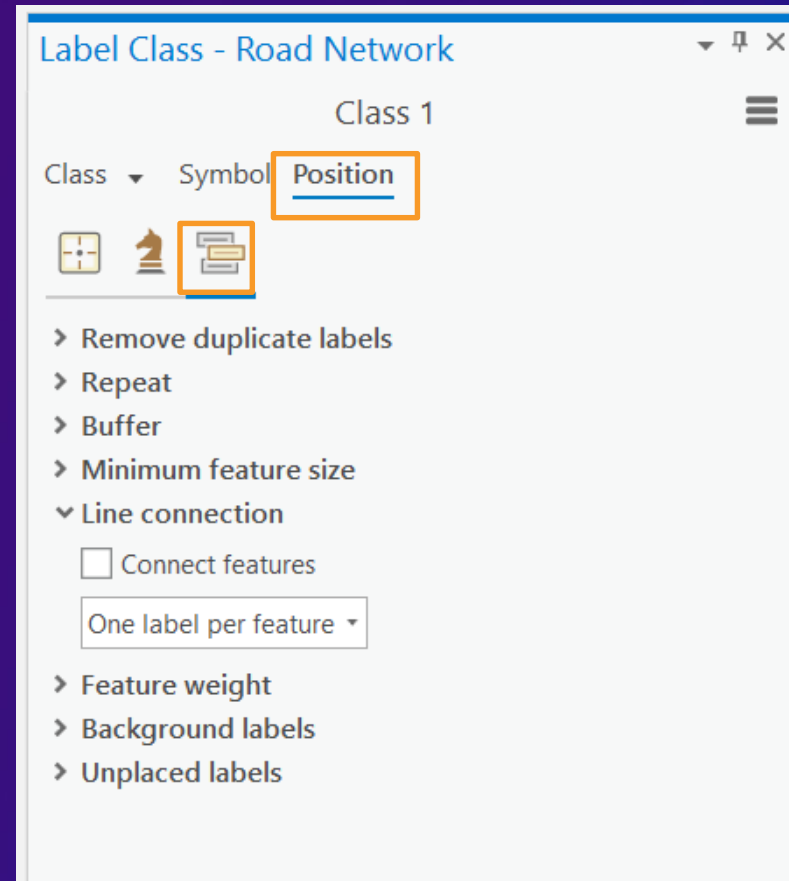
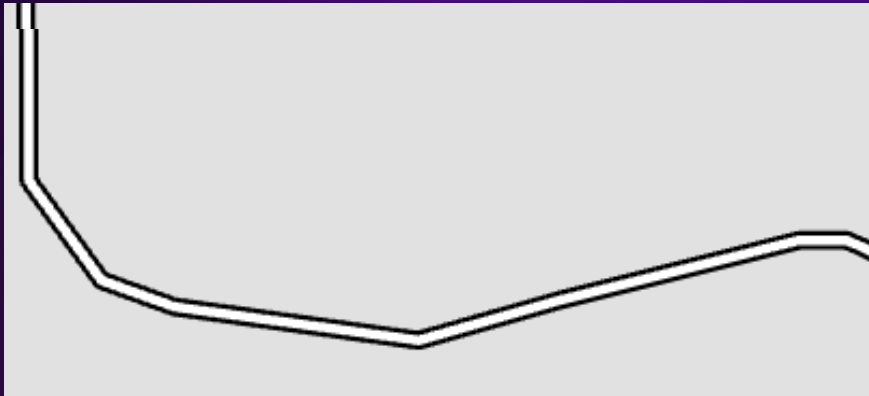
Managing Label Density



Label Density – Line Layers

Conflict resolution tab

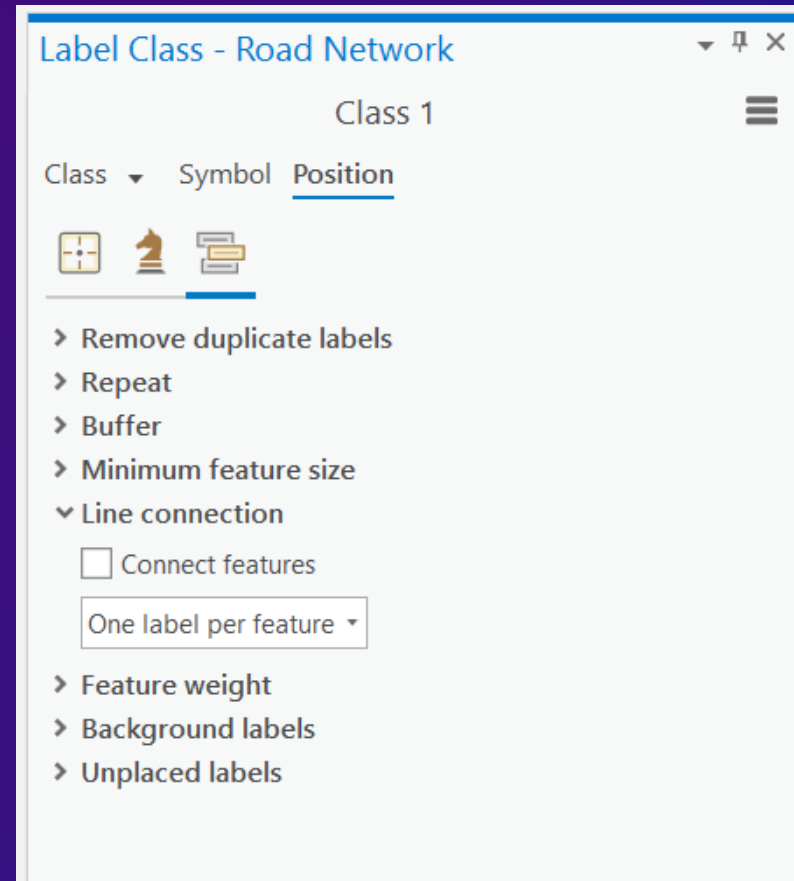
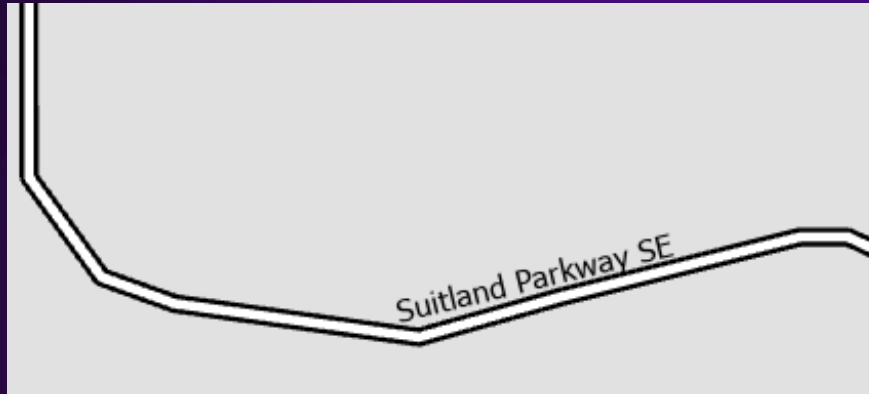
- **Line connection**
 - Connected features



Label Density – Line Layers

Conflict resolution tab

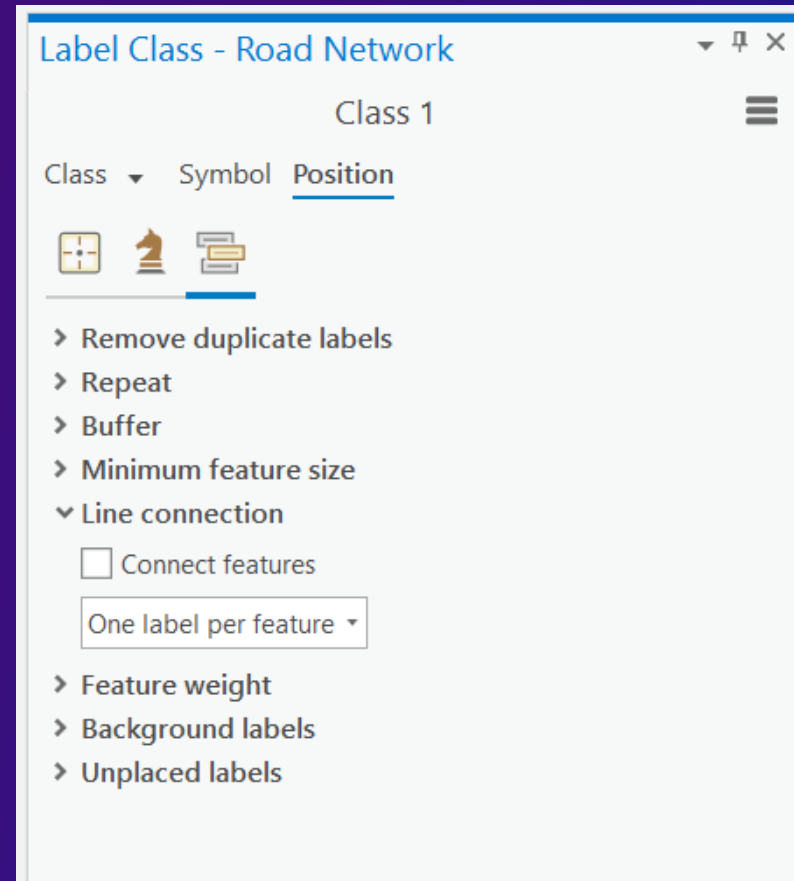
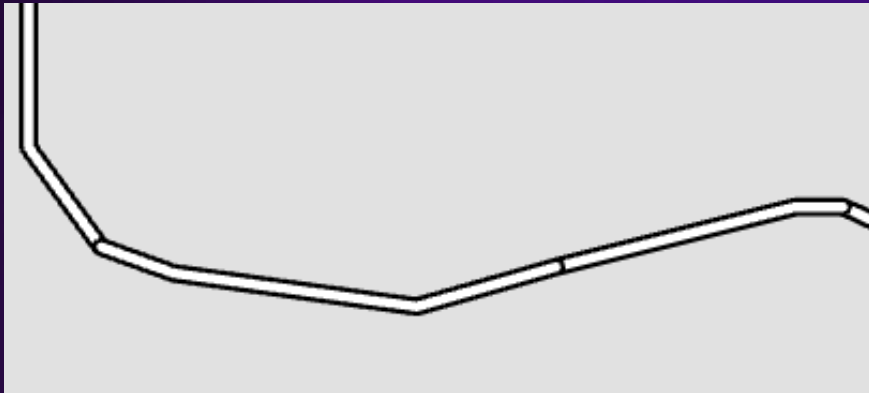
- **Line connection**
 - Connected features



Label Density – Line Layers

Conflict resolution tab

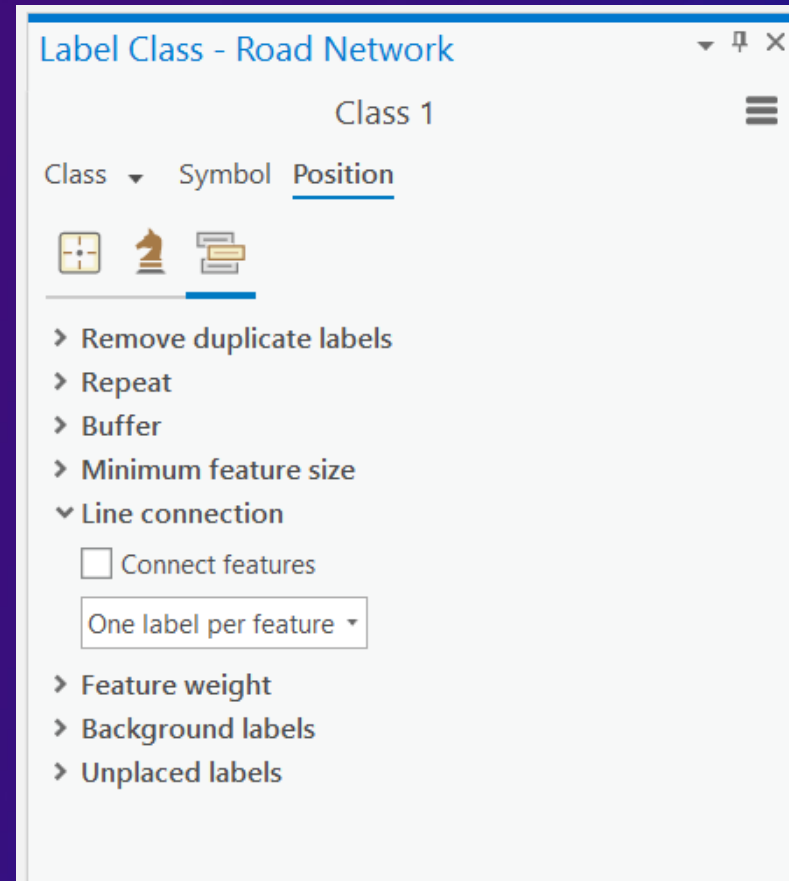
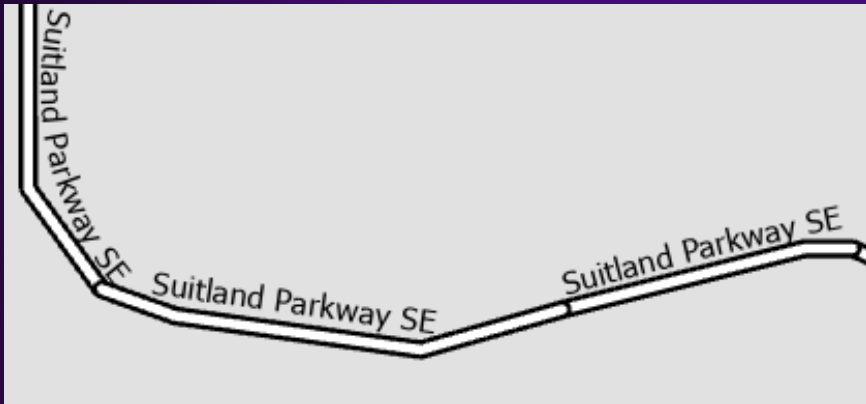
- **Line connection**
 - Connected features



Label Density – Line Layers

Conflict resolution tab

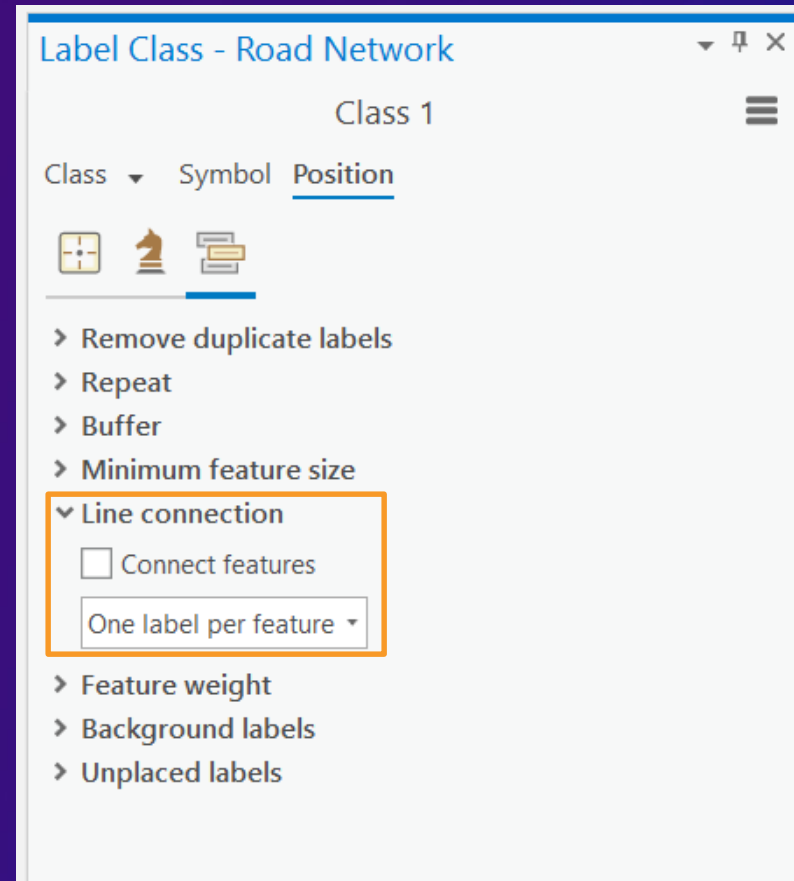
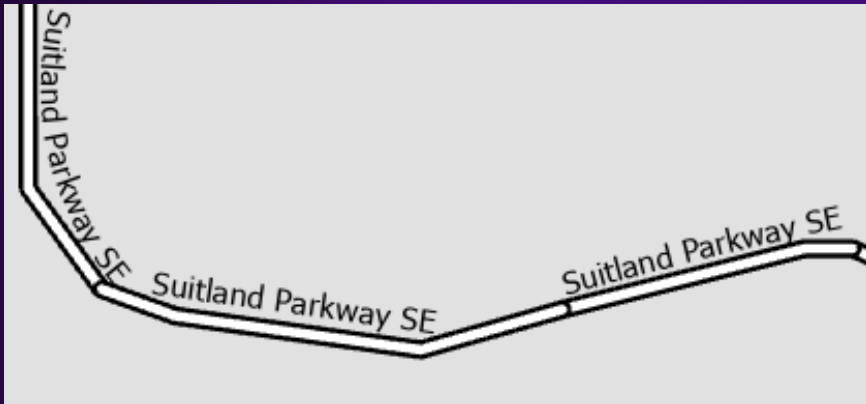
- **Line connection**
 - Connected features



Label Density – Line Layers

Conflict resolution tab

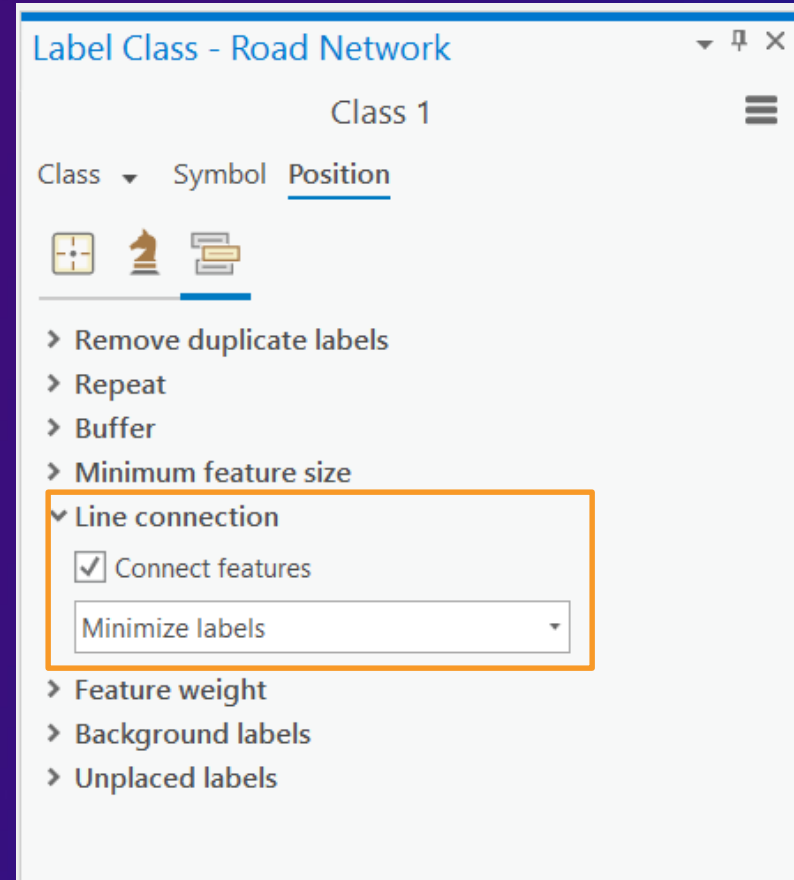
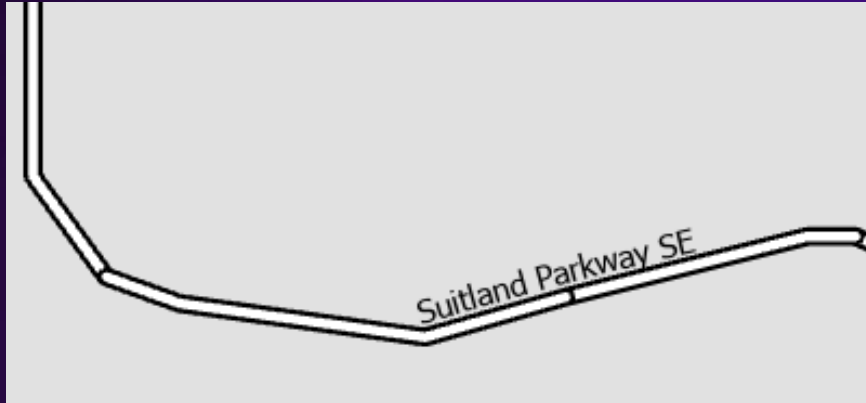
- **Line connection**
 - Connected features



Label Density – Line Layers

Conflict resolution tab

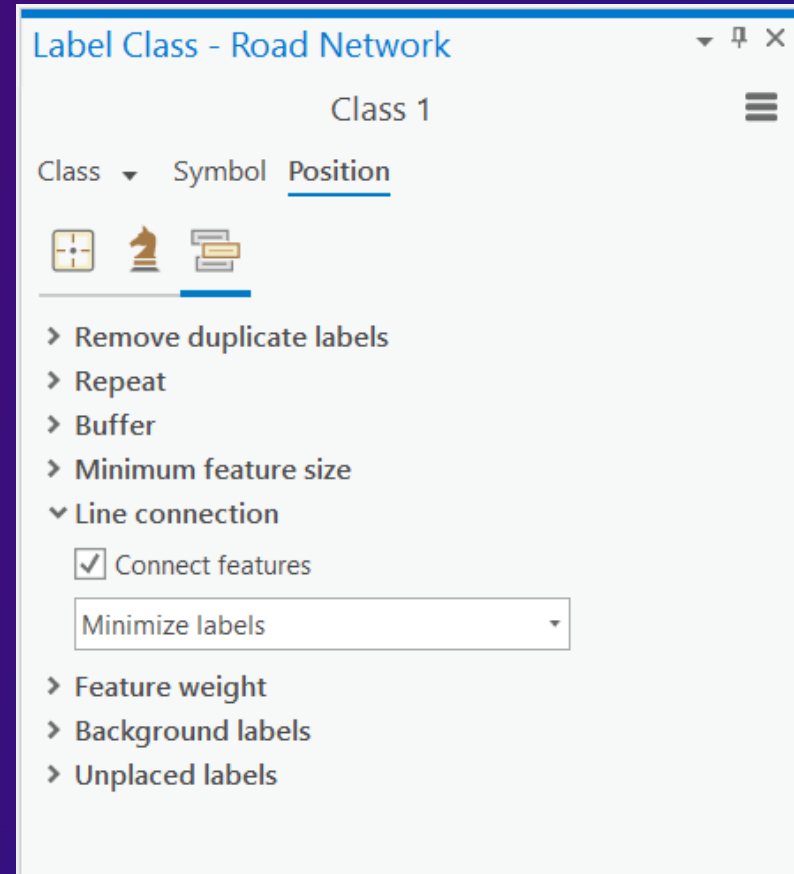
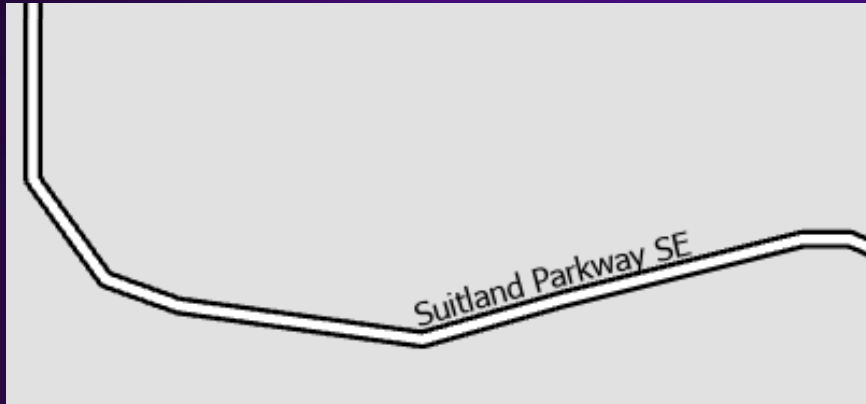
- **Line connection**
 - Connected features



Label Density – Line Layers

Conflict resolution tab

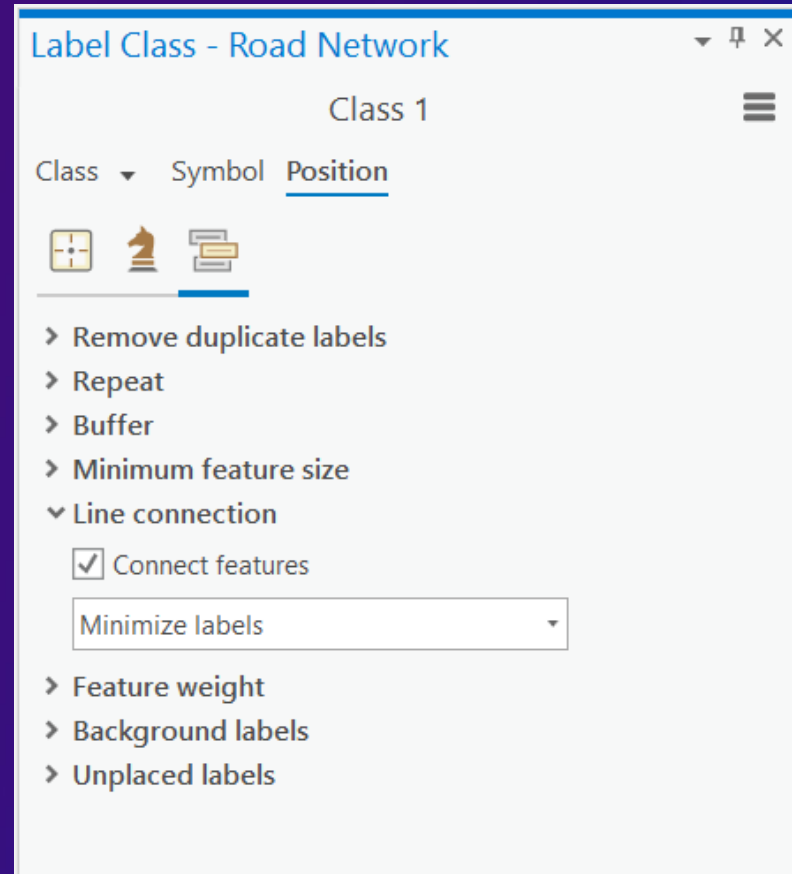
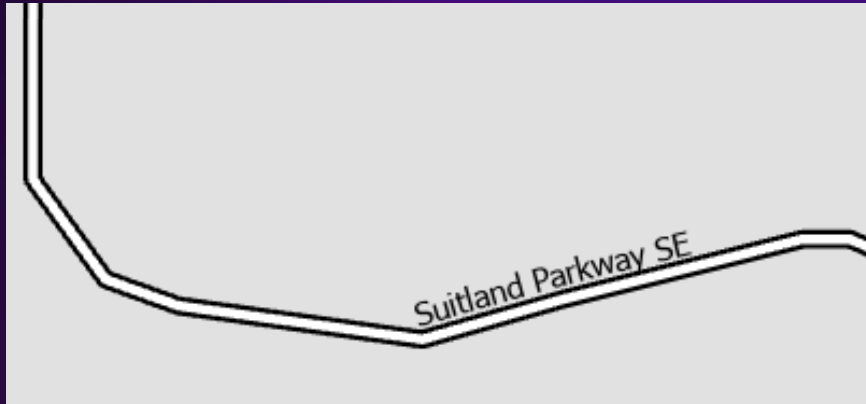
- **Line connection**
 - Connected features



Label Density – Line Layers

Conflict resolution tab

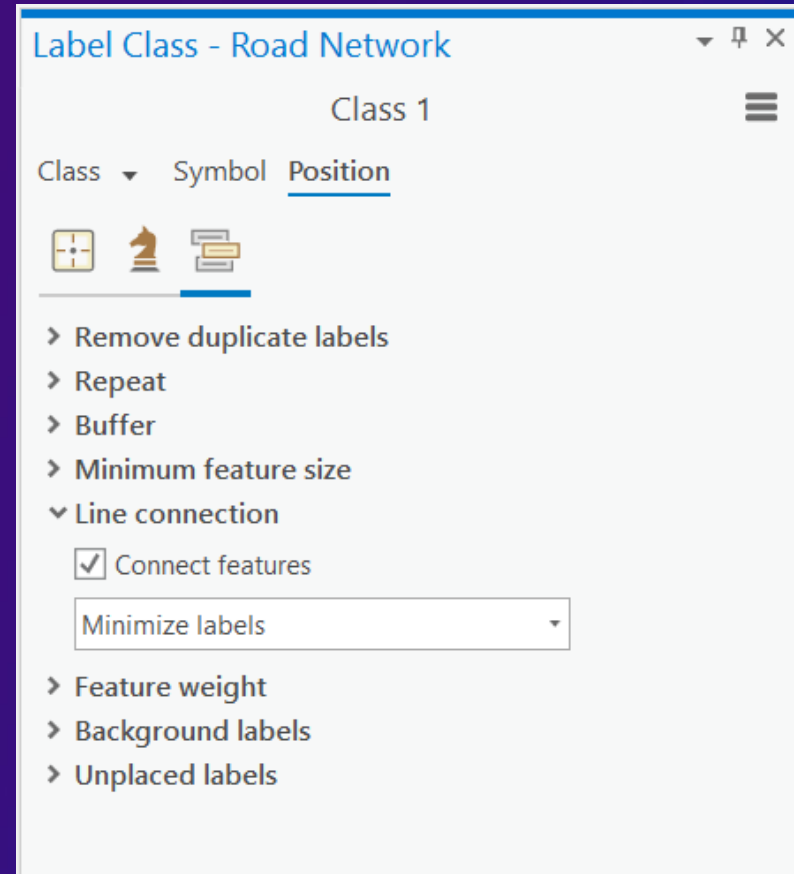
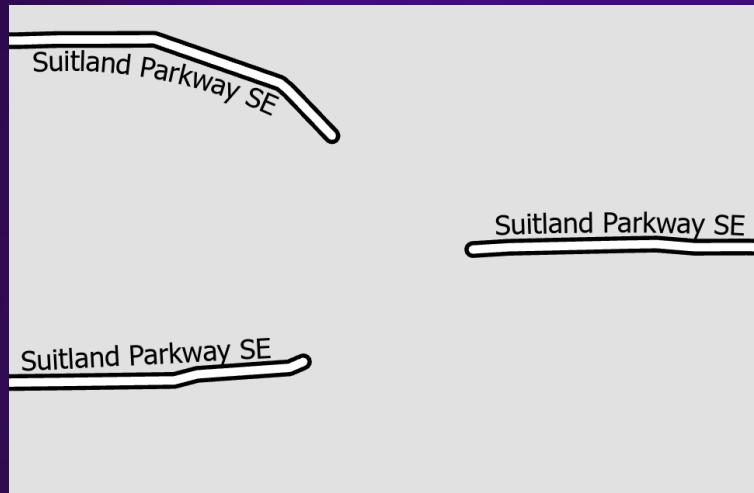
- **Line connection**
 - Connected features



Label Density – Line Layers

Conflict resolution tab

- **Line connection**
 - Connected features
- ?



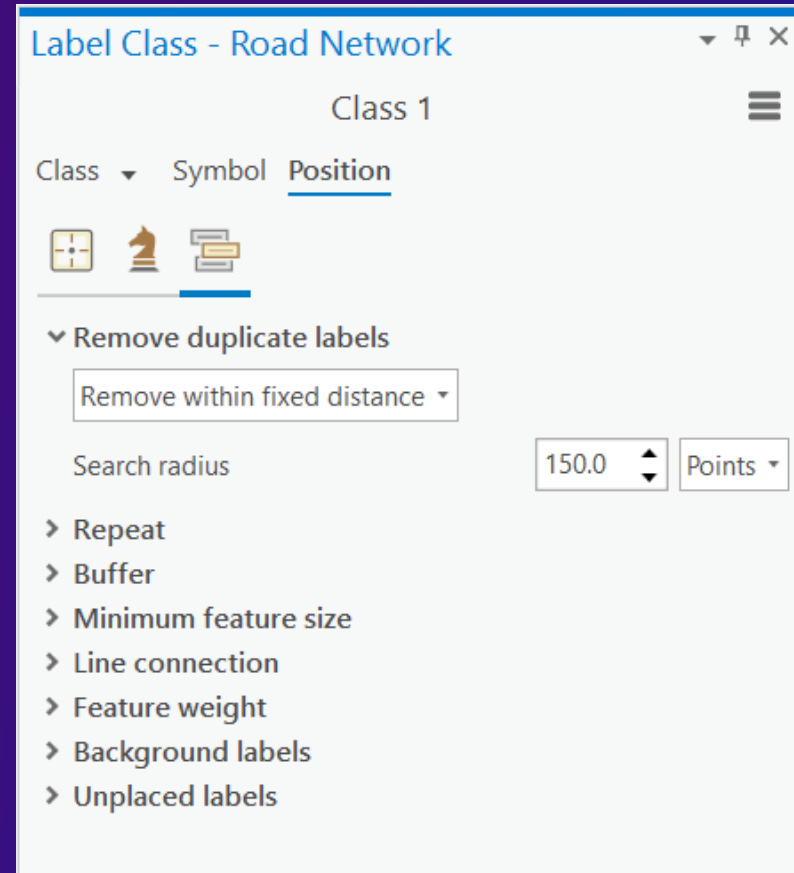
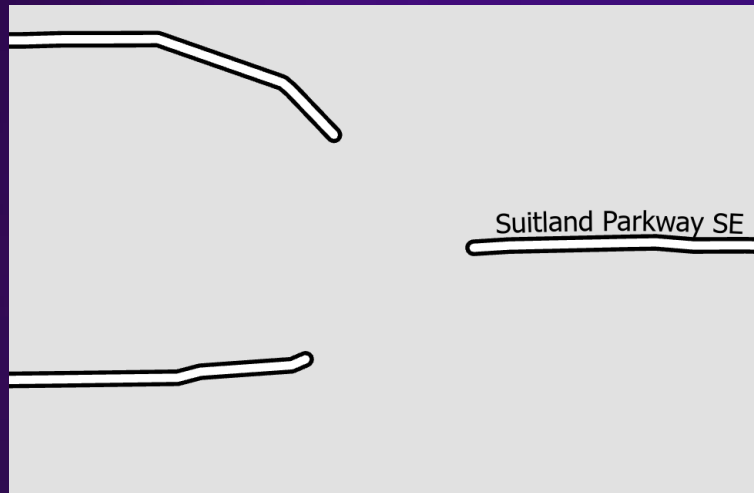
Label Density – Line Layers

Conflict resolution tab

- **Line connection**
 - Connected features



- **Remove duplicate labels**

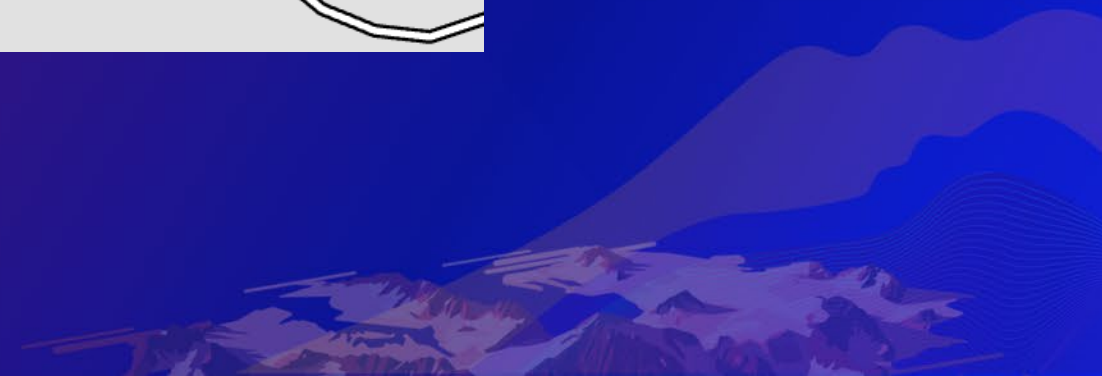


Conflict resolution tab

Conflict resolution tab



Conflict resolution tab



Label Density – Line Layers

Conflict resolution tab

- **Line connection**

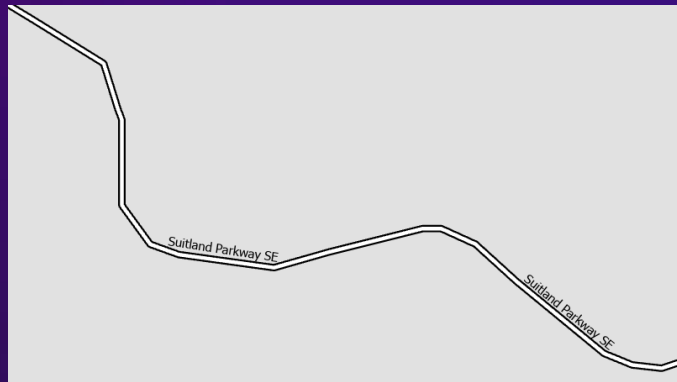
- Connected features



- **Remove duplicate labels**

- **Repeat**




- Interval
- Preferences



Label Class - Road Network

Class 1

Class ▼ Symbol Position



› Remove duplicate labels

▼ Repeat

Minimum interval

☒ Prefer label near map border

Clearance

☒ Prefer label near junction

Clearance

› Buffer

› Minimum feature size

› Line connection

› Feature weight

› Background labels

› Unplaced labels

Label Density – Line Layers

Conflict resolution tab

- **Line connection**

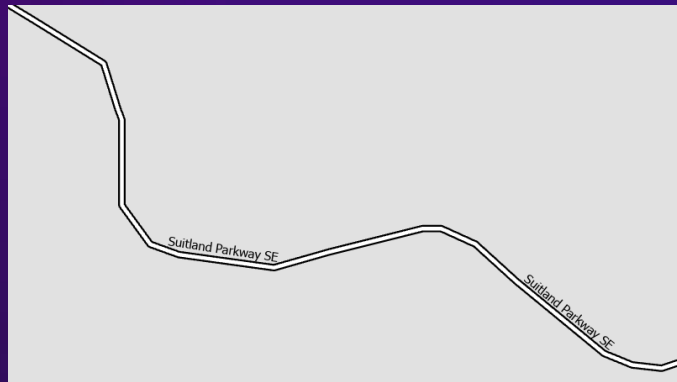
- Connected features



- **Remove duplicate labels**

- **Repeat**

- Interval
- Preferences



Label Class - Road Network

Class 1

Class ▼ Symbol Position

Remove duplicate labels

Repeat

Minimum interval 400.0 Points

☒ Prefer label near map border

Clearance 5.0 Points

☒ Prefer label near junction

Clearance 5.0 Points

Buffer

Minimum feature size

Line connection

Feature weight

Background labels

Unplaced labels

Label Density – Line Layers

Conflict resolution tab

- **Line connection**

- Connected features

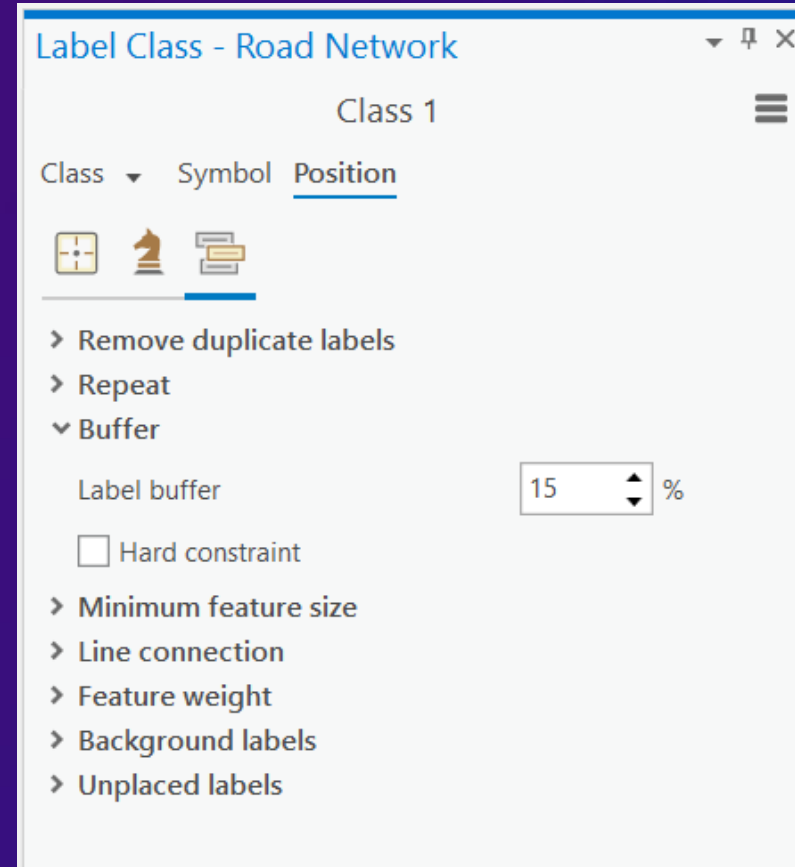
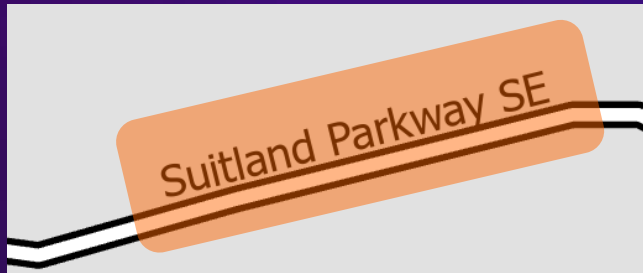


- **Remove duplicate labels**

- **Repeat**

- Interval
- Preferences

- **Buffer**



Label Density – Line Layers

Conflict resolution tab

- **Line connection**

- Connected features



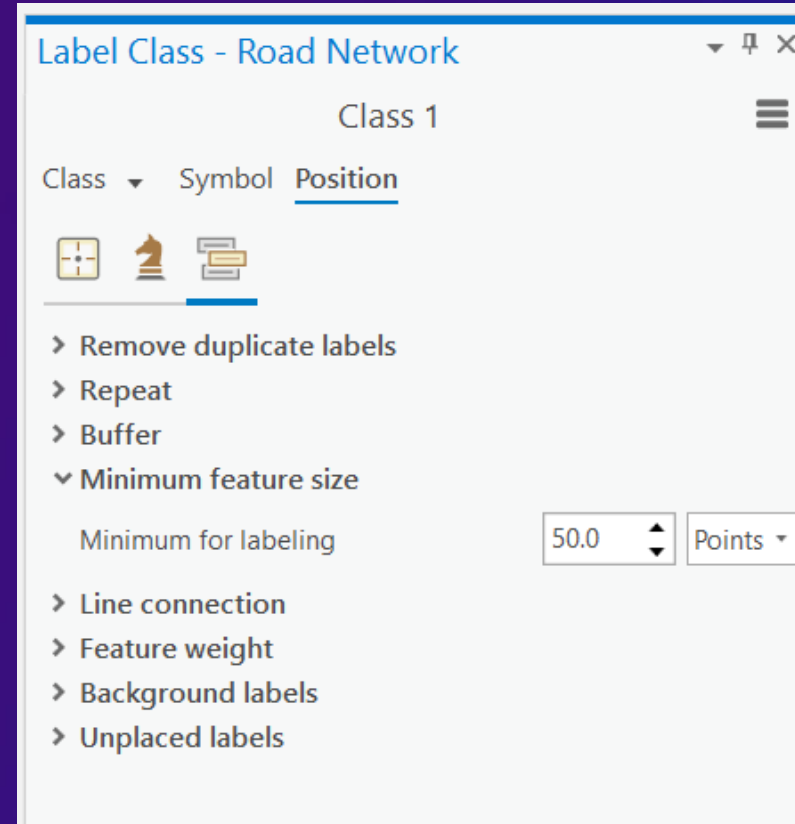
- **Remove duplicate labels**

- **Repeat**

- Interval
- Preferences

- **Buffer**

- **Minimum feature size**



Label Density – Line Layers

Conflict resolution tab

- **Line connection**

- Connected features



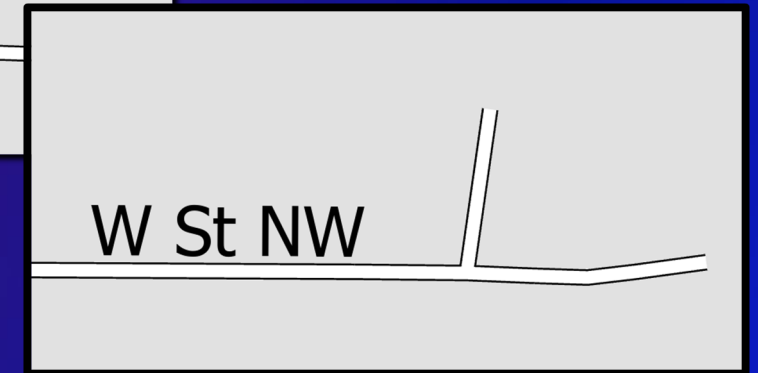
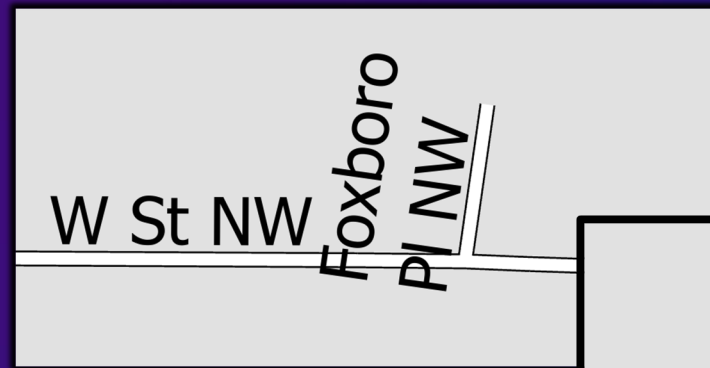
- **Remove duplicate labels**

- **Repeat**

- Interval
- Preferences

- **Buffer**

- **Minimum feature size**



Label Density – Line Layers

Conflict resolution tab

- **Line connection**

- Connected features



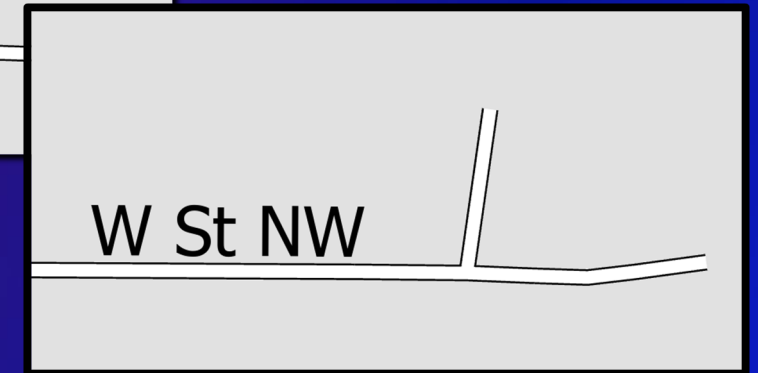
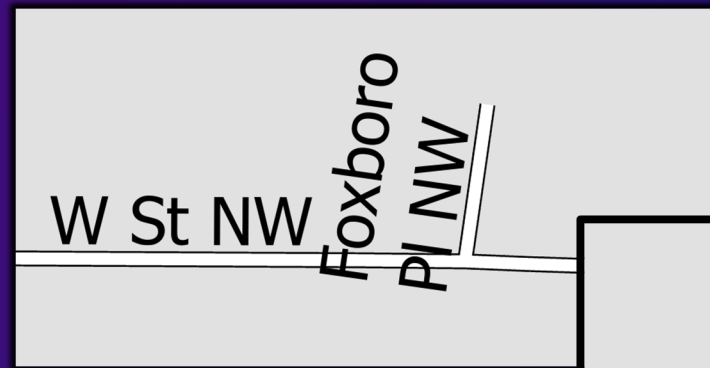
- **Remove duplicate labels**

- **Repeat**

- Interval
- Preferences

- **Buffer**

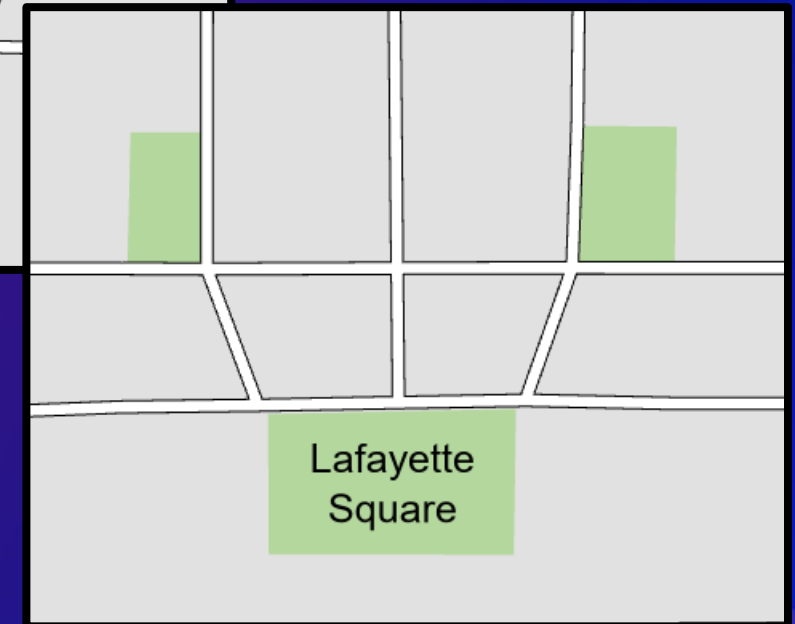
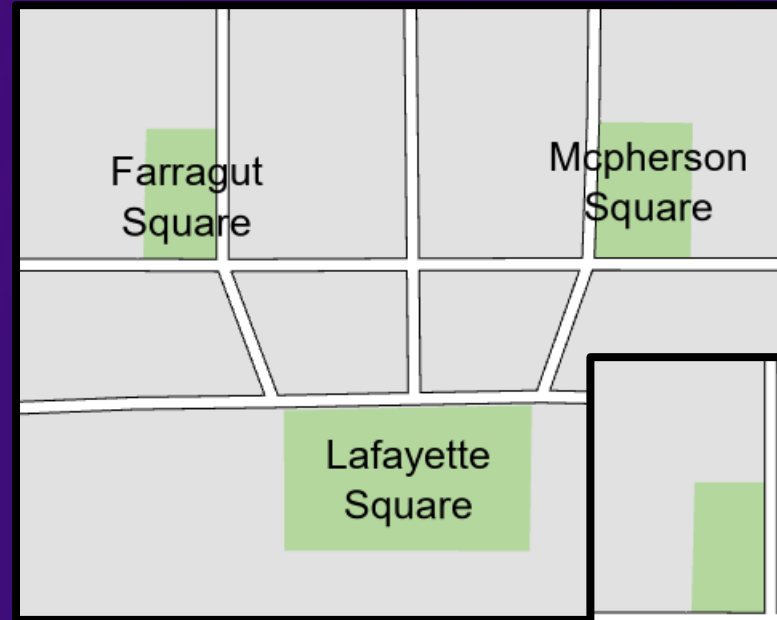
- **Minimum feature size**



Label Density – Polygon

Conflict resolution tab

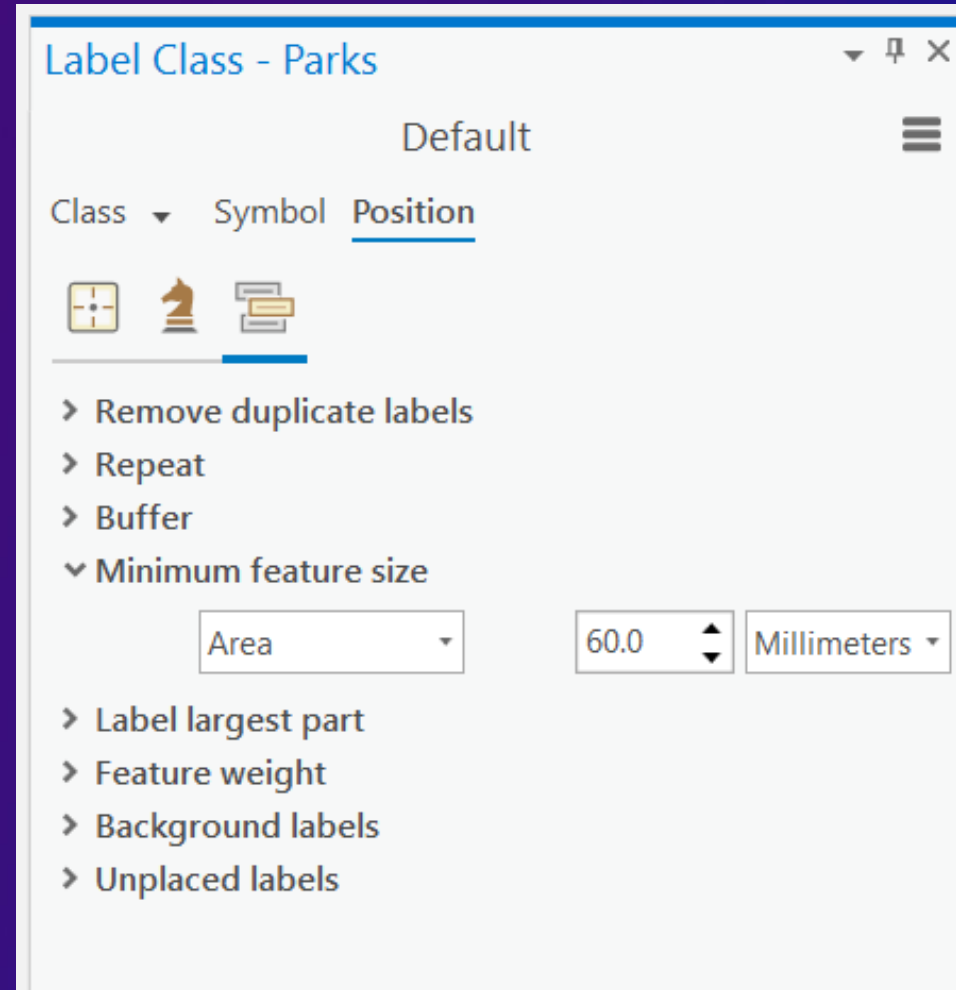
- Remove duplicate labels
- Repeat
- Buffer
- Minimum feature size
 - Perimeter or area



Label Density – Polygon

Conflict resolution tab

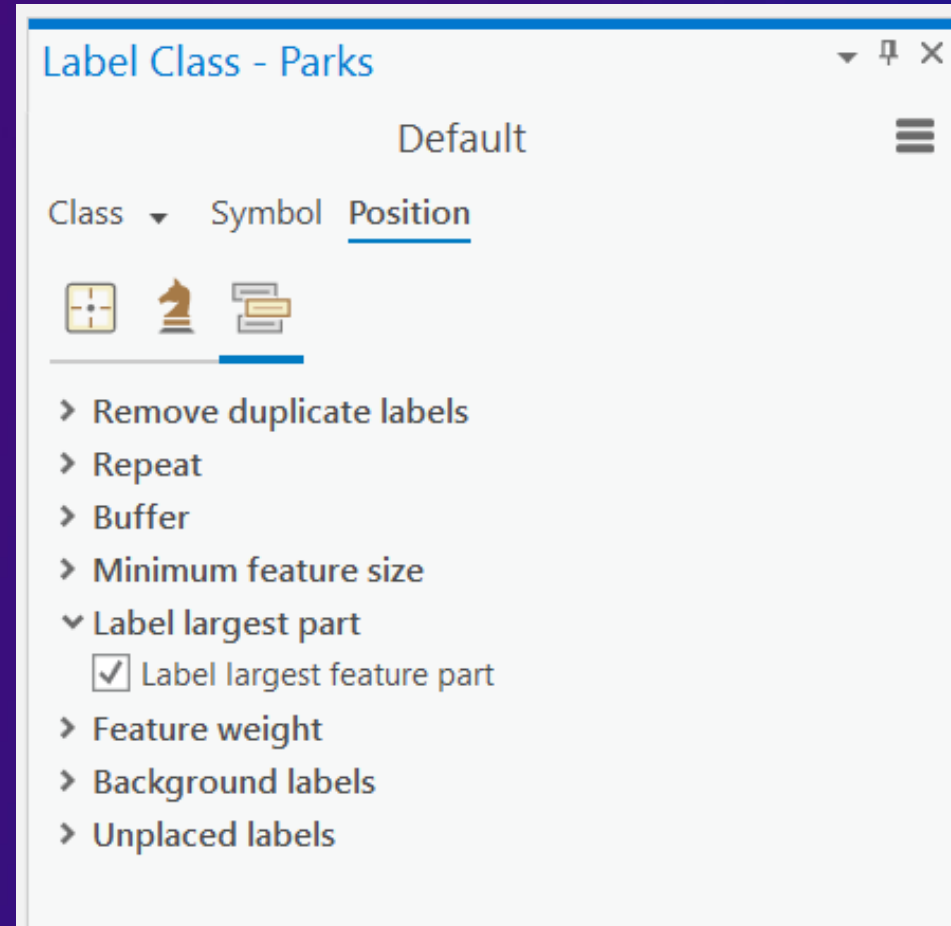
- Remove duplicate labels
- Repeat
- Buffer
- **Minimum feature size**
 - Perimeter or area



Label Density – Polygon

Conflict resolution tab

- Remove duplicate labels
- Repeat
- Buffer
- Minimum feature size
 - Perimeter or area
- Label largest part



Label Density – Polygon

Conflict resolution tab

- Remove duplicate labels
- Repeat
- Buffer
- Minimum feature size
 - Perimeter or area
- Label largest part



Label Density – Polygon

Conflict resolution tab

- Remove duplicate labels
- Repeat
- Buffer
- Minimum feature size
 - Perimeter or area
- Label largest part



Label Density – Point

Conflict resolution tab

- **Remove duplicate labels**
 - Do not remove
 - Remove within fixed distance
 - Remove all
- **Buffer**
 - Soft or hard constraint



Label Class - Institutes

Default

Class ▼ Symbol Position

Remove duplicate labels

Remove within fixed distance ▼

Search radius 150.0 Points ▼

Buffer

Label buffer 15 %

☐ Hard constraint

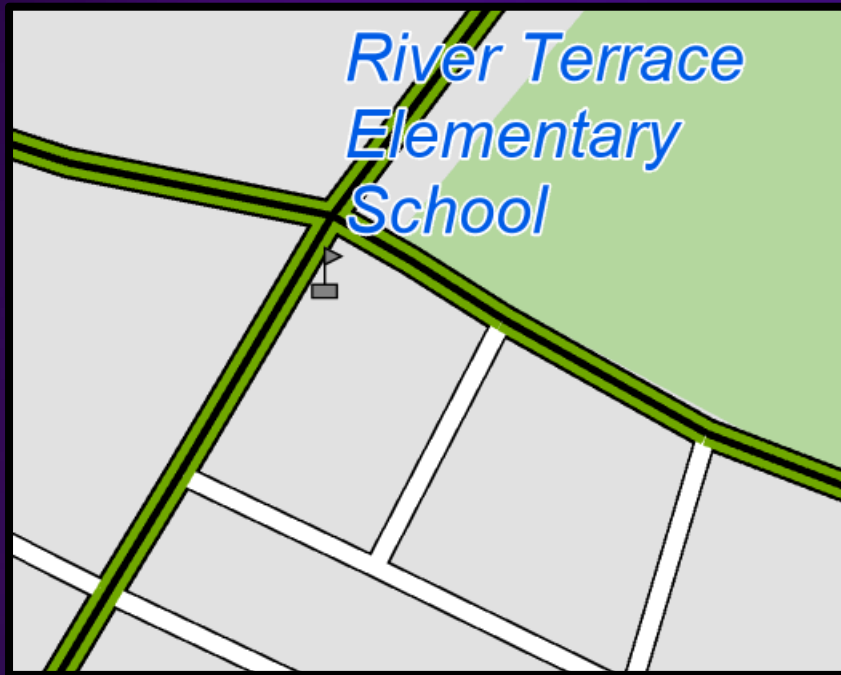
Feature weight

Background labels

Unplaced labels

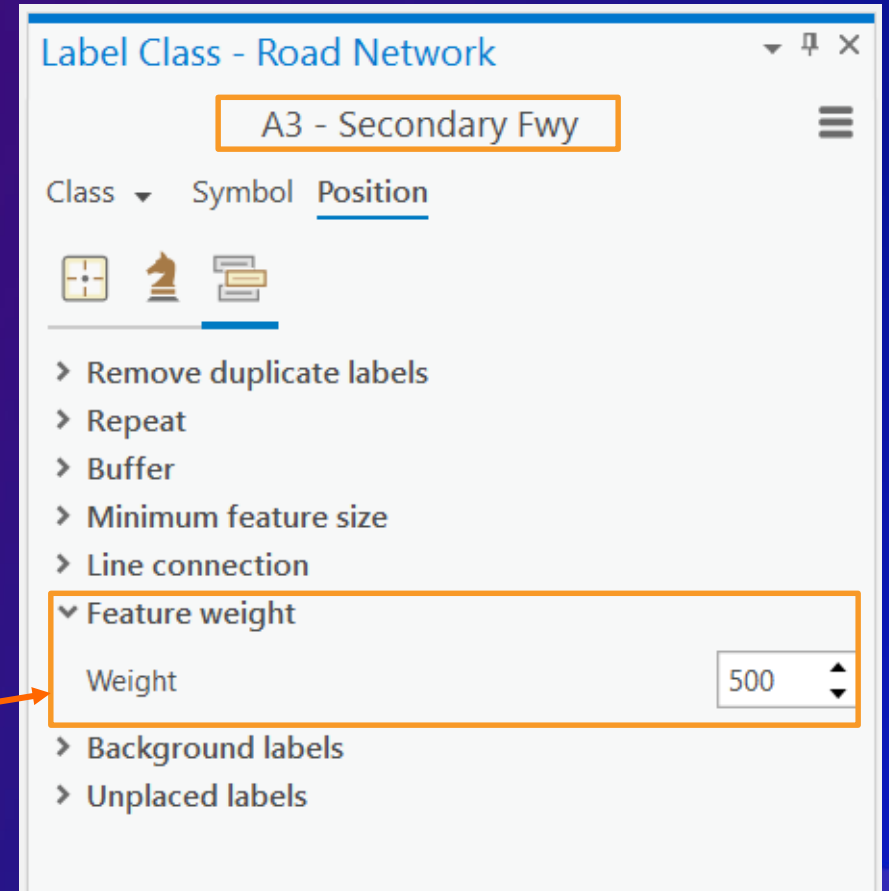
Feature Weights

- Control the label-to-feature overlap on the map



Feature Weights

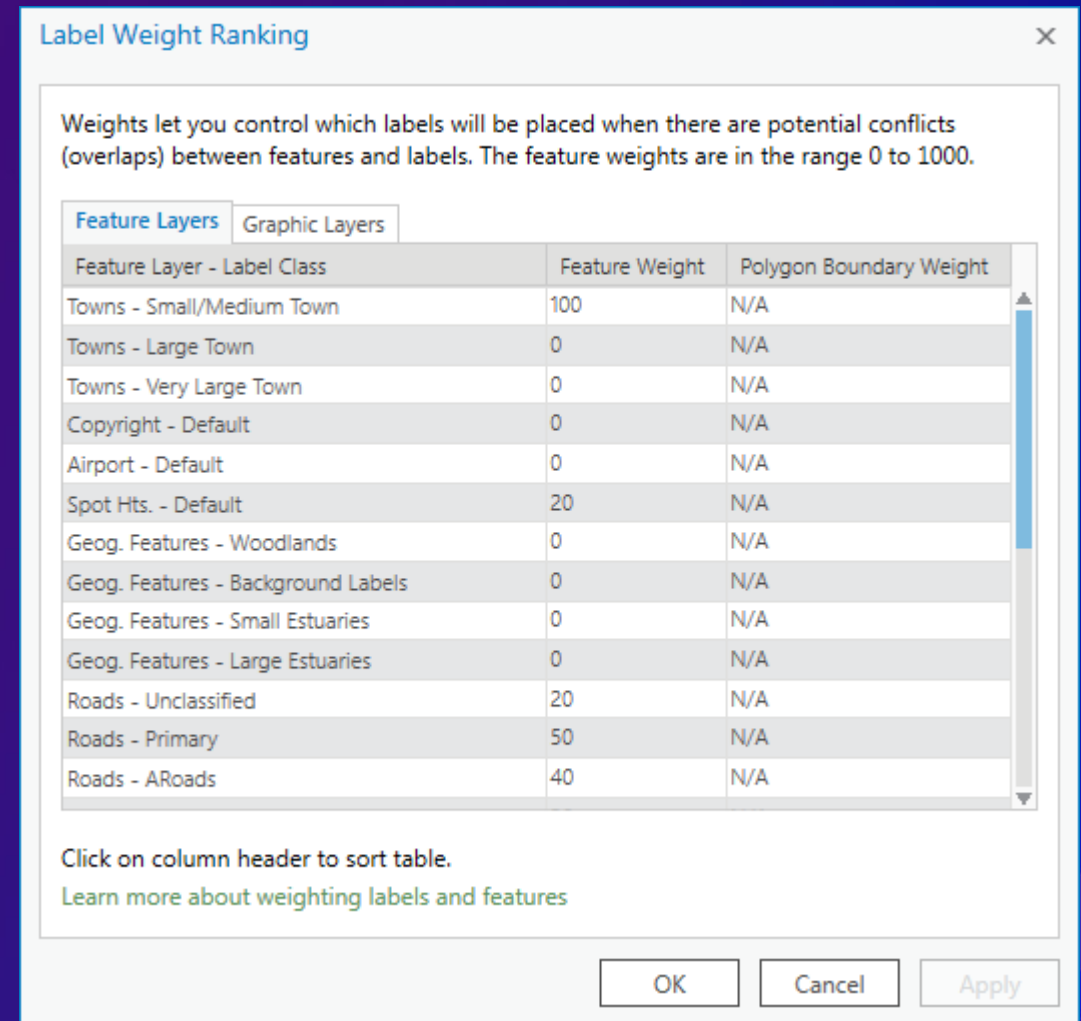
- Control the label-to-feature overlap on the map



Feature Weights

Control the label-to-feature overlap on the map

- **Maplex weighting is based on values from 0 – 1000**
 - zero weight allows full overlap
 - Range 1 to 999 is the main ranking
 - *Tip: use the whole range to get the best results*
 - 1000 is a special value – it represents a set of barrier features
- **Polygons also have a boundary weight**



Feature Weights (*continued*)

A couple of best practice guidelines...

- **Take note when weighting the interior of a large polygon**
 - Labels will try to avoid the weighted interior
 - Large background polygons may not need an interior weight
 - Maybe only the boundary needed a weight?
- **If a label class is 'checked off' and it has a feature weight, it is still active**
 - No labels produced, but the features are still added to the label engine
 - It represents a set of barrier features
 - Labels will try to avoid the barrier features
- **Label Summary dialog is useful**



Unplaced Labels

- **Causes:**
 - Overlap other label
 - Overlap 1000 weight feature
 - No room on feature
- **Draw in different color**
 - Turn on 'View unplaced' on ribbon
 - Usually red
 - Color set in map properties



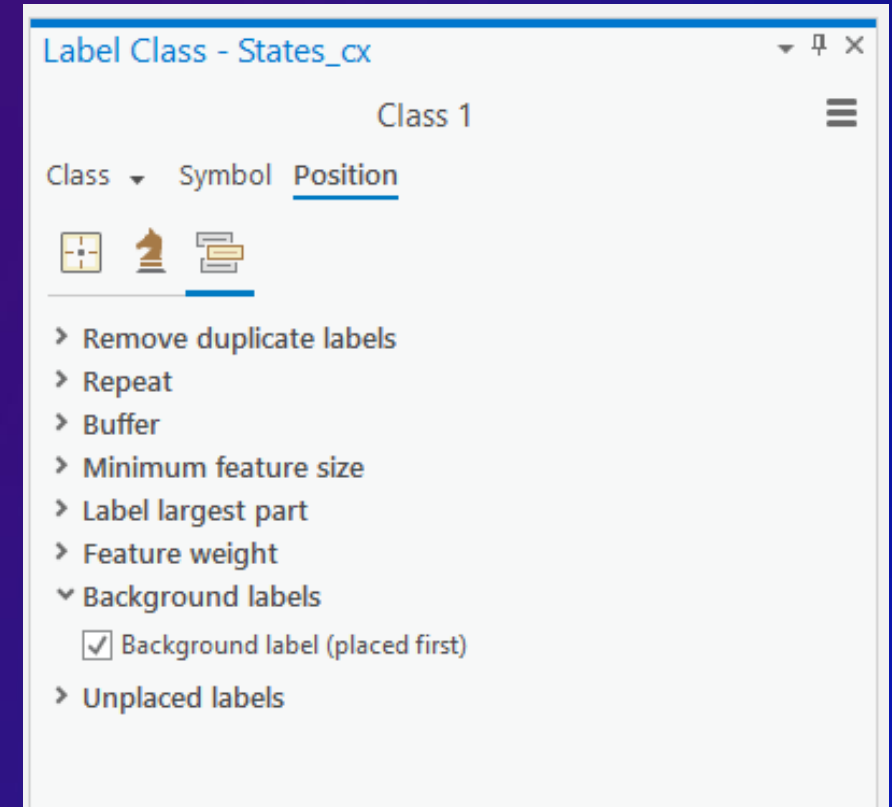
Unplaced Labels

- **Causes:**
 - *Overlap other label*
 - Overlap 1000 weight feature
 - No room on feature
- **Draw in different color**
 - Turn on 'View unplaced' on ribbon
 - Usually red
 - Color set in map properties



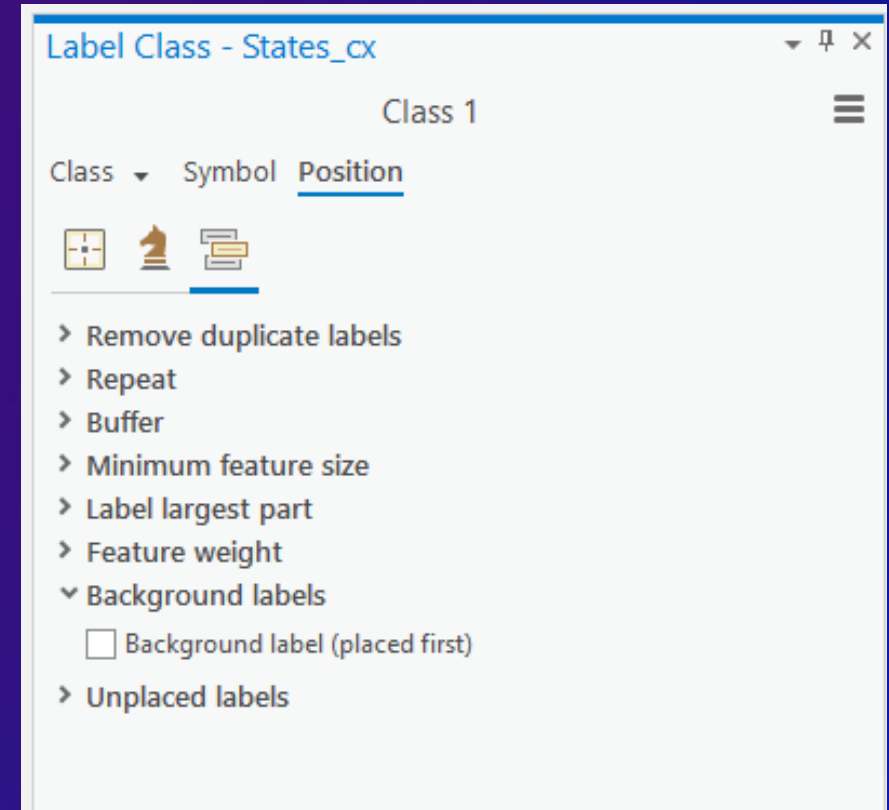
Conflict Resolution

- **Background labels**
 - Often using transparent text symbols!



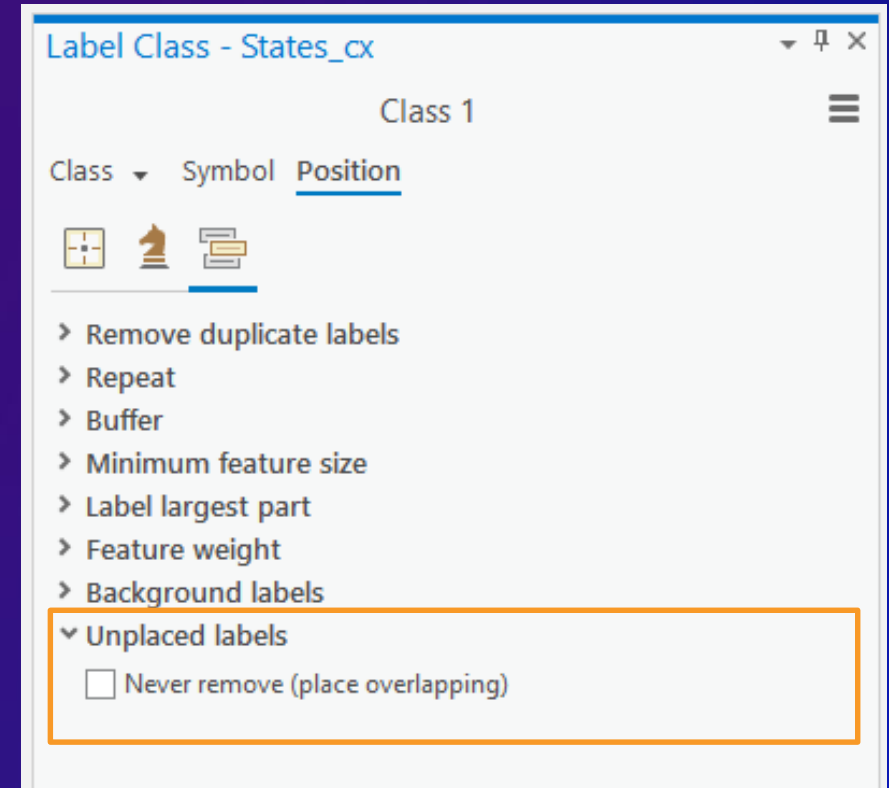
Conflict Resolution

- **Background labels**
 - Often using transparent text symbols!



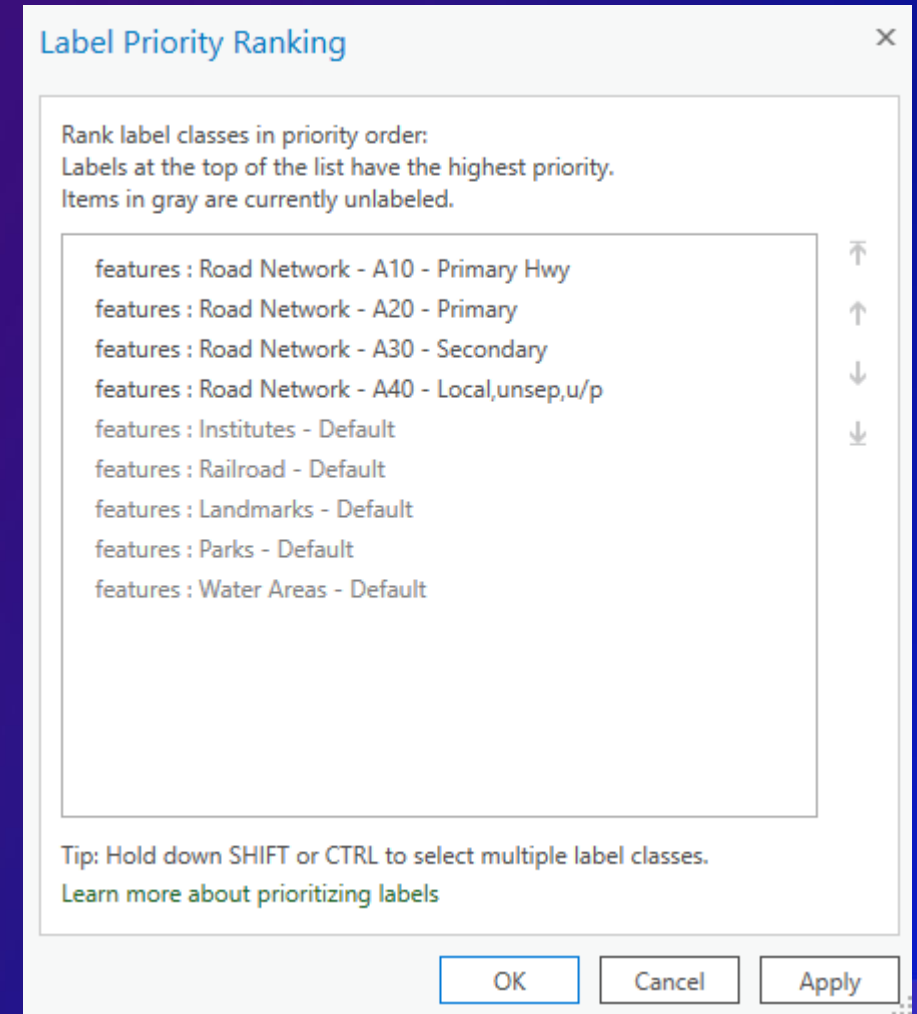
Conflict Resolution

- **Unplaced Labels - Never remove**
 - Forces the placement of the label...
 - ...you will get overlap 😞
 - Last resort.



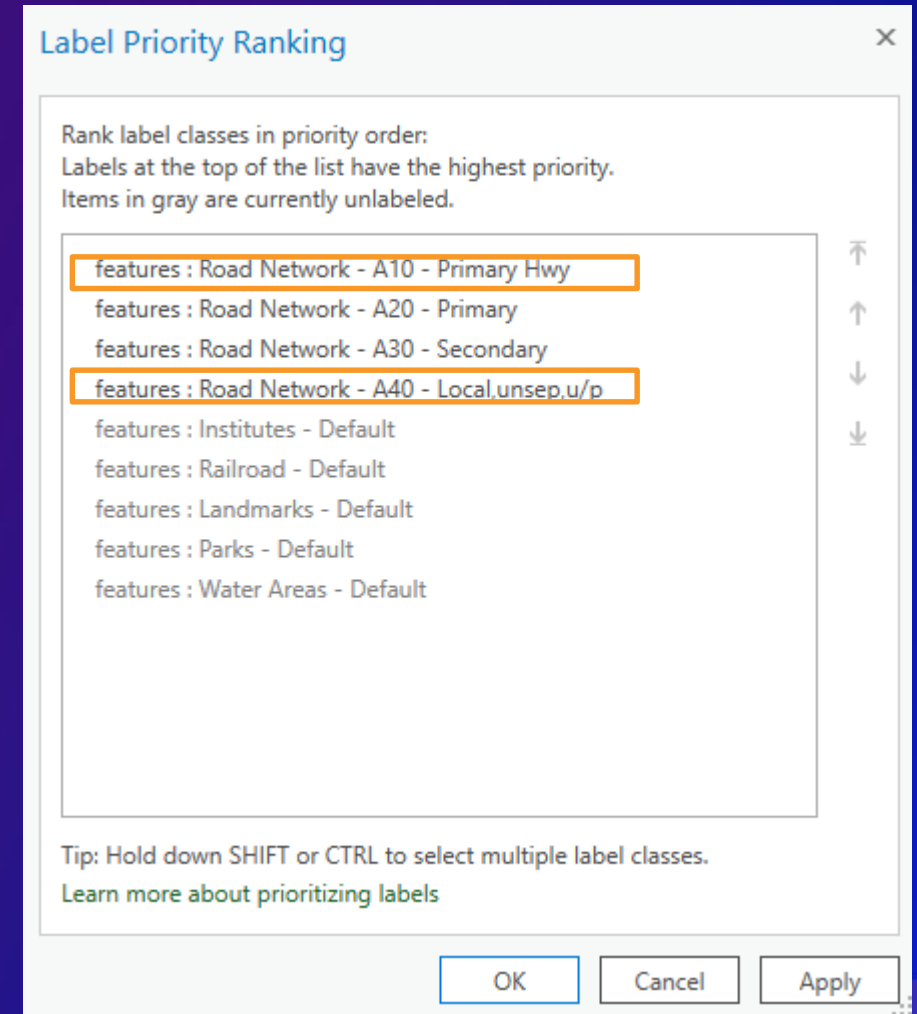
Label Priority

- Rank your label classes in order of their relative importance on the map
- UI shows all label classes in the map
- Controls the label placement order
- Also serves as the deletion priority for conflict resolution
 - If two labels are in conflict, it's the one that has the higher priority that will win



Label Priority

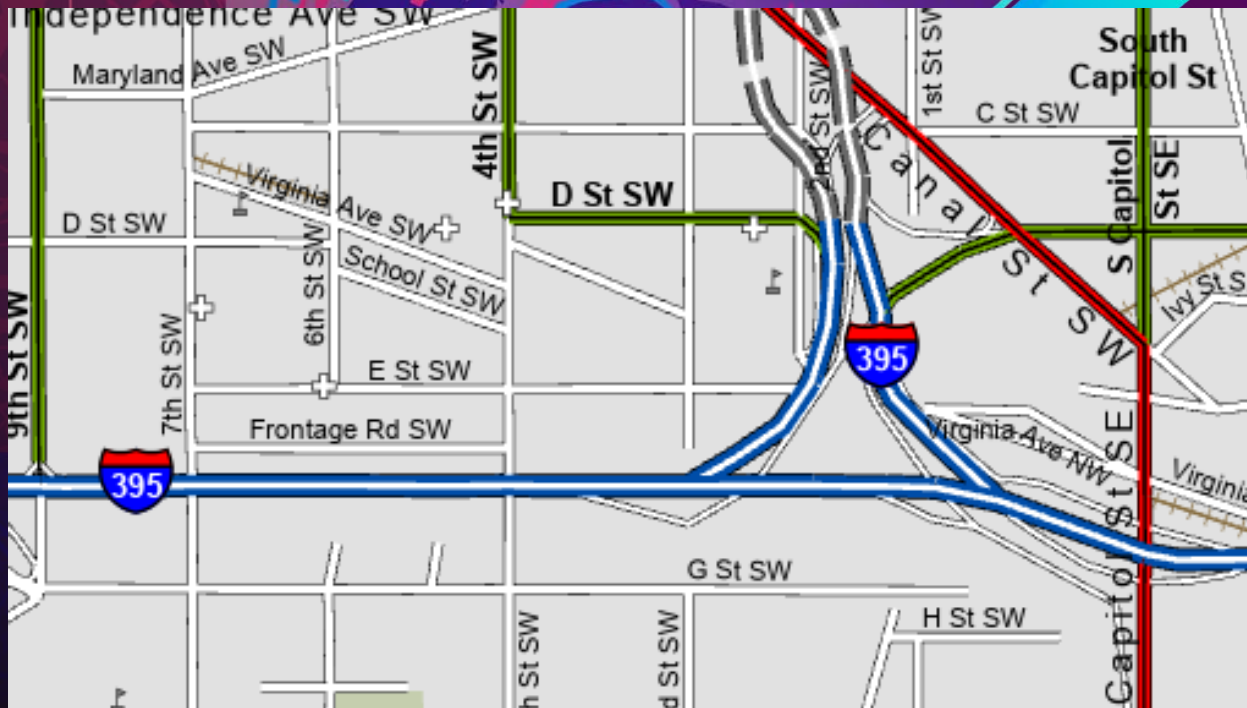
- Rank your label classes in order of their relative importance on the map
- UI shows all label classes in the map
- Controls the label placement order
- Also serves as the deletion priority for conflict resolution
 - If two labels are in conflict, it's the one that has the higher priority that will win



Conflict Resolution Summary

- **Too many labels for the same thing?**
 - Use line connection and/or remove duplicates
- **Too small features being labelled?**
 - Set minimum feature size and/or label largest
- **Labels overlapping features?**
 - Set feature weights!
- **Lost a label you really wanted?**
 - Make sure it's the highest priority





Label Density Demo

Quality control on your maps

Fitting Strategies

Getting the tricky labels onto your map



Label Stacking

Automatic stacking of text onto multiple lines

- **Stacking Separators**

- User defined separators
 - Defaults are space and comma
- Visible or not
- Forced split
- Split before or after

Cardiff
Bay
●

Senghenydd
Road

- **Horizontal alignment**

- Choose best
- Fixed (left, right or centered)

- **Limits**

- Number of lines
- Number of characters per line

North
Llanbradach
Park

Label Class - Institutes

Default

Class ▾ Symbol Position

Stack

☒ Stack label

Horizontal alignment: Choose best

Stacking separators

Separator	Visible	Forced split	Split after
space	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
-	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
,	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

☒ Remove leading and trailing separators

Maximum number of lines: 5

Minimum characters per line: 2

Maximum characters per line: 80

Control the
horizontal
alignment

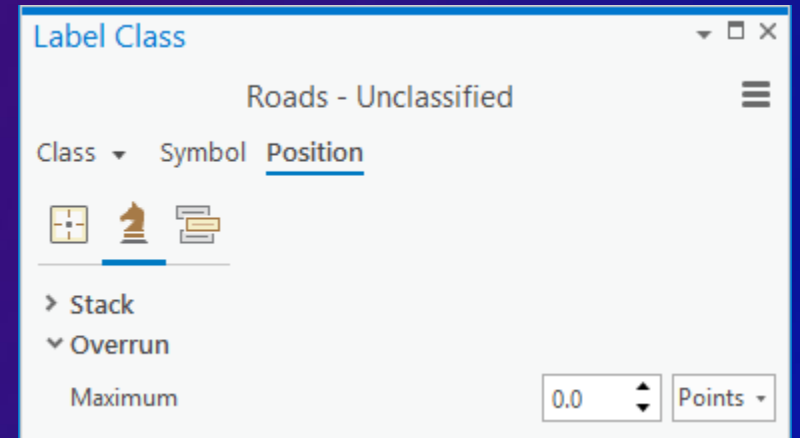
Add new
character

Control
the line
break

Label Overrun

Label is allowed to overrun the feature extent

- Lines



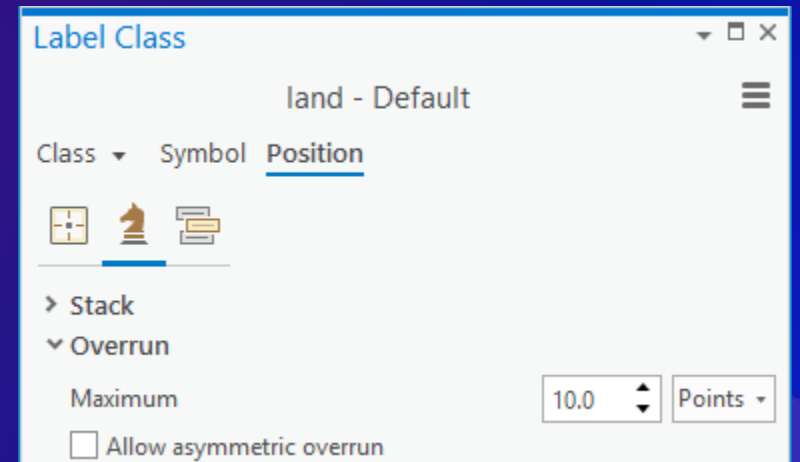
- Polygons



Symmetric overrun



Asymmetric overrun



Label Reduction

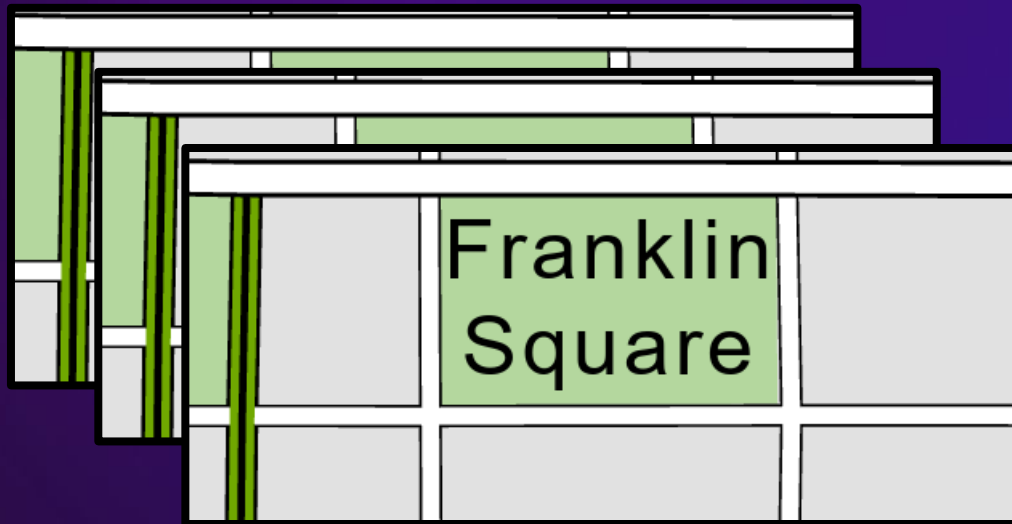
Label is reduced in size or width to fit on the map

- **Font size reduction**

- Reduce label in size in stepped intervals
 - e.g 10pt to 6pt in 0.5 pt intervals

- **Font width compression**

- Reduce label in width in stepped intervals
 - e.g 100% to 90% in 0.5% intervals



Label Class - Parks

Class 1

Class ▼ Symbol Position

Stack

Overrun

Reduce size

☒ Reduce font size

Font size reduction

Font size 8 pts

Lower limit 3.0 pts

Step interval 1.0 pts

Font width compression

Lower limit 100.0 %

Step interval 0.5 %

Abbreviate

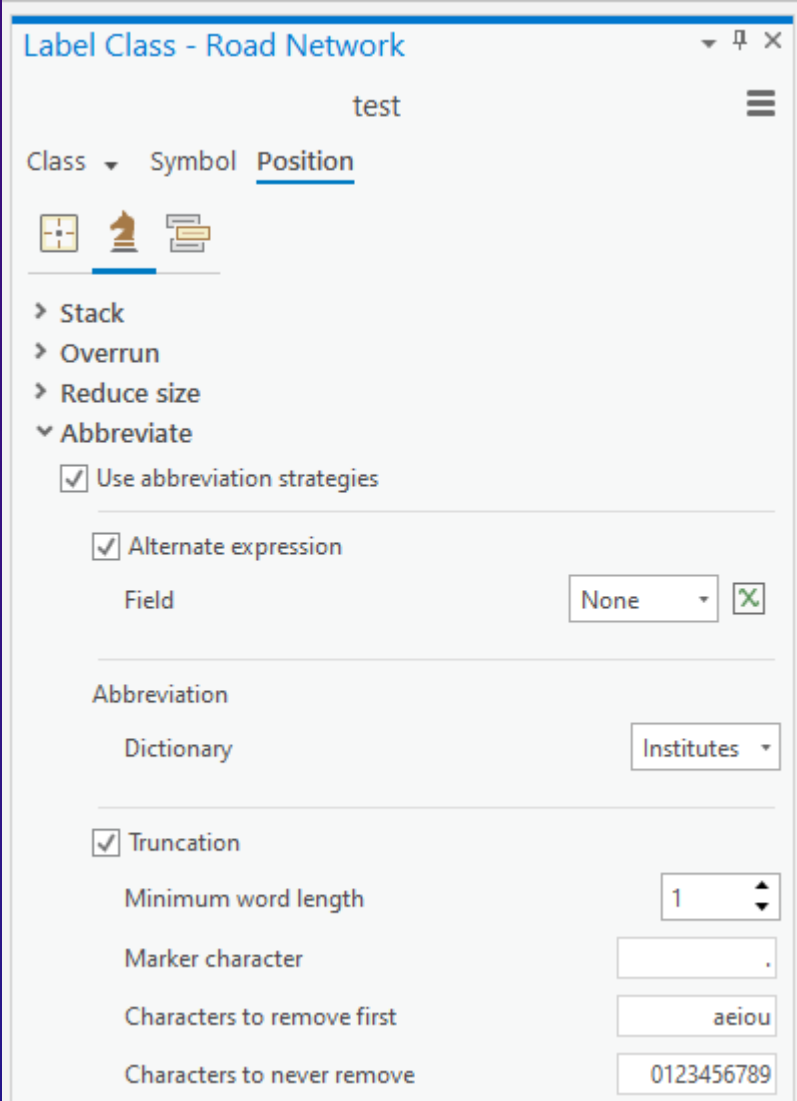
Key number

Strategy order

Abbreviation Strategies

Using shortened versions of your label to allow it to place

- **Alternate expression**
 - Field or expression
- **Abbreviation Dictionary**
 - Ending, keyword, translation
- **Truncation**



The screenshot shows a software window titled "Label Class - Road Network" with a "test" button and a menu icon. It features three tabs: "Class", "Symbol", and "Position", with "Position" being the active tab. Below the tabs are three icons: a grid, a chess knight, and a document. A list of options includes "Stack", "Overrun", "Reduce size", and "Abbreviate". The "Abbreviate" section is expanded, showing several checked options: "Use abbreviation strategies", "Alternate expression", and "Truncation". The "Alternate expression" section includes a "Field" dropdown set to "None" and a green "X" icon. The "Abbreviation" section includes a "Dictionary" dropdown set to "Institutes". The "Truncation" section includes a "Minimum word length" spinner set to "1", a "Marker character" text box containing a period ".", a "Characters to remove first" text box containing "aeiou", and a "Characters to never remove" text box containing "0123456789".

Label Class - Road Network

test

Class Symbol Position

Stack
Overrun
Reduce size
Abbreviate

☒ Use abbreviation strategies

☒ Alternate expression

Field None X

Abbreviation

Dictionary Institutes

☒ Truncation

Minimum word length 1

Marker character .

Characters to remove first aeiou

Characters to never remove 0123456789

Alternate Expression

- Field
- Arcade script
 - E.g. if label contains 'College', 'School', 'Nursery' or 'University' then label with 'Sch.'

Knowsley Park Centre for Learning, Serving
Prescot, Whiston and the Wider Community
↓
Knowsley Park

```
var eduSearchTerms = ["SCHOOL", "ACADEMY", "COLLEGIATE", "COLLEGE", "UNIVERSITY"]
var relSearchTerms = ["CHURCH", "MOSQUE", "SYNAGOGUE", "MONASTRY", "TEMPLE", "TABERNACLE", "WORSHIP"]

for (var i in eduSearchTerms)
{
  if(find(eduSearchTerms[i], upper($feature.Name2)) > -1)
    return "Edu."
}
for (var i in relSearchTerms)
{
  if(find(relSearchTerms[i], upper($feature.Name2)) > -1)
    return "Rel."
}

return $feature.Name2
```

Label Abbreviations

Abbreviate label text using an label abbreviation dictionary

- **Ending**

- Applies to the **last word** in the label
- Street to St, Road to Rd, Avenue to Ave

- **Keyword**

- Applies to **any word in the label** except the last word
- South to S., Mountain to Mt.

- **Translation**

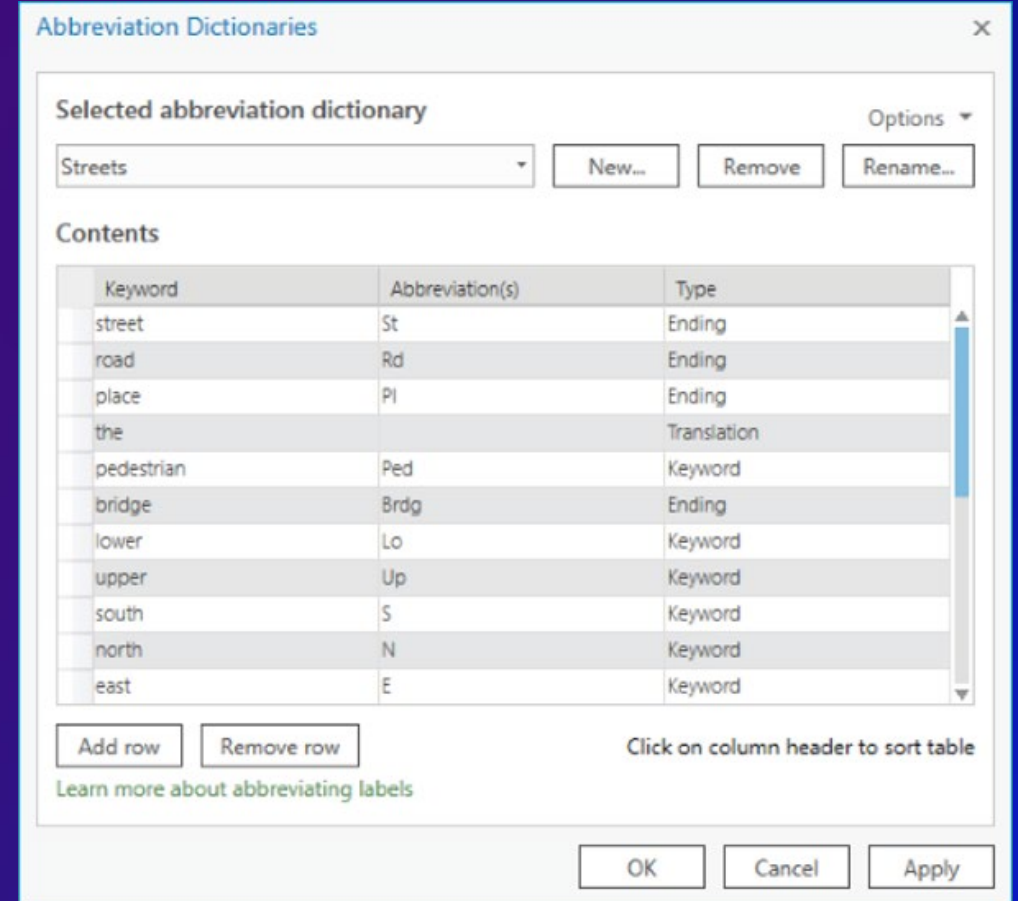
- Simple substitution that applies to the **entire label** text
- 'Postal Office' to P.O.
- 'Unknown Road' to an empty string



Label Abbreviations (continued)

Abbreviate label text using a label abbreviation dictionary

- **Create a named dictionary**
 - Create new
 - Import existing - See [KB 30494](#) for US streets example
- **Share dictionaries**
 - Available to any label class in your map
 - Can be shared as a .dic file



FAQ: Is there an Abbreviation Dictionary for commonly used street suffixes?

Products Knowledge Base Downloads Other Resources Support Options

Contact Support

Print Share

Is This Content Helpful?

Search on Esri Community

Submit to ArcGIS Ideas

FAQ: Is there an Abbreviation Dictionary for commonly used street suffixes?

Question

Is there an Abbreviation Dictionary for commonly used street suffixes?

Answer

The United States Postal Service website contains a list of Primary Street Suffix Names and the corresponding list of standard abbreviations. The lookup table can be found at the website below:

<http://www.usps.com/ncsc/lookups/abbreviations.html#suffix>

This information can be the basis of an Abbreviation Dictionary file. To create a new Abbreviation Dictionary file create a new .txt file, rename it with a .dic extension and then copy and paste the Abbreviation Dictionary below into it.

Code:

* Maplex Extension Dictionary File - v1.0

* Format: TEXT ABBREVIATION(S) TYPE

* where TYPE=[Translation|Keyword|Ending]

"Alley" Aly Ending

"Annex" Anx Ending

"Arcade" Arc Ending

"Avenue" Ave Ending

"Arcade" Arc Ending
"Avenue" Ave Ending
"Bayoo" Byu Ending
"Beach" Bch Ending
"Bend" Bnd Ending
"Bluff" Blf Ending
"Bluffs" Blfs Ending
"Bottom" Btm Ending
"Boulevard" Blvd Ending
"Branch" Br Ending
"Bridge" Brg Ending
"Brook" Brk Ending
"Brooks" Brks Ending
"Burg" Bg Ending
"Burgs" Bgs Ending
"Bypass" Byp Ending
"Camp" Cp Ending
"Canyon" Cyn Ending
"Cape" Cpe Ending
"Causeway" Cswy Ending
"Center" Ctr Ending

Label Truncation

Characters are automatically removed from the label text




- Another type of abbreviation
- Algorithm that removes characters
- Default is 'aeiou'
- Can exclude characters from truncation
- Degrades readability
- Similar to 'tweet shortening'



Label Class - Road Network

test


Class ▾ Symbol Position

> Stack
> Overrun
> Reduce size
▼ Abbreviate

☒ Use abbreviation strategies

☒ Alternate expression

Field None ▾ 

Abbreviation

Dictionary Institutes ▾

☒ Truncation

Minimum word length 1 ▾

Marker character .

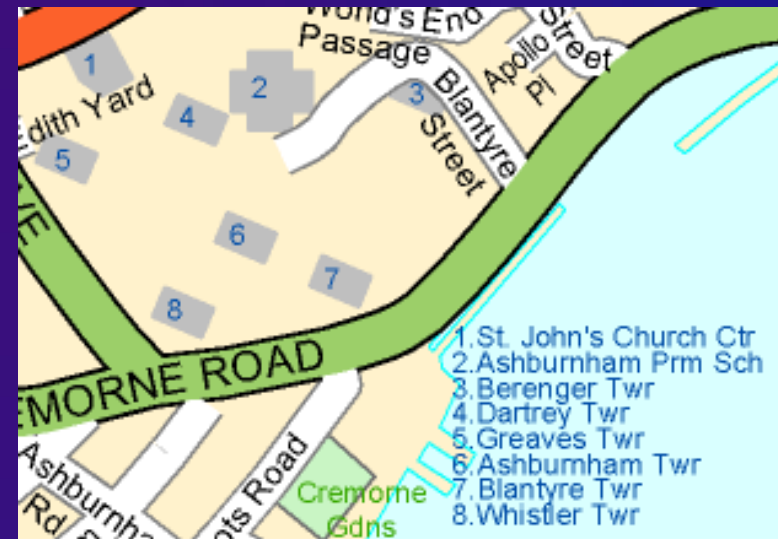
Characters to remove first aeiou

Characters to never remove 0123456789

Key Numbering

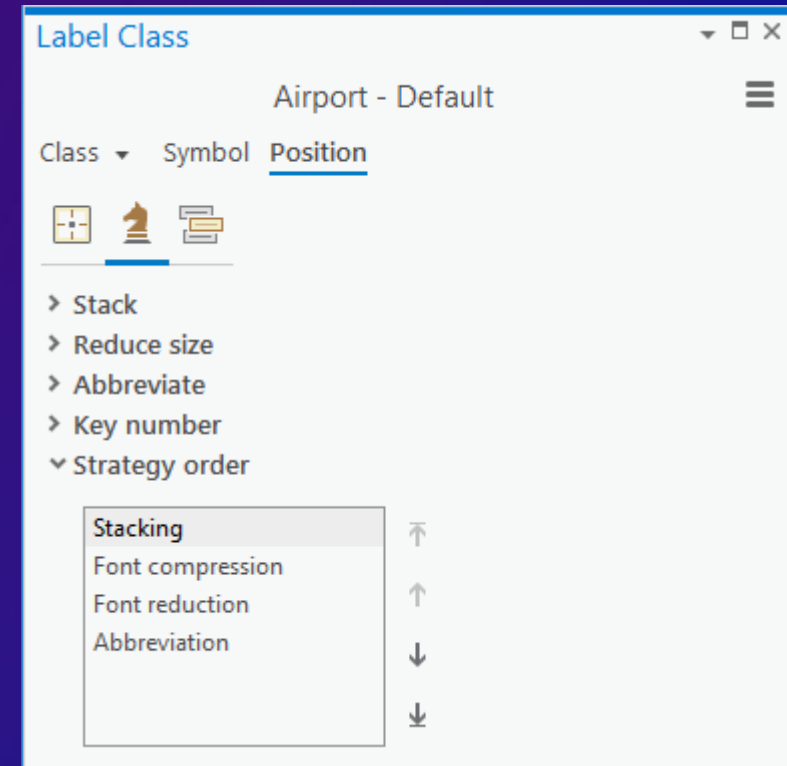
Creates a numbered list for the unlabeled labels

- Labels that don't fit are replaced with a number
- Label text then placed in a list
- **Various options**
 - Key numbering scheme
 - Size of the list etc



Strategy Order

- Select the order in which fitting strategies are tried
- **Preference** as opposed to exact order



Fitting Strategy Summary

- **Use all the tools at your disposal!**
 - Allow stacking
 - Allow overrun
 - Reduce font size and width
 - Abbreviate the label text
 - Set up key numbering
 - Decide your strategy order





Fitting Strategies Demo

Quality control on your maps

Summary

- Maplex is an advanced, high-quality, cartographic text placement engine
- Provides numerous placement properties and strategies to define the location of labels
- Generates clear, well placed labels, to make a better-looking map!



Maplex Help and Resources

- Help System
- Detailed explanations of placement options
- Step-by-step guidelines for common labeling tasks
- Labeling tutorial
- See Esri styles for examples of Maplex in use

ArcGIS Pro

[Home](#) [Get Started](#) [Help](#) [Tool Reference](#) [Python](#) [SDK](#)

[Help](#) / [Maps and scenes](#) / [Author maps and scenes](#) / [Text](#) / [Place labels with the Maplex Label Engine](#) / [Label positions for lines](#)

> Label positions for points

▼ Label positions for lines

Labels for line features

Specify a line label position

Label using the Street placement style

Label using the Street address placement style

Label using the Contour placement style

Label using the River placement style for line features

Offset line labels

Orient line labels to graticules or direction

Spread letters of a label along a line feature

> Label positions for polygons

Label using the Street address placement style

Street maps often show address ranges for the properties on each side of the street. Address range data is usually stored in Address from left, Address from right, Address to left, and Address to right fields. These can be concatenated into two labeling classes, Address to and Address from, with the two fields entered into a label in the format left/right (for example, 1/2). The slash (/) is used to force stacking, and the two numbers appear on either side of the street. If one label out of the stacked pair cannot be placed or is not present, the other label will still be placed in its correct position.

- [Learn more about creating label classes](#)
- [Learn more about stacking labels](#)

The Maplex Label Engine **Street address placement** style allows only one placement position for the label: **Centered straight**. You can set a **label offset** for address range labels to control their placement along the street relative to street junctions. You can also set a tolerance that will allow the label the freedom to move farther into the street in order to be placed.

The image below shows the streets labeled with their address ranges using the **Street address placement** style.





We want your feedback

Click on the [Session Survey](#) link
below this video window



esri®

THE
SCIENCE
OF
WHERE®