



MAPublisher® 9.4

for Adobe Illustrator®

When Map Quality Matters®



MAP LabelPro Tutorial Guide

Avenza® MAPublisher® 9.4 LabelPro™ Tutorial Guide

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MAPublisher 9.4 for Adobe® Illustrator® MAP LabelPro™ Tutorial for Windows® and Macintosh®.

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Welcome

Avenza welcomes you to mapmaking in the 21st century!

Combined with Adobe Illustrator, MAPublisher has revolutionized the art of mapmaking by allowing spatial data files to be used to create maps inside a vector graphics program. MAPublisher allows all your cartographic tasks to be performed where they should be done; in a powerful graphics environment.

MAPublisher LabelPro™ revolutionizes the way users can label map data, including using symbols as labels, conflict resolution, and highly configurable rule-based labeling options. The MAP LabelPro engine uses map data attributes for labeling with styles, rules and controls configured through an intuitive, easy-to-use Graphical User Interface.

This tutorial assumes that the user is familiar with Adobe Illustrator CS5/CS5.1/CS6, and has at least a basic understanding of MAPublisher tools and features. Not all MAPublisher tools are explained in this document. This tutorial should be used in conjunction with the MAPublisher 9.4 User Guide, MAPublisher 9.4 Tutorial Guide and Quick Start Guide for an understanding of all the other MAPublisher tools.

By following this tutorial, you will learn how to setup and use the MAP LabelPro labeling engine to label your map created in MAPublisher. Working on a provided map, users learn to create rules and styles for labeling in an automated and efficient way.

MAP LabelPro Tutorial Data

This tutorial will use Adobe Illustrator files and MAP LabelPro rules installed with MAPublisher 9.4. You can find the MAP LabelPro Tutorial data in the following location on your hard drive:

Windows XP

C:\Documents and Settings\All Users\Shared Documents\Avenza\MAPublisher 9.4\MAP LabelPro Tutorial & Data\Data

Windows Vista / 7 / 8

C:\Users\Public\Public Documents\Avenza\MAPublisher 9.4\MAP LabelPro Tutorial & Data\Data

Note: This data may be accessed through shortcuts available in the Windows start menu

Mac OS X

/Applications/Avenza/MAPublisher 9.4/MAPublisher Tutorials/MAP LabelPro Tutorial & Data/Data

You are encouraged to experiment with your own data to gain additional experience with MAPublisher tools.

Tutorial data courtesy of City and County of San Francisco (San Francisco Enterprise GIS program SFGIS).

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1 Preliminaries

1.1 Purpose

The purpose of this exercise is to use MAP LabelPro to create labels for a simple map of downtown San Francisco, California, USA. For this exercise, Avenza has prepared the necessary map file created with MAPublisher 9.4 and Adobe Illustrator, based on City and County of San Francisco GIS data (San Francisco Enterprise GIS program SFGIS). The map contains all the different type of features (point, line and area) for labeling and/or obstacle purpose.

In this exercise, you will start by preparing the file and examining the data to familiarize yourself with the prerequisites to using MAP LabelPro. Then, the labeling will be done in two steps: a main labeling session (labeling public schools, streets, interstates, highways and land areas in one run) and a secondary session (labeling parks only, using the other labels as obstacles). Although the presented settings are valid only for the map data they are based on, the principles are applicable for your own designs.

1.2 Know your data

The MAP LabelPro Tutorial data folder contains a ready-to-use Adobe Illustrator template file containing a map of downtown San Francisco (*MAPLabelPro_Tutorial.ait*). Here is a description of the layers present in the file and how they will be used during the labeling process.




1.2.1 San Francisco map description

Layer name	Type	Description	Labeling Attribute (label source layers)	Obstacle? Session #1 Session #2	
Text layers					
LAND_labels	Text	Land labels	-	-	No
SCHOOL_labels	Text	School labels	-	-	Yes
STREET_labels	Text	Street labels	-	-	Yes
PARK_labels	Text	Park labels	-	-	-
HIGHWAY_INTERSTATE_labels	Text	Labels for highways and interstates	-	-	Yes
SUPPRESSED_labels	Text	Labels that couldn't be placed based on the specified rules.	-	-	No
MAP_TITLE	Text	Map title (San Francisco)	-	Yes	No
MAP Layers					
Public_Schools_point	Point	Public school locations	SCHOOL_NAME	Yes	Yes
Post_Offices_point	Point	Post office locations	-	Yes	Yes
Highways_line	Line	Highway roads	HIGHWAY_NUMBER	Yes	Yes
Interstates_line	Line	Interstate roads	INTERSTATE_NUMBER	Yes	Yes
Ramp_line	Line	Ramps to highways	-	No	No
Streets_line	Line	San Francisco street network	STREETNAME	No	No
Land_area	Area	Land areas	AREA_NAME	No	No
Parks_area	Area	Park areas	PARK_NAME	Yes	No

Layer name	Type	Description	Labeling Attribute (label source layers)	Obstacle? Session #1 Session #2
<i>Other Layers</i>				
Scale_Bar	Legend	Scale bar	-	-
background	Area	Blue background to represent the sea	-	-

All map layers were imported from City and County of San Francisco GIS data (San Francisco Enterprise GIS program SFGIS) in ESRI shapefile format and cropped to the area of interest. The map design (symbols and line styles) was created by Avenza Systems.

1.2.2 Styles and rules

MAPublisher is installed with predefined styles and rules to use for the MAP LabelPro settings in this tutorial. These configuration files are saved to one of three folders depending on the data type layer,  Area,  Line or  Point, they are associated with.

Layer Name	Type	Style <i>\LabelPro\Styles</i>	Rule <i>\LabelPro\Rules</i>
Public_Schools_point	Point	School_Label_Style	School_Label_Rule
Interstates_line	Line	Interstate_Label_Style	Interstate_Label_Rule
Highways_line	Line	Highway_Label_Style	Highway_Label_Rule
Streets_line	Line	Street_Label Style	Street_Label Rule
Parks_area	Area	-	-
Land_area	Area	Land_Label_Style	Land_Label_Rule

The style and rules for the *Parks_area* layer will be created during the second labeling session of this exercise.

The default location of the Rules and Styles folders is:

Windows XP: C:\Documents and Settings\All Users\Application Data\Avenza\MAPublisher 9.4\LabelPro\Rules
Windows Vista/7/8: C:\ProgramData\Avenza\MAPublisher 9.4\LabelPro\Rules
Mac OS X: Applications/Avenza/MAPublisher 9.4/MAPublisher Plug-In/LabelPro/Rules

Note: The MAP LabelPro tutorial data folder also contains a backup for these rules and styles

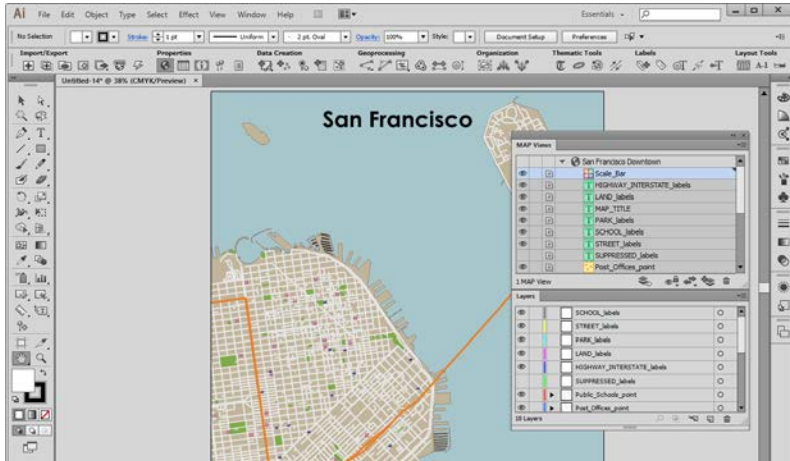
1.2.3 Important note for MAPublisher LabelPro evaluation users

The **evaluation version** of MAPublisher LabelPro scrambles the text of placed labels but preserves the case, spacing and punctuation so that it simulates how actual labels would be placed. Therefore, evaluation users will experience a different result with the MAP LabelPro settings of this tutorial than licensed users. The results will be shown and differences explained at the end of this guide. In evaluation mode, the scrambling process noticeably slows the speed of labeling.

2 Getting Started

2.1 Open tutorial document

1. In the Adobe Illustrator main menu, choose *File > Open* and open the template file **MAPLabelPro_Tutorial.ait** located in *\MAPublisher 9.4\MAP LabelPro Tutorial Guide & Data\Data*.



An artboard containing a map of San Francisco opens. All the data information to be used for labeling is present, except for the text labels. Please see the table in the Preliminaries chapter for the description of the layers.

2. Because the file was opened from a template, a new untitled document was created. Choose from the Adobe Illustrator main menu *File > Save As* to save the file as **San Francisco.ai**.


Note: Customize the Adobe Illustrator workspace to make it easier to access panels. It may look different than the image above. Read *Customizing the workspace* in the Adobe Illustrator help guide for more information. Review also MAPublisher Preferences in the MAPublisher 9.4 User Guide.


2.2 Examine MAP Attributes available for labeling

MAP LabelPro extracts label data from the attribute table for each MAP Layer to be labeled. Therefore, it is good practice and often required to examine or edit attribute information using the MAP Attributes panel. Edits can include: creating a new column to enter attribute values, joining tables to import additional attribute information from an external file, correcting spelling, changing the case of text and more.

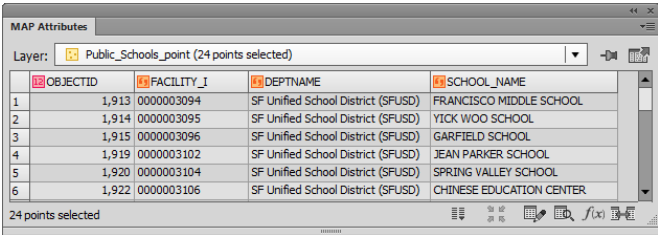
For this exercise, all attributes are ready to use for labeling. Follow the steps here to examine them and familiarize yourself with the data.

Note: For more information on the MAP Attributes panel, please refer to the MAPublisher 9.4 User Guide, chapter 5. For more exercises, please see the MAPublisher Quick Start Guide and MAPublisher Tutorial Guide.

1. In the Adobe Illustrator Layers panel, click the target button  next to the *Public_Schools_point* layer to select all artwork on the layer.

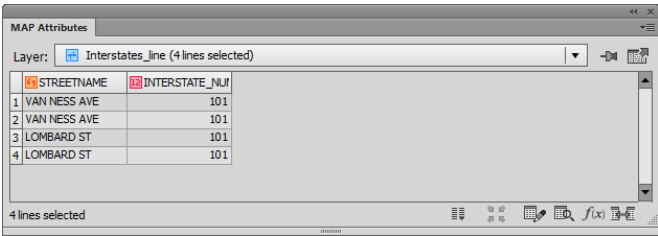
2. Open the MAP Attributes panel (from the Adobe Illustrator main menu, choose *Window > MAPublisher > MAP Attributes* or click the MAP Attributes button on the MAPublisher toolbar ).

The *Public_Schools_point* layer contains four visible attribute columns: OBJECTID, FACILITY_I, DEPTNAME and SCHOOL_NAME. The SCHOOL_NAME attribute column will be used for labeling the school points.




	OBJECTID	FACILITY_I	DEPTNAME	SCHOOL_NAME
1	1,913	0000003094	SF Unified School District (SFUSD)	FRANCISCO MIDDLE SCHOOL
2	1,914	0000003095	SF Unified School District (SFUSD)	YICK WOO SCHOOL
3	1,915	0000003096	SF Unified School District (SFUSD)	GARFIELD SCHOOL
4	1,919	0000003102	SF Unified School District (SFUSD)	JEAN PARKER SCHOOL
5	1,920	0000003104	SF Unified School District (SFUSD)	SPRING VALLEY SCHOOL
6	1,922	0000003106	SF Unified School District (SFUSD)	CHINESE EDUCATION CENTER

3. Select all artwork on the *Interstates_Line* layer and view the attributes in the MAP Attributes panel.



	STREETNAME	INTERSTATE_NUM
1	VAN NESS AVE	101
2	VAN NESS AVE	101
3	LOMBARD ST	101
4	LOMBARD ST	101

The INTERSTATE_NUMBER attribute column will be used for labeling these roads.

Note: Notice that the INTERSTATE_NUMBER attribute is of type integer . All types of attributes may be used for labeling with MAP LabelPro.

4. Select all on the *Highways_line* layer and view the attributes in the MAP Attributes panel. HIGHWAY_NUMBER will be used for labeling. View the attributes of the remaining layers: *Streets_line*, *Parks_area*, and *Land_area*.

Refer to the San Francisco description table in section 1.2.1 to see the attributes that will be used for labeling.

5. Close the MAP Attributes panel after reviewing it.

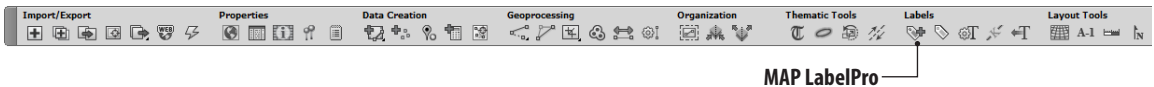
Knowing this information, we are ready to use the MAP LabelPro function to generate map labels for the San Francisco downtown map.

3 Labeling Session #1

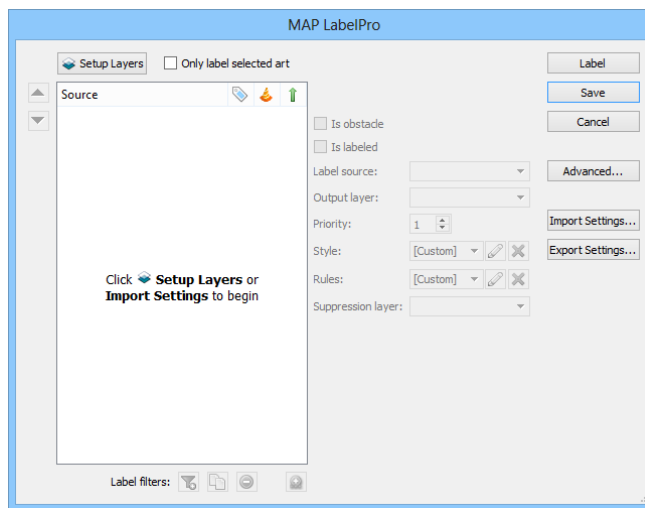
In this first labeling session, multiple layers will be labeled in a single run of MAP LabelPro. The objectives for this session are to:

- Add labels for school as a first priority (source layer *Public_Schools_point*).
- Label the interstate roads with interstate shield symbols containing the interstate number (source layer *Interstates_line*).
- Label the highway roads with highway shield symbols containing the highway number (source layer *Highways_line*).
- Add street names (source layer *Streets_line*).
- Add names for land areas, written in the sea to make the map more readable (source layer *Land_area*).
- Make sure that the school and road names do not overlap with the post office and school symbols and park area, and do not cross highways and interstates line (obstacle layers: *Post_Offices_point*, *Public_Schools_point*, *Parks_area*, *Interstates_line* and *Highways_line*).

To start the MAP LabelPro Editor, click the **MAP LabelPro** button on the MAPublisher Toolbar.



The MAP LabelPro dialog box opens.



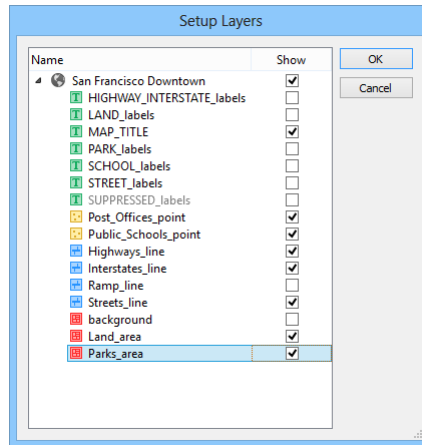
All layers have to be configured before labeling with MAP LabelPro. The general MAP LabelPro workflow: setup layers, specify attribute label source, set label output layer and suppression layers, set label priority, and define layer styles and rules.

Note: If the dialog box needs to be closed before all settings are done, make sure to click the *Save* button.

3.1 Layers and obstacles setup

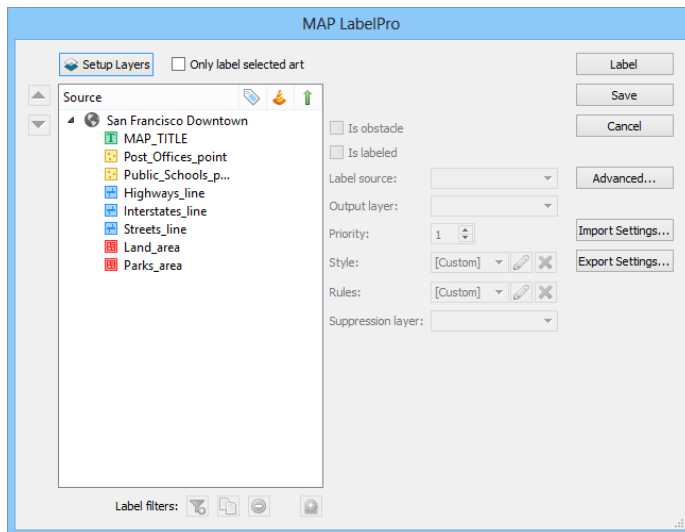
1. In the MAP LabelPro editor dialog box, click the Setup Layers button.
2. In the Setup Layers dialog box, click the check box in the Show column for each of the following layers:

- *MAP_TITLE*
- *Post_Offices_point*
- *Public_Schools_point*
- *Highways_line*
- *Interstates_line*
- *Streets_line*
- *Land_area*
- *Parks_area*

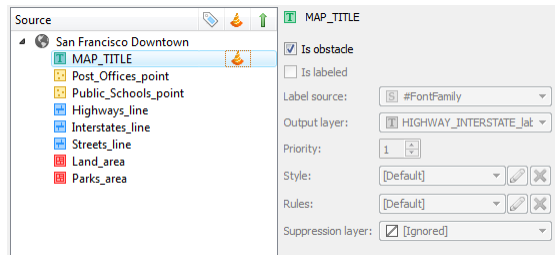


3. Make sure that the settings match the image above and click OK.

The MAP LabelPro dialog box displays the MAP View and chosen layers. Layers can be designated for labeling and obstacles in the list by clicking the appropriate column.



- The first layer in the Source list, MAP_TITLE, will be designated as an obstacle. Click the corresponding spot in the Obstacle column.



Notice that the *Is obstacle* check box is also checked, indicating that it is designated as an obstacle.

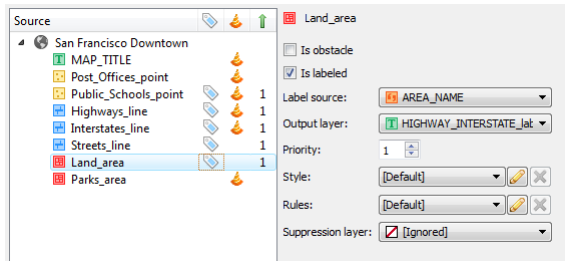
- Now designate the other layers as labeled or an obstacle by clicking the appropriate column:

Labeled

Public_Schools_point
Highways_line
Interstates_line
Streets_line
Land_area

Obstacle

Post_Offices_point
Public_Schools_point
Highways_line
Interstates_line
Parks_area

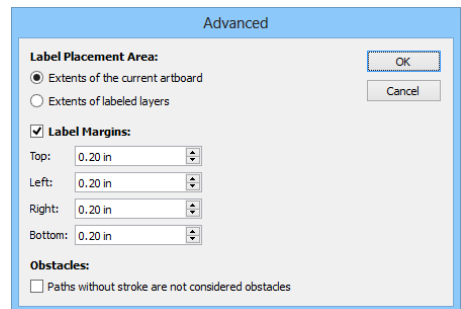


3.2 Labeling extents setup

The configuration described in this exercise will limit the creation of labels to the extent of the selected source layers for labeling, with a margin of 0.2 inches on each side.

- Click the Advanced button in the MAP LabelPro dialog box.
- Under Label Placement Area, choose the Extents of labeled layers option.
- Click the Label Margins check box. Set the Top, Left, Right and Bottom drop-down lists to **0.20 in**.

Note: If the option *Paths without stroke are not considered obstacles* is checked, areas that have no stroke will not be used as an obstacle in the labeling process, allowing generated labels to overlap with them.



- Make sure that the settings match the image above and click OK.

The label styles and rules of each source layer are now ready to be set.

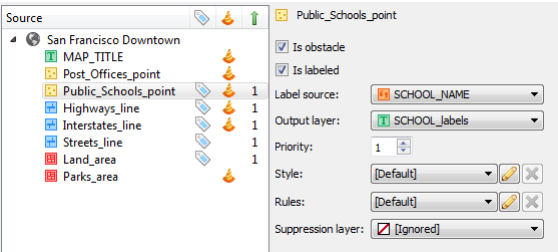
3.3 Point layer label settings

1. In the MAP LabelPro editor dialog box, click *Public_Schools_point* in the Source list to highlight the row.

By default, the attribute to use as a label is set to FACILITY_I, the first string attribute column of the *Public_Schools_point* layer. It needs to be changed to SCHOOL_NAME.

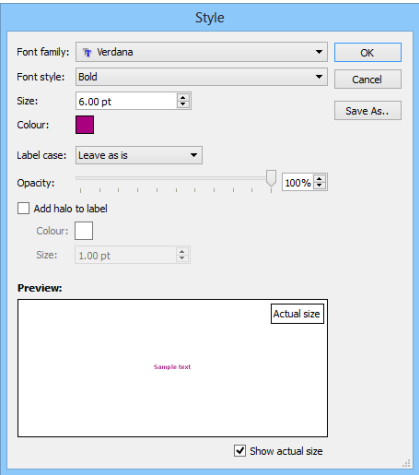
Note: Increase the width of an attribute column to see its full name.

2. Click the Label source drop-down list and choose **SCHOOL_NAME**.
3. Click the Output layer drop-down list and choose **SCHOOL_labels**.




Leave the Priority column set to 1. The *Public_Schools_point* layer will be labeled as a first priority while the others will be set to a secondary priority. Next, you'll change the style and rules for this layer.

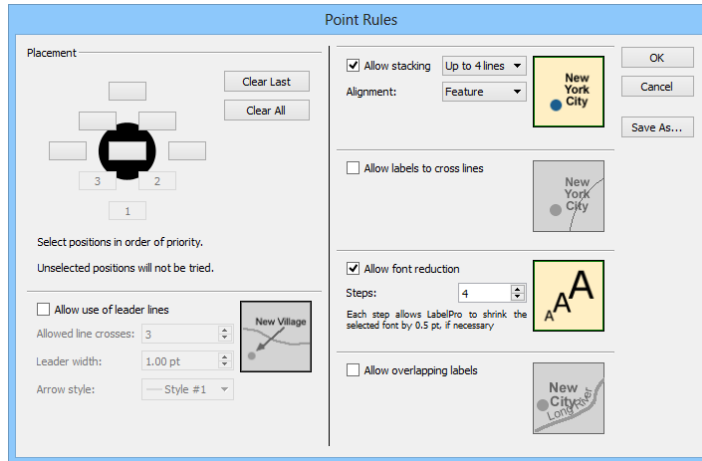
4. Click the Style drop-down list and choose **School_Label_Style**. Click the Edit button  to open the Style dialog box and examine its settings. This style was predefined for the purpose of the tutorial.



Note: The second labeling session will show how to create a new style from scratch.

5. After reviewing the point Style settings, click OK to close it.

6. Click the Rules drop-down list and choose **School_Label_Rule**. Click the Edit button  to open the Point Rules dialog box and examine its settings. These rules were predefined for the purpose of the tutorial.

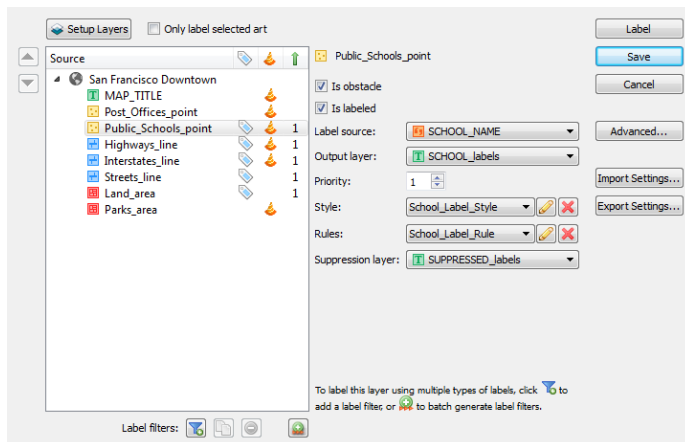


These point settings will force the labels to be placed below the symbols:

- When possible, the text will be placed lower-middle to the symbol.
- If this is not possible due to space constrictions, text will be placed to the lower-right, and then to the lower-left.
- If none of the options can be applied, the text will be placed on the suppression layer (or ignored if no suppression layer was specified).
- Text stacking and font reduction have also been enabled to add flexibility to the placement rules.

Note: More information on the available labeling options can be found in the MAPublisher User Guide, chapter 17.

7. After reviewing the Point Rules dialog box, click OK to close it.
8. Click the Suppression layer drop-down list and choose **SUPPRESSED_labels**.



Labels that can not be placed will be copied to the *SUPPRESSED_labels* layer.


Note: Scroll to the right of the MAP LabelPro dialog box or expand it to see the *Suppression Layer* column.

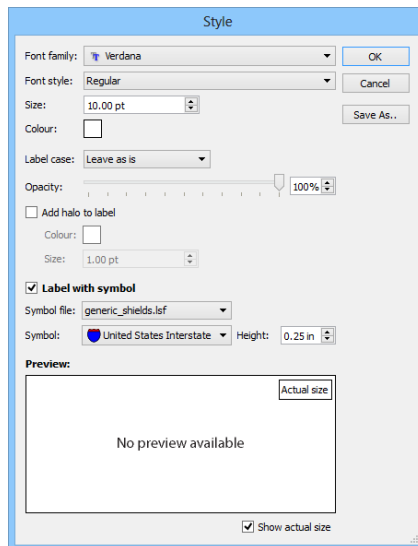
This finalizes the configuration for the labeling of the *Public_Schools_point* layer. **Do not close** the MAP LabelPro dialog box as the configuration of the roads and land layers still have to be set. If you want to save the current configurations, click the *Save* button. You will have to reopen the MAP LabelPro dialog box to continue.

3.4 Line layers label settings


This section covers the labeling configuration for the source layers *Highways_line*, *Interstates_line* and *Streets_line*. Highways and interstates will be labeled using highway and interstate symbol shields—notice that these layers contain double-lines for each road (divided highways).

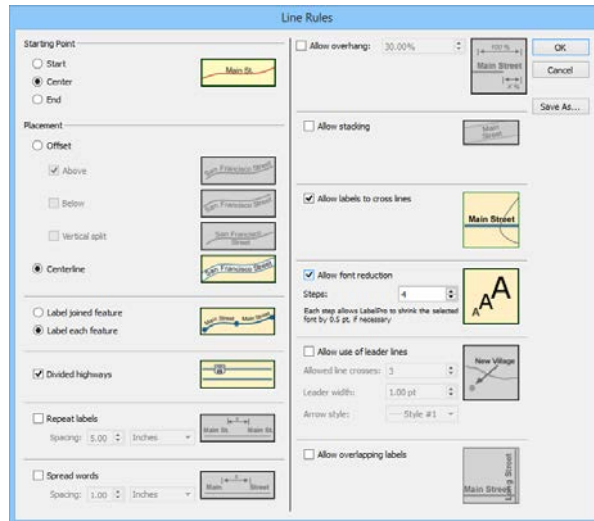
3.4.1 Label lines with symbols

1. In the MAP LabelPro dialog box, click the *Highways_line* layer name in the Source column to highlight the row.
2. Click the Label source drop-down list and choose **HIGHWAY_NUMBER**.
3. Keep the Output layer as the default (*HIGHWAY_INTERSTATE_labels*).
4. Set the Priority to **2**.
5. Click the Style drop-down list and choose **Highway_Label_Style**. Click the Edit button  to open the Style dialog box and examine its settings. This style was predefined.



In addition to the regular font settings, line labels can also be labeled with symbols. In this case, the Label with symbol option is enabled. Symbol files (*.lsf) contain a series of symbols. In the example above, the *United States Interstate* symbol is selected from the *generic_shields.lsf* symbol file. The symbol size is set to a height of 0.25 inches. The symbol font color is set to white so it can be legible against the blue symbol.

6. After reviewing the Style settings, click OK to close it.
7. Click the Rules drop-down list and choose **Highway_Label_Rule**. Click the Edit button  to open the Line Rules dialog box and examine its settings. These rules were predefined.



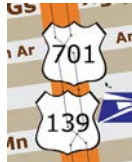
With these settings, the highway labels (and shields) will be placed in the middle of each line length and on the centerline, with a font reduction (if necessary). The Divided Highways setting recognizes lines that are parallel and share the same name (as specified by the selected attribute). In such cases, it places only one symbol instead of two or more. The Allow labels to cross lines option needs to be enabled because double highway lines are very close in proximity and the labels need to cross the lines. More information on line labeling rules can be found in the MAPublisher 9.4 User Guide, chapter 17.

Note: Evaluation users will see a different result than a licensed user. Because of the text scrambling, the divided highways cannot be recognized. Here is an example with the interstates:

Result with license:




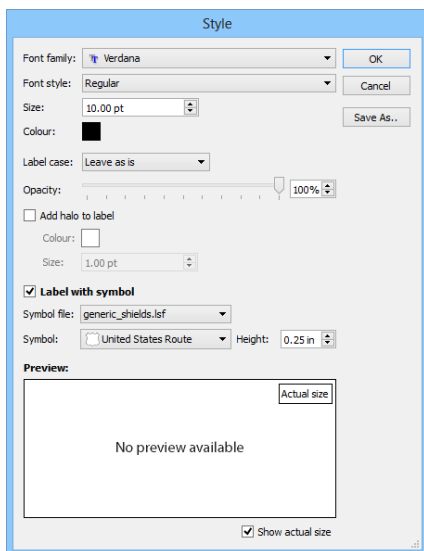
Result with evaluation:




8. After reviewing the Line Rules settings, click OK to close it.
9. Click the Suppression layer drop-down list and choose **SUPPRESSED_labels**.

The settings for the *Highways_line* layer are completed. Continue with the settings for the *Interstates_line* layer.

10. Click the *Interstates_line* layer name in the Source column to highlight the row.
11. Click the Label source drop-down list and choose **INTERSTATE_NUMBER**.
12. Keep the destination text layer as the default (*HIGHWAY_INTERSTATE_labels*).
13. Set the Priority column to 2.
14. Click the Style drop-down list and choose **Interstate_Label_Style**. Click the Edit button  to open the Style dialog box and examine its settings. This style was predefined.



The *United States Route* symbol is selected from the *generic_shields.lsf* symbol file. The symbol size is set to a height of 0.25 inches.


15. After reviewing the Style settings, click OK to close it.
16. Click the Rules drop-down list and choose **Interstate_Label_Rule**. Click the Edit button  to open the Line Rules dialog box and examine its settings. These rules were predefined.

The labeling rules for the interstates are the same as for the highways. Also, the previous note about text scrambling applies for evaluation users.

17. After reviewing the Line Rules settings, click OK to close it.
18. Click the Suppression layer drop-down list and choose **SUPPRESSED_labels**.

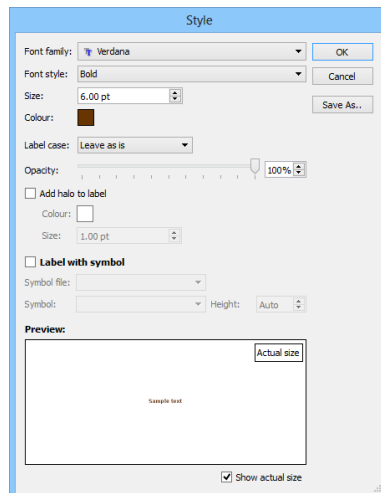
The label settings for the interstate roads are now complete. Continue with setting up street labels.


3.4.2 Label lines with text only

1. In the MAP LabelPro dialog box, click the *Streets_line* layer name in the Source column to highlight the row. Keep STREETNAME as the Label source attribute.
2. Click the Output layer drop-down list and choose **STREET_labels**.
3. Set the Priority column to 2.
4. Click the Style drop-down list and choose **Street_Label_Style**. Click the Edit button  to open the Style dialog box and examine its settings. This style was predefined.

Notice that this time Label with symbol is not checked.

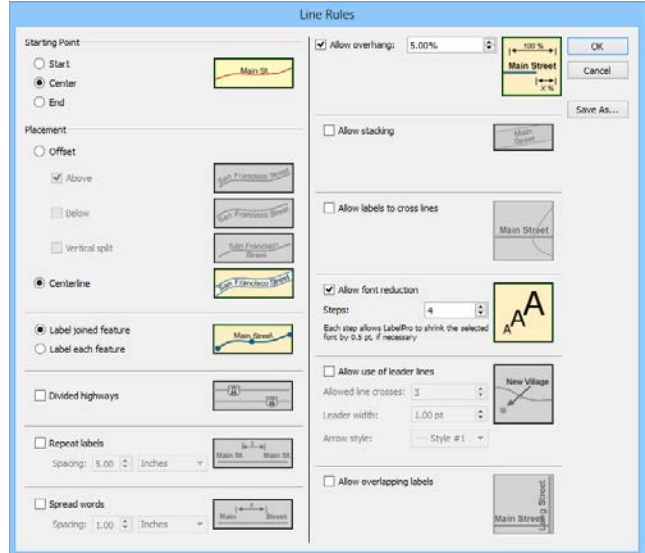
5. After reviewing the Style settings, click OK to close it.



- Click the Rules drop-down list and choose **Street_Label_Rule**. Click the Edit button  to open the Line Rules dialog box and examine its settings. These rules were predefined.

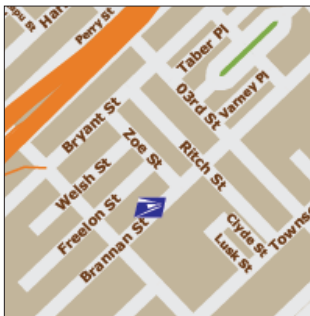
Like highway and interstate labels, street labels will be placed in the middle of each line length and on the centerline, with an eventual font reduction if necessary. The ability to overhang is enabled here.

The street lines in this file are not joined. For example, each street is made of many line segments that all share the same STREETNAME attribute. To avoid repeating the name of connecting lines, the Label joined feature rule is enabled. MAP LabelPro recognizes that connecting lines sharing a same name need to be labeled only once.

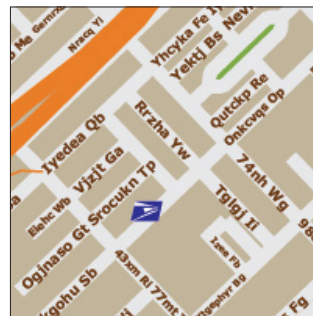


Note: Evaluation users will see a different result than a licensed user due to the text scrambling. Names are not recognized as being the same and labels will be created for each line segment rather than one per street.

Result with license:



Result with evaluation:




- After reviewing the Line Rules settings, click OK to close it.
- Click the Suppression layer drop-down list and choose **SUPPRESSED_labels**.

This completes the label settings for all line layers. **Do not close** the MAP LabelPro dialog box as the configuration of the *Land_area* layer still has to be done. If you want to save the current configurations, click the *Save* button. You will have to reopen the MAP LabelPro dialog box to continue.

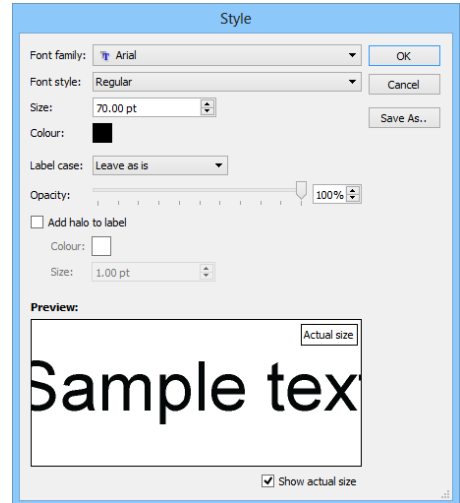
3.5 Area layer label settings


This section covers the labeling configuration for the source layers *Land_area*. The goal is to add large labels for the land areas of the map (downtown area, Treasure and Alcatraz Islands).

1. In the MAP LabelPro dialog box, click the *Land_area* layer name in the Source column to highlight the row. Keep AREA_NAME as the Source label attribute.
2. Click the Output layer drop-down list and choose **LAND_labels**.
3. Set the Priority column to 2.
4. Click the Style drop-down list and choose **Land_Label_Style**. Click the Edit button  to open the Style dialog box and examine its settings. This style was predefined.

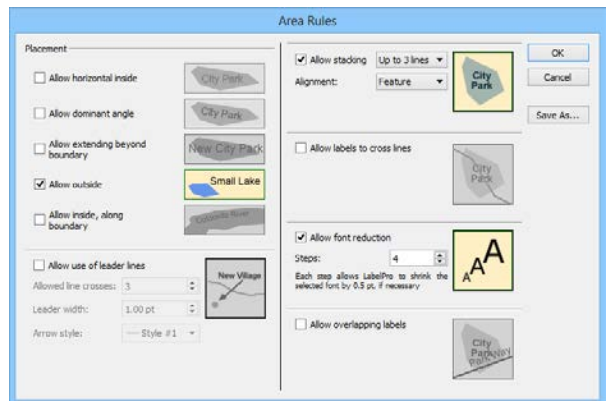
Note: The sample text is cut off because the font size is set to 70 pt and is larger than the preview area.

5. After reviewing the Style settings, click OK to close it.



6. Click the Rules drop-down list and choose **Land_Label_Rule**. Click the Edit button  to open the Area Rules dialog box and examine its settings. These rules were predefined.

The main requirement for labels created from the *Land_area* layer is that labels are placed in the water area. Therefore, the Allow outside rule is the only placement option enabled. Stacking and font reduction option are also enabled to give more flexibility to the rule. More information on the available area labeling rules can be found in the MAPublisher 9.4 User Guide, chapter 17.



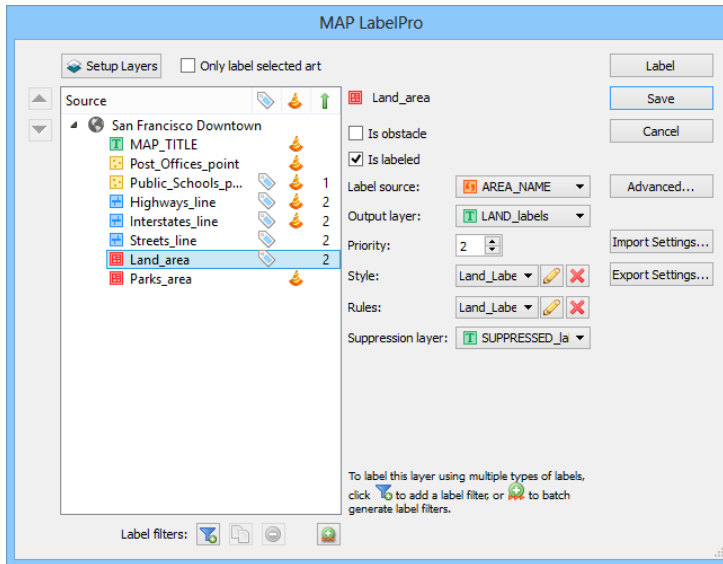
Note: Labeling Session #2 will explain the creation of area rules for the *Parks_area* layer.

7. After reviewing the Area Rules settings, click OK to close it.
8. Click the Suppression layer drop-down list and choose **SUPPRESSED_labels**.

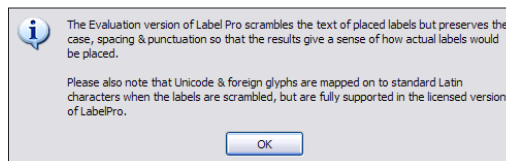
All layers have been now configured for the first labeling session.

3.6 Execute labeling with MAP LabelPro

1. Make sure that all the layers have been configured to match the image below and click the Label button.



Note: For evaluation users only. Review the MAPublisher warning message and click OK to close it.



2. Wait for the process to end to visualize the results (see next page).

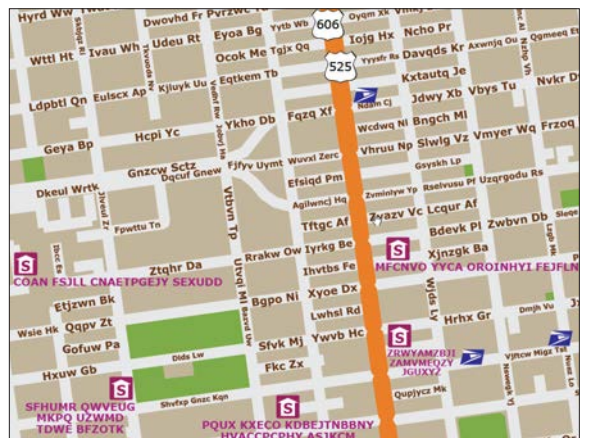
The map layers are labeled. Make the *SUPPRESSED_labels* layer visible to show labels that couldn't be placed with the specified rules.

3. Save the file and leave it open to continue on with the second labeling session.

Result with full license:



Result with evaluation license:



Note: Evaluation users will observe scrambled labels on the map. The Label joined feature rule does not recognize similar street names due to the text scrambling and places more labels than necessary. Similarly, highway and interstate roads are labeled with two shields with different numbers. Licensed versions will not see any text scrambling.

4 Labeling Session #2

In this second labeling session, continue with the San Francisco.ai file that you saved. This time, only the parks will be labeled in a single labeling execution of MAP LabelPro. The objectives are to:

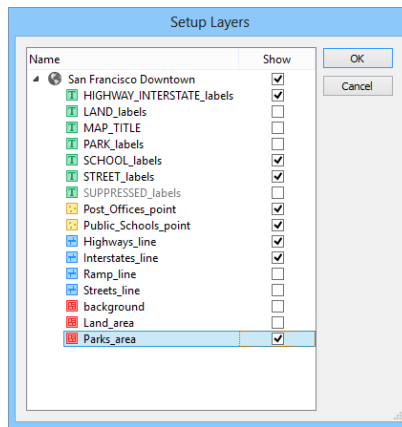
- Create a label filter to label small parks and large parks.
- Create new area label styles for small and large parks.
- Create new area label rules for small and large parks.
- Make sure that the park labels do not overlap with the other labels and with the post office and school symbols and do not cross highway and interstate lines.

To start MAP LabelPro, click the **MAP LabelPro** button on the MAPublisher Toolbar. The settings from the previous labeling session are remembered. For the new session, the layer setup has to be changed to match the new objective of this exercise. However, the label extents remain the same as before.

4.1 Layers and obstacles setup

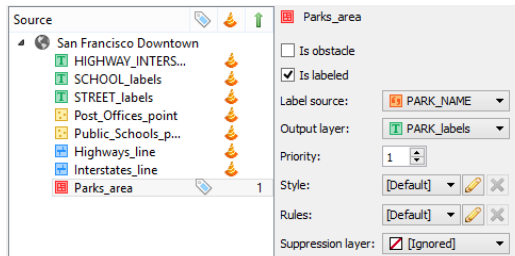
1. In the MAP LabelPro dialog box, click the Setup Layers button to setup which layers are shown.
2. In the Setup Layers dialog box, click the top Show check box (level with *San Francisco Downtown* MAP View). Click the check box again to uncheck all of the check boxes below. Check only the following layers:

- *HIGHWAY_INTERSTATE_labels*
- *SCHOOL_labels*
- *STREET_labels*
- *Post_Offices_point*
- *Public_School_point*
- *Highways_line*
- *Interstates_line*
- *Parks_area*



3. Click OK to return to the MAP LabelPro dialog box.
4. Click the Labeled icon for the *Parks_area* layer only. Make sure the all remaining layers are set as obstacles:

- *HIGHWAY_INTERSTATE_labels*
- *SCHOOL_labels*
- *STREET_labels*
- *Post_Offices_point*
- *Public_School_point*
- *Highways_line*
- *Interstates_line*

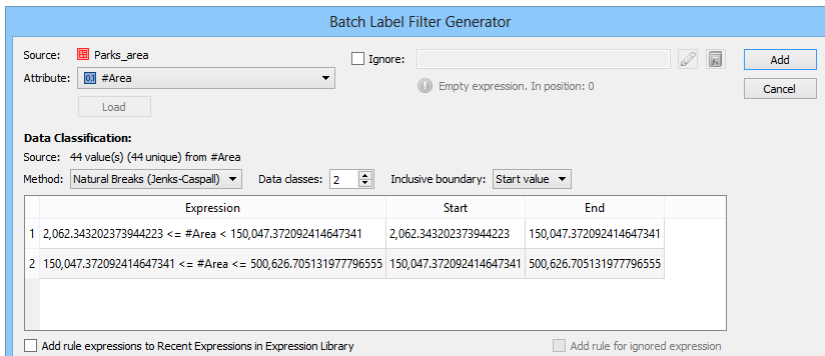


5. Make sure that the settings match the image above and click OK.

4.2 Create Label filters

This section covers the labeling configuration for the source layer *Parks_area*. The goal is to add labels for small parks and large parks (based on the #Area attribute). This is done by creating Label filters that can isolate and classify data using expressions. In addition, styles and rules will be created from scratch.

1. In the MAP LabelPro dialog box, click the *Parks_area* layer name in the Source column to highlight the row.
2. Below the Source list, click the Batch generate label filters button.
3. In the Batch Label Filter Generator dialog box, click the Attribute drop-down list and choose **#Area**, then click the Load button.
4. In the Data Classification section, click the Method drop-down list and choose **Natural Breaks (Jenks-Caspall)** and change the Data classes to 2.



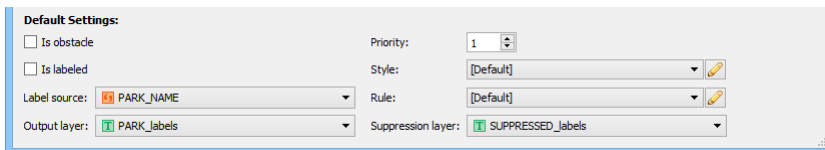
The Batch Label Filter Generator dialog box is shown. The Source is set to *Parks_area* and the Attribute is set to **#Area**. The Data Classification section shows the Method set to **Natural Breaks (Jenks-Caspall)** and Data classes set to 2. The Inclusive boundary is set to **Start value**. A table displays the generated expressions and their corresponding start and end values.

	Expression	Start	End
1	$2,062.343202373944223 \leq \#Area < 150,047.372092414647341$	2,062.343202373944223	150,047.372092414647341
2	$150,047.372092414647341 \leq \#Area \leq 500,626.705131977796555$	150,047.372092414647341	500,626.705131977796555

At the bottom, there are two checkboxes: ☐ Add rule expressions to Recent Expressions in Expression Library and ☐ Add rule for ignored expression.

Two classes (defined by two generated expressions) will define the small and large parks. The Natural Breaks classification looks for appropriate breaks in the data where to use as data class boundaries. The next step is to set some default settings for the labels (which sets them for both label filters).

5. In the Default Settings section, click the *Is labeled* check box. Click the Label source drop-down list and choose **PARK_NAME**. Click the Output layer drop-down list and choose **PARK_labels** from the drop-down list. Click the Suppression layer drop-down list and choose **SUPPRESSED_labels**.

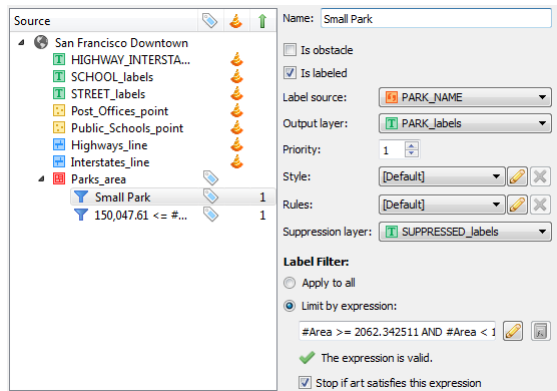



The Default Settings dialog box is shown. The *Is labeled* checkbox is checked. The Label source is set to **PARK_NAME**, the Output layer is set to **PARK_labels**, and the Suppression layer is set to **SUPPRESSED_labels**. The Priority is set to 1, and the Style and Rule are both set to [Default].

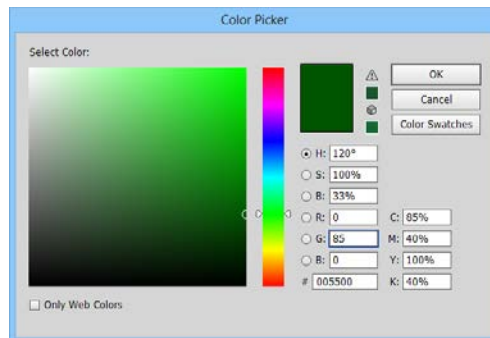
6. Click the Add button to add the two label filters.

4.3 Create styles and rules

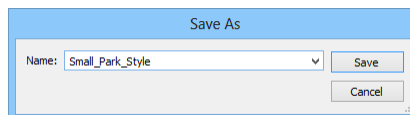
1. In the MAP LabelPro dialog box, click the first label filter for the Parks_area layer to highlight it. Change the name of the first label filter to **Small Park**.



2. Beside the Style drop-down list, click the Edit button  to open the Style dialog box.
3. Make sure that **Arial** is selected in the Font family drop-down list and that **Regular** is selected as the Font style.
4. In the Size drop-down list, set the font size to **7.00** pt
5. Click the color chip and in the Color Picker dialog box, pick dark green color (e.g. R=0, G=85, B=0) and click OK.



6. Click the Save As button. In the Save As dialog box, type **Small_Park_Style** in the Name box and click Save.



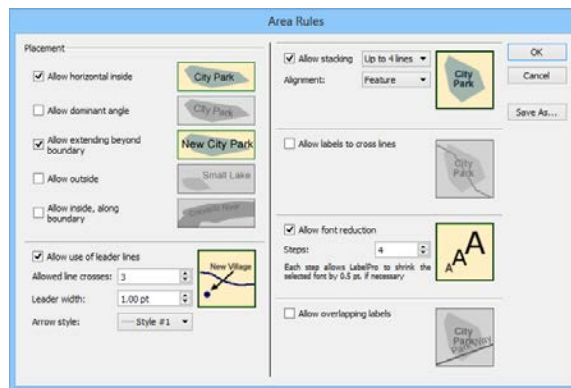
7. In the Style dialog box, click OK.

In the MAP LabelPro dialog box, the Style drop-down list now displays *Small_Park_Style*. The style is saved in the directory specified in the MAPublisher Preferences.

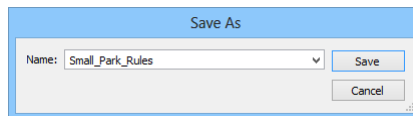


Next, you'll create the rules for the Small Park label filter.

8. Beside the Rules drop-down list, click the Edit button to open the Area Rules dialog box.
9. In the Area Rules dialog box, under Placement, click the **Allow extending beyond boundary** check box.
10. Click the **Allow use of leader lines** check box and keep its default parameters.
11. For the Allow stacking rule, choose **Up to 4 lines** from the drop-down list. Leave the alignment as Feature.
12. Click the check box for **Allow labels to cross lines** to disable the rule.



13. Click the Save As button and in the Save As dialog box, type **Small_Park_Rules** in the Name box and click Save.

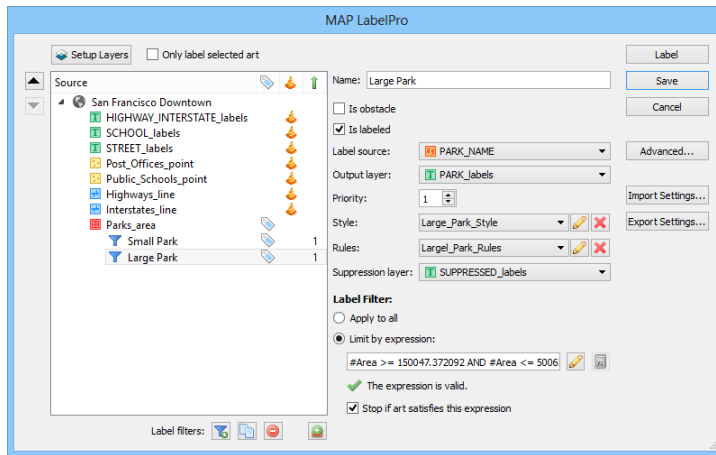


14. In the Area Rules dialog box, click OK.

In the MAP LabelPro dialog box, the Rules drop-down list now displays *Small_Park_Rules*. The rule is saved in the directory specified in the MAPublisher Preferences.

15. Repeat the same process to setup the second label filter as **Large Park**. Choose a different font style and label color to help distinguish large parks from small parks.

Hint: Choose the same Style and Rules as Small Park label filter. However, edit the Small_Park_Style to change the font style and label color, then save it as Large_Park_Style.

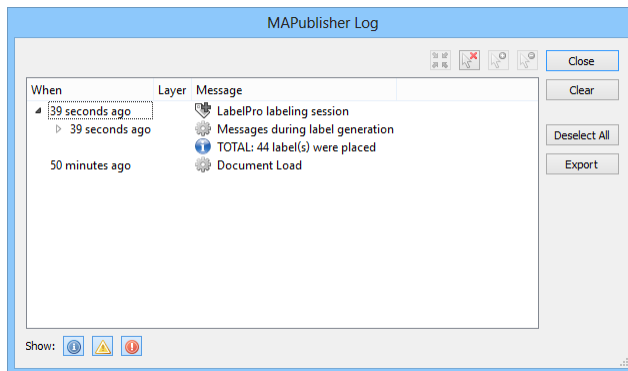


4.4 Execute labeling with MAP LabelPro

1. Make sure that all the layers have been configured appropriately and click the Label button.

The parks are labeled appropriately according to the style and rules defined in MAP LabelPro.

2. Click the MAPublisher Log button on the MAPublisher Toolbar.



Statistics about how many labels were placed (or not placed) on each layer are displayed in the log. Notice that the first labeling session is also listed.

3. After reviewing the statistics, close the MAPublisher Log dialog box.

Result with full license:



Result with evaluation license:



Congratulations, you have completed the MAPublisher 9.4 MAP LabelPro tutorial. For more in-depth information on MAPublisher tools and features, please take a look at the MAPublisher 9.4 User Guide , MAPublisher 9.4 Tutorial Guide and Quick Start Guide. These documents are installed with MAPublisher or can be downloaded from <http://www.avenza.com/documentation>.