





Avenza® MAPublisher® 9 Tutorial Guide

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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 you to perform all your cartographic tasks where they should be done: in a powerful graphics environment.

MAPublisher 9 improves on the already powerful tools of previous versions by adding additional file support, additional tools, and improvements to existing tools.

This tutorial guide assumes that the user is familiar with Adobe Illustrator CS4 or CS5, and has at least a basic understanding of geographic information systems (GIS) terminology and concepts. The tutorials in this guide should be used in conjunction with the MAPublisher 9 User Guide.

By following these tutorials, you will learn how to create maps using the MAPublisher features and tools in Adobe Illustrator. This guide covers the steps necessary to build a map and perform fundamental cartographic and GIS tasks. Together, MAPublisher and Adobe Illustrator will give you a totally integrated cartographic design software system with graphics tools and geographic functions present in the same work environment.

TUTORIAL DATA

The tutorials in this guide use GIS data installed with MAPublisher. The tutorial data is installed at:

Windows XP

C:\Documents and Settings\All Users\Shared Documents\Avenza\MAPublisher 9\Tutorial Guide & Data\Tutorial Data

Windows Vista and Windows 7

C:\Users\Public\Public Documents\Avenza\MAPublisher 9\Tutorial Guide & Data\Tutorial Data

Mac OS X

/Applications/Avenza/MAPublisher 9/MAPublisher Tutorials/Tutorial Guide/Tutorial Data

Avenza produces and distributes helpful styles swatches, and symbols with the MAPublisher installation. These are installed into Adobe Illustrator's default library installation locations and can be accessed through Adobe Illustrator Symbols panel option menu: *Open Symbol Library > MAP Symbols*; the Adobe Illustrator Graphic Styles option menu: *Open Graphic Style Library > MAP Graphic Styles*; and through the Adobe Illustrator Swatches panel option menu: *Open Swatches Library > MAP Swatches*.

Helpful Styles and Symbols can be found in the following locations:

Windows XP

C:\Documents and Settings\All Users\Documents\Avenza\MAPublisher 9\Helpful Styles & Symbols

Windows Vista and Windows 7

C:\Users\Public\Documents\Avenza\MAPublisher 9\Helpful Styles & Symbols

Mac OS X

/Applications/Avenza/MAPublisher 9/Helpful Styles & Symbols

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1 Importing Map Data

See User Guide, Chapter 3.

1.1 Import a single data file

- 1. Create a newn Letter sized Adobe Illustrator document in landscape orientation.
- 2. From the MAPublisher toolbar, click the Simple Import button 💽 or go to File > Import Map Data > Simple.
- 3. Choose MapInfo Interchange Format [*.mif] from the Format drop-down list.
- 4. Click Browse, navigate to the *Tutorial Data* folder and select world.mif.

Simple Imp	ort
Format:	MapInfo Interchange Format [*.mif]
Dataset:	MAPublisher 8\Tutorial Guide & Data\Tutorial Data\world.mif Browse Cancel
Encoding:	Unicode, 8-bit (UTF-8)
Source C	oordinate System:
WGS 84	From File
Same a	as:

The Source Coordinate System is specified as WGS 84 since MAPublisher reads this information from the data source. In cases where no coordinate system is specified, click the **Specify** button to choose a system.

5. With the dialog box matching the one above, click OK.

The data is imported and fits to the artboard. The layer *world_area* is added to Adobe Illustrator's Layers panel. The MAP Views panel now contains a MAP View with the imported *world* layer. See chapter 4 in the MAPublisher User Guide for more information on MAP Views.



1.2 Import multiple datasets simultaneously

Simple Import will import multiple map files simultaneously if the files are in the same data format, are in the same coordinate system, and are located in the same directory.

- 1. Create a new Letter sized Adobe Illustrator document in portrait orientation.
- 2. From the MAPublisher toolbar, click the Simple Import button.
- 3. Choose MapInfo Interchange Format [*.mif] from the Format drop-down list.
- 4. Click Browse, navigate to the *Tutorial Data* folder and select both **fsatoronto.mif** and **torontostreets.mif** (hold the Command key (Mac) or the Ctrl key (Windows) to select multiple files). Click Open.

Simple Imp	ort
Format:	MapInfo Interchange Format [*.mif]
Dataset:	her 8\Tutorial Guide & Data\Tutorial Data\torontostreets.mif Browse Cancel
Encoding:	Unicode, 8-bit (UTF-8)
Source C	oordinate System:
WGS 84	From File
Same a	as: 🔍

Although two files are selected for import, the Dataset box only lists the last file (alphabetical order).

5. With the dialog box matching the one above, click OK.

The layers *fsatoronto_area* and *torontostreets_line* are added to Adobe Illustrator's Layers panel. The MAP Views panel now contains a MAP View called *fsatoronto* holding the two imported files.



1.3 Import data to match an existing MAP Layer

- 1. Create a new Letter sized Adobe Illustrator document in landscape orientation.
- 2. From the MAPublisher toolbar, click the Simple Import button.
- 3. Choose MapInfo Interchange Format [*.mif] from the Format drop-down list.
- 4. Click Browse, navigate to the *Tutorial Data* folder and select worldwest.mif. Click Open.

The selected file appears in the *Dataset* file list in the MAPublisher Simple Import dialog box. Notice that the Source Coordinate System is Robinson.

5. Click OK to complete the import.

The layer *worldwest_area* is added to Adobe Illustrator's Layers Panel. The MAP Views panel contains the *worldwest* MAP View projected in a Robinson projected coordinate system.



6. Import worldeast.shp (ensure Esri Shapefile [*.shp] is chosen in Format drop-down list.)

In the Simple Import dialog box, the Source Coordinate System of worldeast.shp is indicated as Robinson.

- 7. Click OK to continue the import process.
- 8. In the Matching MAP View Found dialog box, accept the default **Add to: worldwest** option as the Destination MAP View. Click the Resize MAP View to fit check box.



The *worldeast* layer is imported to match the *worldwest* layer. Notice that the scale of the *worldwest_area* layer has been adjusted so that both layers can now fit inside the page extents. The layer *worldeast_area* is added to the Adobe Illustrator Layers panel. In the MAP Views panel, the MAP View *worldwest* now contains both layers.



9. Close the document without saving.

1.4 Import data with point per path limitations

- 1. Create a new Letter sized Adobe Illustrator document in portrait orientation.
- 2. Click the Simple Import button.
- 3. Choose MapInfo Interchange Format [*.mif] from the Format drop-down list.
- 4. Click Browse, navigate to the Tutorial Data folder and select greenland.mif, click Open. Click OK.



A warning appears because the vertex count exceeds Adobe Illustrator's allowable 32,000 points per path.

5. Click View Log to read the warning messages. Click Close to close the MAPublisher Log.

MAPublisher removes points in order to meet Adobe Illustrator's maximum points per path while maintaining the integrity of the path's shape. Greenland looks distorted because there is no coordinate system defined.

1.5 Import data that requires optional settings

The *Tutorial Data* folder contains many GIS file formats. Various file formats require unique import settings that are accessed by clicking the **Settings** button in the Simple and Advanced Importer dialog boxes. Refer to Chapter 3 of the User Guide for the available settings for each format.

- 1. Create a new Letter sized Adobe Illustrator document in portrait orientation.
- 2. Click the Simple Import button.
- 3. Choose Esri Interchange File [*.e00] from the Format drop-down list.
- 4. Click Browse, navigate to the *Tutorial Data* folder and select **capeverde.e00**. Click Open.
- 5. Click the Settings button in the Simple Import dialog box.
- 6. Make sure Ignore TIC layer is unchecked. Click OK.
- 7. Click OK to complete the import.
- **Note:** As e00 files are generally an archive of several files, MAPublisher will reproduce an e00 import as distinct Adobe Illustrator layers. Notice that MAPublisher generates point, area, line and text layers. An extra layer appended with *_tic_point* is created to hold tic points, as was specified in the *Settings* dialog box.



8. Close the document without saving.

1.6 Import point data

Along with importing Microsoft Excel files, MAPublisher can import delimited ASCII text files as point data provided they contain coordinate values. Supported delimiters include: *comma, return, end of line* and *tab* in multiple formats. Below is an example of ASCII that is supported for import:

"AZ,Antonio Tank,reservoir,Santa Cruz,4,23,312004N,1103943W,31.33444,-110.66194,,,,,,Duquesne" "AZ,Agua Prieta Substation,locale,Cochise,4,3,312006N,1093335W,31.335,-109.55972,,,,,,Douglas" "AZ,Adobe Spring,Spring,Santa Cruz,4,23,312037N,1110234W,31.34361,-111.04278,,,,,,,Pajarito Peak"

- 1. Create a new Letter sized Adobe Illustrator document in portrait orientation.
- 2. Click the Simple Import button.
- 3. Choose Delimited XY Text Data [*.csv, *.tsv, *.txt] from the Format drop-down list.
- 4. Click Browse, navigate to the Tutorial Data folder, and select azdeci.txt.

The Settings dialog box opens automatically. Specify the appropriate coordinate format of the data in the Format drop-down list before selecting in which columns of the import file the coordinates will be found.

- 5. Use **Decimals Degrees (D+[.d*])** as the Coordinate Format.
- 6. Use Column #10: -110.66194 for the Longitude coordinates and Column #9: 31.33444 for the Latitude coordinates.
- 7. Leave Use first line as a header unchecked because the first line of this file does not contain column headings. Accept the default data types as assigned.

Coordinat	e Format:			ОК
Format:	Decimal degrees (D	+[.d*])	•	Canad
Decimal deg Examples: 7.5444W, 5	rees, with optional d 4.9777N -79,44	lirection indicator.		Cancel
Notation: it '+' means o or 'W'.	ems in [] are optiona ne or more digits. Dir	al, '*' means zero or more digit rection can be indicated with '-	s and ', 'N',	
Coordinat	e Columns:			
Longitude:	Column #10: -110.	66194	•	
Latitude:	Column #9: 31.334	144	•	
	Use first line as a	a header (not detected)		
		a measure (not accessed)		
Specify S	hema:	(interesting)		
Specify Se	hema:	String -	•	
C1 C2	hema:	S String	•	
Specify S C1 C2 C3	chema:	String String String String	- III	
Specify S C1 C2 C3 C4	hema:	String String String String String String	111	
Specify S C1 C2 C3 C4 C5	chema:	String String String String String Integer	111 ×	
Specify 5 C1 C2 C3 C4 C5 C6	hema:	Image: String Image: String Image: String Image: String Image: String		

8. Make sure that this dialog box matches the one above and click OK.

Since a delimited text file does not contain coordinate system information, it must be manually specified. In this case we know that the Latitude and Longitude are given in WGS 84. (In your own work, check the metadata if you are unsure of the system.)

9. Click the [No Coordinate System Specified] link. In the Specify Source Coordinate System dialog box, navigate to Geodetic > World, choose the WGS 84 coordinate system and click OK.

Format:	Delimited XY Text Data [*.csv *.tsv *.txt]	Settings	ОК
Dataset:	MAPublisher 8\Tutorial Guide & Data\Tutorial Data\azdeci.b	t Browse	Cancel
Encoding:	Unicode 8-bit (ITE-8)		1
	Unicode, orbit (orrino)	•	J
	Unicode, orbit (Uni-6)	•	J
Source (oordinate System:	• •	J
Source C	oordinate System:	From File]

10. In the Simple Import dialog box, click OK to start the file import process.



11. Save this document as MyPoints.ai in the Tutorial Data folder. It will be used again in exercise 8.3.

1.7 Import multiple data types

- 1. Create a new Letter sized Adobe Illustrator document in landscape orientation.
- 2. From the MAPublisher toolbar, click the Advanced Import button in or to File > Import Map Data > Advanced.
- 3. In the Advanced Import dialog box, click Add.
- 4. Select MapInfo Table [*.tab] from the Format drop-down list.
- 5. Click Browse, navigate to the Tutorial Data folder, select usa.tab, and click Open. A coordinate system is detected.
- 6. Click OK to close the Add dialog box.

dvanced Import			
Coordinate Syste	m Data Source F	eatures	ОК
1 NAD27	🗽 usa.tab	51	Cancel
Add Re	move Edit		
Destination MAP Vie			
New based on:	🔊 🗸 🗸	Coordinate system: NAD27	
Use existing:	-	Page anchors: (0 px,612 px) Visual scale: 1:44326179.920453	
	Auto-scale	Map anchors: (-178.2176, 18.9248) Map unit: Degree	
Oreate new:	Editor	Map angle: 0	

The selected file appears in row 1 of the file list. Now add another file in a different map file format.

- 7. Click Add to open the Add dialog box.
- 8. Select Esri Shapefile [*.shp] from the Format drop-down list.
- 9. Click Browse, navigate to the *Tutorial Data* folder and select canada.shp. Click Open.
- 10. Click OK to close the Add dialog box.

Coordinate Sy	stem Data Sou	rce Featu	ines	OK
NAD27	🔝 usa.tat		51	Cancel
NAD27	🔝 canada	a.shp	13	
Add	Remove	dt		
Add	Renove] [[idt	rdnate system: NAD27	
Add	Renove	idit Coo Page	rdeute system: Nab 27 e andres: (D pr. 512 pr)	
Add	Remove [] [] E Weve:	idit Coo Page View Mage	rdinato system: Na0277 a androne: (2 pay, 512 pay) androne: (-1783, 22 pay, 38, 92 48) umit: Degree umit: Degree	

The selected file appears in the second row of the list. Both are in the NAD27 coordinate system.

- 11. Under Destination MAP View, *usa* is chosen by default in the New based on drop-down list. This bases the MAP View, coordinate system, and page scaling on the *usa.tab* file.
- 12. Check the Auto-scale option.

Destination MAP View:					
New based on: usa	Coordinate System: NAD27				
Use existing:	Page Anchors: (0,0) Visual Scale: 1:68928620.246546				
Auto scale	Map Anchors: (-178.2176, 18.9248) Map Angle: 0				
Create new: Editor					

Auto-scale ensures all selected files are scaled to fit inside the page extents.

- **Note:** Not checking the *Auto-scale* option will base the page scaling on the file selected in the New based on drop-down list only. Therefore only this file is fitted to the current page extents, which may cause elements in other selected files to be placed outside of the page boundary.
- 13. Click OK to import the two files.



Notice that in the Adobe Illustrator Layers panel there are new layers called *usa_area* and *canada_area*. Also in the MAP Views panel there is a new MAP View called *usa* containing the imported files.

- 14. Close the document without saving.
- 14 MAPublisher 9 Tutorial Guide 1 Importing Map Data

1.8 Import multiple datasets with different coordinate systems

- 1. Create a new Letter sized Adobe Illustrator document in landscape orientation.
- 2. From the MAPublisher toolbar, click the Advanced Import button.
- 3. In the Advanced Import dialog box, click Add.
- 4. Select MapInfo Table [*.tab] from the Format drop-down list.
- 5. Click Browse, navigate to the *Tutorial Data* folder, select **usa.tab**, and click Open.
- 6. Click OK to close the Add dialog box.

The selected file appears in row 1 of the file list. The coordinate system of *usa.tab* displays NAD27. The coordinate system preview area lists various parameters of the file including the name of the coordinate system, page and map anchors, visual scale, and map angle.

- 7. Click the Add button to add another file.
- 8. Select Esri Shapefile [*.shp] from the Format drop-down list.
- 9. Click Browse, navigate to the *Tutorial Data* folder, select worldwest.shp, and click Open.
- 10. Click OK to close the Add dialog box.

Coordinate Syst	em Data Source	Features	0
NAD27	🔝 usa.tab	51	Car
Robinson	worldwest.shp	57	
Add	emove Edt	2	
Add R	emove] [Edt ew:	Coordinate ovstern: MAD27	
Add R estination MAP Vi New based on: Use existing:	emove Edt ew: Suss •	Coordinate system: NAD27 Page anchors: (p.v, 612 p.v) Vaud sole: 11: 4263 (p.9) 2003	
Add R Restination MAP Vi New based on: Use existing:	errove Edt evr: Auto-scale	Coordinate system: 140027 Rege anchore: (0 pr, 451 pr) Vuusi state: 1: 1: 4263 (579: 00054) Map anchore: (-178: 2176, 10: 59: 40) Map unit: Degree	

The worldwest.shp file appears in the second row of the file list and displays the Robinson coordinate system.

11. In the Destination MAP View frame, select the New based on option and choose worldwest from the drop-down list.

Destination MAP Vi	iew:	
New based on:	📡 worldwest 👻	Coordinate system: Robinson
O Use existing:	-	Page anchors: (0 px,612 px) Visual scale: 1:65884250.194927
	Auto-scale	Map anchors: (-16195197.5700, -5898152.1390) Map unit: Meter
Create new:	Editor	Map angle: 0

The destination MAP View will be based on the coordinate system and page scaling on the worldwest.shp file.

12. Click OK to import the two files into the Robinson coordinate system.

The map files are automatically sized to fit the page. Note that the *Auto-scale* option was not checked in the Advanced Import dialog box. The page scaling was based on the *worldwest.shp* which contained larger geographic extents than the *usa.tab* in all four compass directions.

In the Adobe Illustrator Layers panel, new layers called *usa_area* and *worldwest_area* are added. Also, in the MAP Views panel there is a new MAP View containing the imported files (the MAP View has the same name as the file selected for the MAP View destination).



1.9 Import data to match an existing MAP View

This tutorial will produce the same results as Tutorial 1.8 - Importing MAP files in multiple coordinate systems.

- 1. Create a new Letter sized Adobe Illustrator document in portrait orientation.
- 2. Click the Simple Import button.
- 3. Select Esri Shapefile [*.shp] from the Format drop-down list.
- 4. Click Browse, navigate to the *Tutorial Data* folder, select worldwest.shp, and click Open.
- 5. Click OK to close the Simple Import dialog box.



In the Adobe Illustrator Layers panel there is a new layer called *worldwest_area*. Also in the MAP Views panel there is a new MAP View called *worldwest* (which is set in the Robinson coordinate system).

- 6. Click the Advanced Import button on the MAPublisher toolbar, and then click Add.
- 7. Select MapInfo Table [*.tab] from the Format drop-down list.
- 8. Click Browse, navigate to the *Tutorial Data* folder, select usa.tab, and click Open.

Advanced Import			
Coordinate System	Data Source Fe	atures	ОК
1 NAD27	💹 usa.tab	51	Cancel
Add Remo	ve Edit		
Destination MAP View:			
New based on:	📡 usa 🔻	Coordinate system: NAD27	
O Use existing:	Ψ]	Page anchors: (0 px,612 px) Visual scale: 1:44326179.920453	
	Auto-scale	Map anchors: (-1/8.21/6, 18.9248) Map unit: Degree	
Create new:	Editor	Map angle: 0	
			, Hi

9. In the Destination MAP View frame, click the Use existing option and choose worldwest from the drop-down list.

Destination MAP V	iew:	
New based on:	🔝 usa 💌	Coordinate system: Robinson
O Use existing:	🚱 worldwest 🛛 👻	Visual scale: 1:65884250.194927
	Auto-scale	Map unit: Meter
Create new:	Editor	Map angle: 0

View the coordinate system of this map file in the coordinate system preview area.

10. Click OK to import the file based on the Robinson parameters of the *worldwest_area* layer.



The file is imported and reprojected to automatically align with the *worldwest* layer. This functionality allows you to easily register multiple files with different coordinate systems.

In the Adobe Illustrator Layers panel there are new layers called *usa_area* and *worldwest_area*. Also in the MAP Views panel there is a new MAP View called *worldwest* containing the imported files set in the Robinson coordinate system

11. Close the document without saving.

1.10 Assign a source coordinate system prior to import

- 1. Create a new Letter sized Adobe Illustrator document in portrait orientation.
- 2. Click the Advanced Import button. In the Advanced Import dialog box, click Add.
- 3. Select Esri ArcInfo Generate [*.gen] from the Format drop-down list.
- 4. Click Browse, navigate to the Tutorial Data folder, select ukrail.gen, and click Open.
- 5. Click OK to close the Add dialog box.

	Data Source	Features	OK
Unknown	🔢 ukrail.gen	4273	Cancel
Add Rem	ove Edt.	2	
New based on:	Viral ·	Coordinate system: Unknown Page anchors: (0 px,612 px) Youal scale: 1:4334886.759403	
Use existing:		Man anotheres (65380 3516 31436 4337)	

The selected file appears in the first row of the file list and it has an unknown coordinate system.

- 6. In the Advanced Import dialog box, with the first row selected, click Edit.
- 7. In the Edit dialog box, click the [No Coordinate System Specified] link, go to **Projected > Europe > United Kingdom**, choose **British National Grid**, and click OK.
- 8. Click OK to return to the Advanced Import dialog box.

Coordinate Syste	em Data Source	Features	OK
British National G	ind 📓 ukrail.gen	4273	Cancel
Add Re estination MAP Vie	move Edt. tw:	n	
Add Re Restination MAP Vie New based on: Use existing:	emove Edit. ew: Sukrail Auto-scale	Coordinate system: British National Grid Page and/ors: (0 196, 621 pc) Mage unif-weit (0 196, 631 pc) Mage unif-weit (0 196, 831 pc), 31-66, 633 pc) Mage unif-weit (0 196, 931 pc), 31-66, 633 pc)	

Under Destination MAP View frame, view the coordinate system information in the area to the right.

9. Click OK to import the file in the British National Grid coordinate system.



1.11 Transform a coordinate system on import

Read about the MAP View Editor in chapter 4 of the User Guide before completing the following tutorial.

- 1. Create a new Letter sized Adobe Illustrator document in portrait orientation.
- 2. Click the Advanced Import button. In the Advanced Import dialog box, click Add.
- 3. Select Esri Shapefile [*.shp] from the Format drop-down list.
- 4. Click Browse, navigate to the *Tutorial Data* folder, select **ukpoly.shp**, and click Open.
- 5. Click OK to return to the Advanced Import dialog box.

	Coordinate System	Data Source	Features	OK
1	WGS 84	💹 ukpoly.shp	6	Cancel
	Add Remo	ve Edit		
)e				
)e	New based on:	Vukpoly -	Coordinate system: WGS 84 Page anchors: (0 px,612 px) Visual scale: 1: 5640124.905207 Map anchors: (-10.4780, 49.9096)	

The selected file appears in Row 1 of the file list. The coordinate system of ukpoly.shp is currently WGS 84.

6. In the Destination MAP View frame, select the Create New option, and click the Editor button to open the Map View Editor dialog box.

I Please configure your new MAP View before continuing.				
Add Remove Edit				
Destination MAP Vi	iew:			
New based on:	wkpoly 👻	Click the Editor button to customize the new		
O Use existing:		Destination MAP view.		
	Auto-scale			
Oreate new:	Editor			

 In the MAP View Editor, click the WGS84 coordinate system link. Click the *Recent* category list under Coordinate Systems > Projected and choose British National Grid. Alternatively, go to Projected > Europe > United Kingdom to choose the British National Grid coordinate system.

Datasource: C:\Program Files (x8t Custom Data: C:\ProgramData\Av Folder)\Avenza\MAPublisher 8\Data Source Files\geodata.xml enza\MAPublisher 8\customsystems.xml	OK Close
 Coordinate Systems *All* *Recent* *Search History* Geodetic *All* *Recent*		Save Save
(iii) Search Folder: <select an="" find:<="" folder="" object="" td=""><td>(i) (i) (i) (i) (i) (i) (i) (i)</td><td></td></select>	(i) (i) (i) (i) (i) (i) (i) (i)	

- 8. Click OK to close the Specify Source Coordinate System dialog box.
- 9. Click OK to close the MAP View Editor and return to the Advanced Import dialog box.

Destination MAP Vi	iew:		
New based on:	ukpoly	-	Coordinate system: British National Grid
O Use existing:		Ŧ	Page anchors: (0 px,612 px) Visual scale: 1:5599877.522118
	Auto-scale		Map anchors: (-179492.5052, 9898.2280) Map unit: Meter
Oreate new:	Editor		Map angle: 0

Under Destination MAP View, view the coordinate system information in the area to the right.

- 10. Click OK to import the file in the British National Grid coordinate system.
- 11. Close the document without saving.

2 MAP Views and Georeferencing

See User Guide, Chapter 4

2.1 Create MAP View on import

- 1. Open usa48.ai from the Tutorial Data folder.
- 2. From the MAPublisher toolbar, click the MAP Views button 💽 or go to Window > MAPublisher > MAP Views.
- 3. Use Simple Import to import usa.tab from the *Tutorial Data* folder.



Notice that a MAP View called *usa 1* is automatically created. The *1* denotes that a MAP View already exists with that name, so it adds a suffix to differentiate it. Each Adobe Illustrator layer comprising the MAP View is depicted with an icon that represents the Feature type contained on each of the map layers.

4. Continue with the next tutorial.

2.2 Copy a MAP View from an existing MAPublisher document

Continue working with the previous tutorial.

- 1. Keep the usa48.ai document open, create a new Adobe Illustrator document and make it active.
- 2. From the MAPublisher toolbar, click the **Copy MAP Objects From** button **a** or from MAP Views panel options menu.



A list of MAP Views are available from any opened document containing MAP Views. In this case, the MAP Views *usa* and *usa 1* are available to import.

neck the MAP Objects to copy:		OK
Dbject	Source	Cancel
🖌 📄 usa48.ai		Cancer
MAP Views		
🚱 usa		
🚱 usa 1		

3. Check the usa check box in the Import column and click OK.

The MAP View is imported into the new document along with all the MAP Layers within that MAP View. It maintains the original scale and position of the *usa* MAP view.

- 4. Close the active document without saving, but keep the usa48.ai document open.
- 5. Continue with the next tutorial.

2.3 Duplicate and delete MAP Views

Continue working with the previous tutorial.

1. In the MAP Views panel, select the usa MAP View. Then click the panel option menu and click Duplicate "usa".

•
3

A new MAP View called *Copy of usa* is created. It only duplicates the MAP View and not the MAP Layers that are contained in the source.

2. Select the *usa* MAP View and click the Delete button.



A message dialog box states that the MAP View is not empty. Click Delete MAP View and child layers.

2.4 Transform coordinate systems by drag and drop

- 1. Create a new Letter sized Adobe Illustrator document in landscape orientation.
- 2. Use Simple Import to add world.mif from the *Tutorial Data* folder.
- 3. Use Simple Import to add worldwest.shp from the Tutorial Data folder.

There are two MAP Views: one called *world*, in the WGS 84 coordinate system, that contains the *world_area* layer; and the second called *worldwest*, in the Robinson coordinate system, that contains the *worldwest_area* layer.



4. In the MAP Views panel click the *worldwest_area* layer and drag it to the *world* MAP View.



The *worldwest_area* layer is transformed into the WGS 84 coordinate system and matches the page scaling of the *world_area* layer.

- 5. Drag *worldwest_area* back to the *worldwest* MAP View and it will transform the layer back to the Robinson coordinate system.
- 6. Keep the document open for the next tutorial.

2.5 Drag layers into existing coordinate systems

Continue working with the previous tutorial.

- 1. Use the Toggle Visibility button in the Adobe Illustrator Layers panel to hide the *world_area* layer.
- 2. In the Adobe Illustrator Layers panel, create a new layer called Extras, and move it to the top of the layers hierarchy.
- 3. With the *Extras* layer selected, roughly trace over some features that exist on the *worldwest_area* layer using the Adobe Illustrator Pen tool and give it a red colored fill.



The new features are polygons. Make sure that the elements are closed so that the start and end points of the lines are coincident.

- 4. In the MAP Views panel, click the *Extras* layer and drag it into the *worldwest* MAP View.
- 5. In the Undefined Layer dialog box, select Area from the Feature type drop-down list, and click OK.

Feature type:	rea	•	ОК
Advanced:			Cancel
Base attribute schema or	n: A worldwest_area	*	Apply to all

The *Extras* layer is now stored in the same coordinate system as the *worldwest* MAP View.

6. Keep the document open for the next tutorial.

2.6 Drag new layers into different coordinate systems

Continue working with the previous tutorial.

- 1. In the Adobe Illustrator layers panel, use the Toggle Visibility buttons to hide the *worldwest_area* layer, and to make the *world_area* layer visible. The *Extras* layer is already visible.
- 2. In the MAP Views panel click the *Extras* layer and drag it into the *world* MAP View.



The *Extras* layer is moved to the coordinate system of the *world* MAP View. It is immediately transformed from Robinson to WGS 84 coordinate system and aligns with the data in the *world_area* layer.

3. Keep the document open for the next tutorial.

2.7 Edit layer names using search and replace

Continue working with the previous tutorial.

1. In the MAP Views panel option menu, click Layer Name Search & Replace.

« ×	
MAP Views	New MAP View
▼ Sworld	New MAP View For Photoshop Paths
Image:	Duplicate Selection
Image: A world_area	Edit Selection
▼ (Ø worldwest	Luit Sciettonin
A worldwest_area	Delete 'world_area'
♥ B	Add MAP Layer
	Specify Anchors
	Export Coordinate System to File
2 MAP Views 🌏 💩 🕀 🚓 📾 🔤	Export "world_area"
	Layer Name Search & Replace
	Sort Art on "world_area"
	Edit Layer Note
	Load Custom Coordinate Systems
	Edit Custom Coordinate Systems
	Document Summary
	Specify Alternate Coordinate System
	Copy MAP Objects From
	Preferences

2. In the Find what box, type _area. In the Replace with box, type _layer. Click the Replace All button.

Find what: _ar	ea	Replace All

The text _area is replaced with _layer in the name of all applicable layers.

				** ×					** ×
M/	AP Vi	ews		*≣		MA	P Vie	ws	•
			-	🔇 world					▼ 🚱 world
۲	>	Đ		A Extras		۲		Ð	A Extras
	>			A world_area		۲			A world_layer
			•	🛞 worldwest					✓
				A worldwest_area					A worldwest_layer
			-	Non-MAP Layers					▼ Non-MAP Layers
		Ŧ		Layer 1		۲	8	Ð	Layer 1
2№	1AP V	iews		🁟 💩 🚓 🕸 🕯 🖉		2 M/	VP Vi	ews	🁟 💩 🚓 🕸 🗎 🖉
					1				

2.8 Specify a source coordinate system after import

- 1. Create a new Adobe Illustrator document in portrait orientation
- 2. Use Simple Import to add ukrail.gen from the Tutorial Data folder (do not specify a coordinate system).
- 3. In the MAP Views panel, double-click the *ukrail* MAP View to open the MAP View editor. Close the warning dialog box that appears (it appears because no coordinate system was specified).
- 4. In the MAP View editor dialog box, click the [No Coordinate System Specified] link to open the Specify Source Coordinate system dialog box.
- 5. Go to Projected > Europe > United Kingdom and choose British National Grid (or choose it from the *Recent* folder).



6. Click OK to close the MAP View editor dialog box.

The source coordinate system for the file is now British National Grid. The MAP View is assigned a coordinate system and can now be transformed.

7. Close the document without saving.

2.9 Transform a coordinate system using the MAP View editor

- 1. Create a new Letter sized Adobe Illustrator document in portrait orientation.
- 2. Import fsatoronto.mif from the Tutorial Data folder.

The map file is in the WGS 84 coordinate system.

- 3. In the MAP Views panel, double-click the *fsatoronto* MAP View to open the MAP View editor.
- 4. Change the name of the MAP View to Postal Code Zones.

- 5. Check the Perform Coordinate System Transformation check box to enable its frame options and click the [No Coordinate System Specified] link.
- 6. In the Specify Destination Coordinate System dialog box, go to **Projected** > **UTM** > **NAD83**, choose **NAD83** / **UTM** zone 17N, and click OK.



The Preview Pane displays how the new coordinate system is fit to the page. UTM zone 17N is a proper projected coordinate system to use for this area.

7. Click OK to close the MAP View editor dialog box.



The MAP View is transformed from WGS 84 to NAD83 / UTM zone 17N. See Appendix A2 on Projections and Datums in the User Guide for more information.

8. Keep the document open for the next tutorial.

2.10 Edit scale and position

- 1. In the MAP Views panel, double-click the Postal Code Zones MAP View to open the MAP View editor.
- 2. Change the map scale to 1: 35,000 by typing **35000** in the Scale box.
- 3. In the Page Alignment frame, there are nine squares in the alignment control graphic. Click the center square to reposition the data to the center of the page.

Edit "Postal Code Zones"	
Ţ Ţ	Zoon: 41.50% (a) Canada
Active ortboard: 1 5 Name: Postal Code Zones 5 Active code with a state scale	Process: Collaured loars: Image: Collaured loars:
Source Coordinate System: (W203 / UM apre. 25) Perform Coordinate System Transformation: Destination: [No Coordinate System Specified] Source as:	Pron File

The Preview Pane shows the new data extents and the page anchor values have been automatically updated.

4. Click OK.



The Postal Code Zones MAP View is rescaled and repositioned in the center of the page.

- 5. In the MAP Views panel, double-click the Postal Code Zones MAP View to open it again.
- 6. In the Angle box, type **343.00** to specify an angle of rotation, then click OK.



The layer is now rotated. Georeferencing has not been affected.

7. Close the document without saving.

2.11 Copy a coordinate system from one layer to another

- 1. Create a new Letter sized Adobe Illustrator document in landscape orientation.
- 2. Import **worldwest.mif** from the *Tutorial Data* folder.

The map file is in the Robinson coordinate system.

3. Select the Canada polygon shape and assign a fill color to it.



- 4. In the MAP Views panel, double-click the worldwest MAP View to open the MAP View Editor.
- 5. Change the map scale to 1: 250 million by typing **25000000** in the Scale box.
- 6. Click the Show Anchors check box to display the map and page anchors (if the artboard is blocking the anchor numbers, click the zoom out button a few times). In the Page Alignment frame, click the top left square to reposition the data to the top left of the page.

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2 MAP Views and Georeferencing

		Zoom:	53.43%	OK
Ť				Cancel
			() ()	
Chive artboard: 1	Previews:	Coloured boxes		
Active or thoard: 1 (1) arre: workdowst	Previews: Page Alignment	Coloured boxes	- 0	
Active artboard: 1	Previews: Page Alignment LL X: 0.000071	Coloured boxes		
Active artiband: 1 ane: wolfwest ane: 1: 25000000 000000 P Auto scale * ngle: 0.00 P degrees Auto scale *	Previews: Page Alignment LL X: 0.000071 LL Y: 161.543839	Coloured boxes		
Active artiboard: 1 2 ane: wolfwest cale: 1: 25000000 000000 0 Actio scale * ngle: 0.00 2: dagress 2 N source Coordinate System:	Previews: Poge Algoment LL X: 0.000071 LL Y: 161.543839	Coloured boxes		
Active ertboard: 1 Active ertboard: 1 Active ertboard: 1 Active colored Colored Active colored	Previews: Poge Alignment LL %: 0.000071 LL %: 101.543839	Coloured boxes	• • • • • • • • • • • • • • • • • • •	
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Active artboard: 1 Active artboard: 1 ame: worldwest case: 1 20000000 000000 Auto scale w point: 0.00 dispress Control of dis	Previews: Page Algoment LL X: 0.000071 LL Y: 101.543839	Coloured boxes	From File	

The *Preview Pane* shows the new data extents and the Page Anchor values have been automatically updated. Move the artboard in the preview if the anchor values block the extent box.

7. Click OK.



The *worldwest* MAP View is rescaled and repositioned in the upper left corner of the page. This can be used as a small inset map used referencing Canada to the Western Hemisphere countries.

8. Import **canada.shp** from the *Tutorial Data* folder.

The map file is in the NAD27 coordinate system.

- 9. In the MAP Views panel, double-click the canada MAP View to open the MAP View Editor.
- 10. Check the Perform Coordinate System Transformation check box to enable its frame options. Check the Same As check box and select the *worldwest* MAP View in the drop-down list. Notice how the destination is set to Robinson and the datum shift is NAD27 to WGS84 (88).

11. In the Page Alignment frame, click the center square to reposition the data to the center of the page.

dit "canada"		
	Zuone 53.	10% Cancel
Ť		Soling.
Active articenti: 1 💿	Previews: Coloured boxes	• 2
lame: canada	Page Alignment	
icale: 1: 25639344.315415 😨 🚺 Auto-scale 💌 ingle: 0.00 😨 degrees 🔕 🗽	LL X: 0.000000 (2) pt [LL Y: 518.722656 (2) pt [
iource Coordinate System: M027		an Pile
Perform Coordinate System Transformation:		
estnation: Robinson	E Fr	om File
Same as: 🙆 worldwest		•
Datum shift: NAD27 to WGS 84 (88)		

The Preview Pane shows the new data extents and the Page Alignment values are automatically edited.

12. Click OK.

The MAP View is transformed to match the coordinate system of the *worldwest* MAP View.



2.12 View coordinates and create a MAP Location

- 1. Open usa48.ai from the Tutorial Data folder.
- 2. In the MAPublisher Toolbar, click the MAP Info button

The MAP Info panel appears.

3. Move the mouse cursor to a location on the map to view its geographic coordinates.



The MAP Info panel shows the Position (Easting and Northing) and Geodetic base (Longitude and Latitude) values and are constantly updated as the mouse cursor is moved around the map document. (To view WGS84 or MGRS values, click the panel options menu.)

- 4. In the Adobe Illustrator Tools, click the MAP Locations tool (the cursor changes to a crosshair).
- 5. Click anywhere on the map to create a MAP Location.

Add MAP	World Locat	lion		
Name:	ocation 1			ОК
Coord	inate System:	 <u>United States: Albers Equal Area, meter</u> Geodetic base: NAD27 		Cancel
Input	format:	Projected units	~	
🖋 X:	377,563.2769	21	m	
🖋 Y:	1,355,789.95	5733	m	

A MAP Location is ready to be created at the point of the click. It is created in projected units of meters. Optionally, click the Copy to Clipboard button to make the coordinate values available beyond this dialog box.

6. Click OK.

A blue MAP Location pin is placed on the artboard. When the MAP Location tool is enabled, hovering near the pin will make its label visible. To see a list of all MAP Locations, open the MAP Locations dialog box from the MAPublisher toolbar.

2.13 Create a new MAP View with Georeferencer

This tutorial provides a basic overview of assigning georeferencing information to existing Adobe Illustrator documents. Please see *Georeferencer* in Chapter 6 of the MAPublisher 9 User Guide.

1. In Adobe Illustrator, open toronto.ai from the Tutorial Data folder.

This is a regular Adobe Illustrator document. It contains two Adobe Illustrator layers that do not have any georeferencing or attribute information. However, the data was known to be digitized in NAD 83/UTM Zone 17N coordinate system. They are located in the [Non-MAP layers] section of the MAP Views panel.

2. Click View menu and click Show MAP Locations.

MAP Locations are used to reference page locations (green pin) and world locations (blue pin). Three MAP Page Locations appear on the map. These were created for you for the purpose of this exercise. To georeference, a minimum of four MAP Page Locations are required. You'll need to add one more MAP Page Location. Later, you will assign it a world coordinate.

- 3. From the Tools toolbar, click the MAP Location Tool. The cursor changes to a crosshair.
- 4. Pan and zoom to the location pointed out in the graphic and click once. In the Add Map Page Location dialog box, type **Queens Park** into the Name box.



A MAP Page Location is placed in the document at the X,Y page coordinates above. (Your coordinates may be slightly different depending on where you clicked. You can adjust the X and Y values accordingly.)



5. From the MAPublisher toolbar, click the Georeferencer button (read and close the brief tutorial graphic).

oreferenc	ter							
dd world l	locations from:	8	Google Maps	Open documents]			Georeference & Save
Is Valid	Use in solution		Page Location	World Location	X Longitude	Y Latitude	Coordinate System	Save
~		9	Front/Bathurst		-79.401379 deg	43.640734 deg	WGS 84	Cancel
~		9	Front/Bay	۲	-79.379122 deg	43.645993 deg	WGS 84	
) 🜔								
] Specify	coordinate system	n:	[None]					

The Georeferencer dialog box opens. Two MAP Page Locations have already been assigned world locations for the purpose of this exercise. You'll need to assign two more world locations to the other MAP Page Locations: one manually and one using the online map service.

6. Click the Add reference location button.

Georefere	ncer						
Add wor	ld locations from:	Google Maps 📍 C	Open documents				Georeference & Save
Is Vali	d Use in solution	Page Location	World Location	X Longitude	Y Latitude	Coordinate System	Save
 Image: A second s		Pront/Bathurst		-79.401379 deg	43.640734 deg	WGS 84	Cancel
 Image: A set of the set of the		Pront/Bay	@	-79.379122 deg	43.645993 deg	WGS 84	
1	V	P Lennox/Lippincott	Ø	0.000000 deg	0.000000 deg	WGS 84	
							1
Spec	ify coordinate system	m: [None]					

The Lennox/Lipponcott MAP Page Location is added to the list (MAPublisher automatically finds it.)

- 7. Double-click the X|Longitude or Y|Latitude cell box.
- 8. Enter the values into the following dialog box, Long: -79.409466 and Lat: 43.664095. Then click OK.

Coordina	te System:	WGS 84	OK	
		Geodetic base: Unavailable	Cance	-
Input for	mat:	Decimal degrees (D+[.d*])	•	
🖌 Long:	-79,4094	66	deg	

A world location is manually assigned to the Lennox/Lippincott MAP Page Location.

~	V	⊺ Front/Bay	100	-79.379144 deg	43.646049 deg	WG5 84
 Image: A second s	V			-79.409466 deg	43.664095 deg	WGS 84

You'll assign the last MAP Page Location with world coordinates using an online map service.

ristering i na risge cocoroni	P Front/Bathurst	1	 Zoom artboard: 		OK
Click and drag pin to change it	location. Right-click pin t	o delete it.		ſ	Cance
	(A)	Crowb	M	ap Satellite	
Enter	location	Search	h 7		
(v2 9					
-					
	G				
+			cront St W		
Т	🛛 🖽 🧋	•	Pio	12	
÷		V		122	
		11	and the second s		
		11			
		1			
		ath		and a second	
		athurst			
		athurst St			

9. In the Georeferencer dialog box, click the Google Maps button.

The Matching MAP Page Location of Front/Bathurst which was already assigned a world location is shown on the map with a placemark. The artboard also centers to the location. You can use the Zoom artboard buttons to zoom in to the artboard.

10. Click the Matching MAP Page Location drop-down list and choose **Queens Park (UNASSIGNED)**. On the left side of the map, click the Zoom out [-] button until you can see two other placed world locations. Pan north and zoom into the map area labeled University of Toronto. As you continue to zoom in, the Queen's Park map label will appear. Zoom into the north side of Queens Park and compare it to the features on the artboard.


11. Click the map to assign a world location to the Queens Park MAP Page Location. Click Yes when asked to confirm the location.



A world location is assigned and a placemark is plotted.

12. Click OK to close the Add World Locations dialog box.

Is Valid	Use in solution		Page Location	World Location	X Longitude	Y Latitude	Coordinate System	Save
~		٩	Front/Bathurst	@	-79.401379 deg	43.640734 deg	WGS 84	Cancel
~	V	٩	Front/Bay		-79.379122 deg	43.645993 deg	WGS 84	
~	V	9	Lennox/Lippincott	Ø	-79.409466 deg	43.664095 deg	WGS 84	
~	V	9	Queens Park	@	-79.393150 deg	43.666312 deg	WGS 84	

Four reference locations are available and the Georeference & Save button is enabled.

- 13. Click the Georeference & Save button.
- 14. In the Select Coordinate System list, choose NAD83 / UTM zone 17N.

Name	Rank	Combined Error	Rotation	ОК
JTM Zone 17N (84 W to 78 W)	1.00	0.00010747 deg	-0.218 deg	Canc
NAD83 / UTM zone 17N	1.00	0.00010747 deg	-0.218 deg	
NAD83 / BLM 17N (ftUS)	1.00	0.00010747 deg	-0.218 deg	
NAD83(CSRS) / UTM zone 17N	1.00	0.00010747 deg	-0.218 deg	
NGS 72 / UTM zone 17N	1.00	0.00010747 deg	-0.218 deg	
NGS 72BE / UTM zone 17N	1.00	0.00010747 deg	-0.218 deg	-

The data was known to be digitized in NAD83 / UTM Zone 17N. It is the most appropriate coordinate system to use. Sometimes a coordinate system may not have the highest Rank, but may be the most appropriate to use. You'll also view some of the error introduced with georeferencing.

15. Click the Error Details button.

Name	Error X	Error Y	Combined Error
Front/Bathurst	2.04389832 m	8.81263265 m	9.04654711 m
Front/Bay	2.30237960 m	9.92712084 m	10.19061725 m
Lennox/Lippincott	2.99122511 m	12.89720126 m	13.23953277 m
Queens Park	3.24970639 m	14.01168946 m	14.38360292 m

The table shows Error X, Error Y, and Combined Error. These errors come from how accurately the MAP Page Locations are assigned world locations. Lower error values means a higher georeferencing accuracy. Your errors may vary depending on how accurate you placed your MAP Locations.

- 16. Click OK to close the Error dialog box.
- 17. In the Select Coordinate System dialog box, click OK.
- 18. In the Create MAP View dialog box, change the MAP View name to **Toronto**. Click the two check boxes beside the Streets and Postal Code Area layers. Then click OK.

Create MAP View	
Name of MAP View:	ОК
Toronto	Cancel
Layers to move to new MAP View:	cuncer
V Streets	
Postal Code Areas	
Select All Clear All	

- 19. Click OK.
- 20. Assign the appropriate MAP Layer type to Streets and Postal Code Areas.

Undefined Layer -	Streets		Undefined Layer - Postal Code Areas	
Feature type:	Dune •	ОК	Feature type:	• ок
Advanced:		Cancel	Advanced:	Cancel
Base attribute	schema on: *	Apply to all	Base attribute schema on:	+ Apply to all
Check this option to	where the attribute structure from the specified layer		Check this option to inherit the attribute structure from the space	Red layer.

The MAP Views panel updates and lists the Toronto MAP View and two layers.



21. From the MAPublisher toolbar, click the MAP Locations button \blacksquare .

AP Locations				
P MAP Locations				ОК
Name	X Longitude	Y Latitude	Coordinate System	Cancel
📍 Front/Bathurst	106.8125 px	412.5000 px	[Page]	
Pront/Bathurst 1	-79.401379	43.640734	WGS 84	
📍 Front/Bay	320.1562 px	337.2500 px	[Page]	
📍 Front/Bay 1	-79.379122	43.645993	WGS 84	
P Lennox/Lippincott	23.3335 px	101.5835 px	[Page]	
♀ Location 1	-79.409466	43.664095	WGS 84	
📍 Queens Park	181.1250 px	73.0000 px	[Page]	
📍 Queens Park 1	-79.393150	43.666312	WGS 84	
			5 🚺 🖉 💿	
Ise Show MAP Locations in the View menu to see loca	ation pins at all times.			-

The MAP Locations table lists the four MAP Page Locations and the four newly added MAP World Locations. The document is now georeferenced.

2.14 Export data to GIS formats

- 1. Create a new Letter sized Adobe Illustrator document in portrait orientation.
- 2. Use Simple Import to import fsatoronto.mif and torontostreets.mif. Click OK to add the fsatoronto MAP View.
- 3. In the MAP Views panel, select the *fsatoronto_area* layer and in the MAP Views panel option menu, click Export "fsatoronto_area".
- 4. In the Export dialog box, choose **Esri Shapefile** [*.shp] from the Format drop-down list, click Browse, navigate to a location to save the shapefile, and click OK. The Dataset box is populated with the directory path.

Export "fsatoronto"			
Format:	ESRI Shapefile [*.shp]	Settings	ОК
Dataset:	APublisher 8/Tutorial Guide & Data/Tutorial Data	Browse	Cancel
Character encoding:	System	•	

5. Click OK to export the file.

View the contents of the destination folder. The *fsatoronto* layer is exported as an Esri Shapefile with all attributes and georeferencing intact. This Esri Shapefile consists of four files: *fsatoronto.shp, fsatoronto.shx, fsatoronto.dbf,* and *fsatoronto.prj*. It is ready to be used in software supporting this format. Descriptions of these file extensions can be found in chapter 2 of the MAPublisher 9 User Guide.

Name	Ŧ	Date modified	Size
fsatoronto.dbf		09/03/2012 9:33 AM	2 KB
📄 fsatoronto.prj		09/03/2012 9:33 AM	1 KB
fsatoronto.shp		09/03/2012 9:33 AM	6 KB
fsatoronto.shx		09/03/2012 9:33 AM	1 KB

- 6. In the Adobe Illustrator Layers panel, select all objects on the torontostreets_line layer.
- 7. Click the MAP Attributes panel button in on the MAPublisher toolbar. Resize the MAP Attributes panel to see all the attribute column headings and then click the Edit Schema button.

MAP	Attributes						< >> =					
Laye	ayer: I torontostreets_line (1197 lines selected)											
	Street	FromLeft	1 ToLeft	FromRight	ToRight	Туре						
1	ACE LA	0	0	0	0	(0					
2	ADELAIDE PL	0	0	1	11	(ð					
3	ADELAIDE ST E	0	0	0	0	(ð					
4	ADELAIDE ST E	6	14	1	25	(ð					
5	ADELAIDE ST E	36	48	33	53	(ð					
6	ADELAIDE ST E	50	72	55	69	(ð					
7	ADELAIDE ST E	0	136	0	0	(ð					
8	ADELAIDE ST E	78	122	125	147	(0					
9	ADELAIDE ST W	7	11	6	26	(ð					
10	ADELAIDE ST W	17	33	28	48	() –					
1197	lines selected			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		١.						

8. In the column list, click **#Length** and check the Visible check box. Click **FromLeft** to view its schema and uncheck the Visible check box and click OK.

#Opacity	 Name: 	FromLeft		OK
ComponentCount	Display name:	FromLeft		Cano
11 =ld	Type:	Integer	•]	
5 #Name				
S #Style				
I #StrokeWeight	Default value:	0	周	
PathClosed	E		123	
R #Length	U Visible			
ArtScale	Read-only			
E Street	Derive value fr	om expression:		
ToLeft	Expression:		120	
E FromRight			1 (22.1 (886)	
ToRight				
🔣 Туре				
I pen_pattern	-			

The *#Length* attribute is visible now and the *FromLeft* attribute is hidden.

MAP	Attributes						** >> *=			
Laye	vyer: 📘 torontostreets_line (1197 lines selected) 🔹 -									
	R #Length	Street	ToLeft	FromRight	ToRight	Туре				
1	0.000650 deg	ACE LA	0	0	0	(ī 🖵			
2	0.000608 deg	ADELAIDE PL	0	1	11	(5			
3	0.000734 deg	ADELAIDE ST E	0	0	0	(5			
4	0.001238 deg	ADELAIDE ST E	14	1	25	(5			
5	0.000777 deg	ADELAIDE ST E	48	33	53	(5			
6	0.001572 deg	ADELAIDE ST E	72	55	69	(5			
7	0.000589 deg	ADELAIDE ST E	136	0	0	(5			
8	0.002038 deg	ADELAIDE ST E	122	125	147	(5			
9	0.001125 deg	ADELAIDE ST W	11	6	26	(5			
10	0.001248 deg	ADELAIDE ST W	33	28	48	(
1197	lines selected				9 12 19 10 10 10 10 10 10 10 10 10 10 10 10 10		٦.			

Before continuing, the other Integer type columns need to be hidden.

9. Right-click the **ToLeft** column and click Hide Column.

MAP	Attributes									*
Laye	er: 🚺 torontostre	ets_line (1197 lines s	elected)					•	-	D
	R #Length	Street	ToLeft				Туре		Τ	
1	0.000650 deg	ACE LA		•	Resize All To Fit Content			(0	L
2	0.000608 deg	ADELAIDE PL		÷	Resize 'ToLeft' To Fit Content			(0	
3	0.000734 deg	ADELAIDE ST E						(0	
4	0.001238 deg	ADELAIDE ST E			Hide ToLeft			(0	
5	0.000777 deg	ADELAIDE ST E		W	New Column			(0	
6	0.001572 deg	ADELAIDE ST E		10	Edit 'Tol eft'			(0	
7	0.000589 deg	ADELAIDE ST E			Delete IT-L-MI			(0	
8	0.002038 deg	ADELAIDE ST E		~	Delete loLett			(0	
9	0.001125 deg	ADELAIDE ST W			Show/Hide Columns	· •		(0	
10	0.001248 deg	ADELAIDE ST W		- 33	28	48		(0	•
1197	lines selected				1 12 12 12 12 12 12 12 12 12 12 12 12 12		f(x)	3-6 4	h	

Note: Alternatively, click the Show/Hide Column button and choose an attribute to make visible or hidden.

10. Hide the remaining columns: FromRight, ToRight and Type.

MAP	Attributes										44
			- (+)				_	_			~
Laye	r: L torontostre	ets_ine (1197 ines s	elected)								-14
	R #Length	Street									
1	0.000650 deg	ACE LA									
2	0.000608 deg	ADELAIDE PL									
3	0.000734 deg	ADELAIDE ST E									
4	0.001238 deg	ADELAIDE ST E									
5	0.000777 deg	ADELAIDE ST E									
6	0.001572 deg	ADELAIDE ST E									
7	0.000589 deg	ADELAIDE ST E									
8	0.002038 deg	ADELAIDE ST E									
9	0.001125 deg	ADELAIDE ST W									
10	0.001248 deg	ADELAIDE ST W									
1197	lines selected				≣₹	31 LE 경제동		D,	f(x)	@ †	1

- 11. Ensure torontostreets_line is selected. In the MAP Views panel option menu, click Export "torontostreets_line".
- 12. In the Export dialog box, select MapInfo Table [*.tab] from the Format drop-down list, click Settings, ensure the option for Export visible attributes only is checked, and click OK.

ettings	
Keep format extension	OK
Export visible attributes only	Cancel

This ensures that only visible attributes are exported (#Length and Street columns in the attribute table).

13. Click Browse and navigate to a location to save the export and click OK.

Export "torontostreet	ts_line"		
Format:	MapInfo TAB [*.tab]	Settings	ОК
Dataset:	er 8/Tutorial Guide & Data/Tutorial Data/Export	Browse	Cancel
Character encoding:	System	•	

14. Click OK to export the layer.

The *torontostreets_line* layer is exported to MapInfo Table format with the specified attributes and georeferencing intact. It is ready to be used in software supporting this format. View the contents of the destination folder. You'll see that four new files were created: *torontostreets.tab*, *torontostreets.dat*, *torontostreets.id*, and *torontostreets.map*. Descriptions of these file extensions can be found in chapter 2 of the User Guide. Each file format has its own settings.

3 MAP Attributes

See User Guide, Chapter 5

3.1 View, edit, and zoom to MAP Attributes

- 1. Create a new Adobe Illustrator document.
- 2. Import world.mif from the *Tutorial Data* folder.
- 3. With all of the art selected on the *world_area* layer, open the MAP Attributes panel (choose *Window* > *MAPublisher* > *MAP Attributes*) or click the MAP Attributes button []] on the MAPublisher toolbar.
- 4. To edit attribute values, double-click inside a cell and type a new value.

All attribute values and some property attributes can be edited. MAPublisher creates some attributes which have the hash symbol (#) as a prefix. These attributes are editable (but must be made visible first). However, #Area, #Perimeter, #VertexCount, and #Length are properties of the geometry and cannot be edited.

Keep in mind to enter values that correspond with a column's type (e.g. only enter numbers into a column of type *Real* or *Integer*). The edits are automatically maintained in the attribute table once entered.

- 5. The widths of the columns in the MAP Attributes panel may be changed by dragging the column separator left or right. Right-click and click Resize All To Fit Content.
- 6. Click a column heading to sort it in an ascending manner. Click the column heading again to sort it in a descending manner.

MAR	Attributes					*	< × +≣					
Lay	Layer: 🚺 world_area (220 areas selected)											
	SCapital SCountry SContinent RArable_Pct RPopulation RPop_Gri											
1	Kabul	Afghanistan	Asia	12.00000000	16,450,304.0000	5.20000000	1					
2	Tirane	Albania	Europe	21.00000000	3,335,044.00000	1.800000000						
3	Algiers	Algeria	Africa	3.00000000	26,022,188.0000	2.50000000						
4	Andorra la Vella	Andorra	Europe	2.00000000	53,197.000000000	2.40000000						
5	Luanda	Angola	Africa	2.00000000	8,668,281.00000	2.70000000						
6	The Valley	Anguilla	North America	0.00000000	6,922.000000000	0.600000000						
7	none	Antarctica	Antarctica	0.00000000	0.000000000	0.000000000						
8	St. Johns	Antigua	North America	18.00000000	63,917.000000000	0.40000000						
9	Buenos Aires	Argentina	South America	9.00000000	32,663,983.0000	1.100000000	-					
4	1					•						
220	areas selected			I	9 8 E 🚺	🔍 f(x) 🖬 👘	الت					

7. Zoom to a specific piece of art via the MAP Attributes panel. Select an attribute record and click the Zoom to Feature button. MAPublisher zooms to the area of the file where the artwork is located and displays it within visible handles.

	5 MA	P Athribulas					
**************************************	La la	yer: 🚺 world_	area (220 areas selec	ted)			[▼] −
fill and the second		Capital	Country	Continent	Arable_Pct	E Population	Pop_Grw_Rt
21 1	127	7 Nouakchott	Mauritania	Adrica	1.000000000	1,995,755.00000	3,1000000
19 E 24	128	Port Louis	Mauritius	Africa	54.000000000	1,081,000.00000	0.8000000
1 / V	125	Dzaoudzi	Mayotte	Africa	0.0000000000	75,027.000000000	3.9000000
	13	Mexico City	Mexico	North America			
the second of	131	none	Midway Islands	Oceania	0.0000000000	453.000000000	0.0000000
1 m m	133	2 Kishinev	Moldavia	Europe	0.000000000	4,185,000.00000	0.0000000
and the	133	3 Monaco	Monaco	Europe	0.000000000	29,712.000000000	0.9000000
	134	4 Ulaanbaatar	Mongolia	Asia	1.000000000	2,247,068.00000	2,7000000
	131	S Rabat	Morocco	Africa	18.00000000	26,181,889.0000	2.1000000
100	10 M		1.		un procession	A DESCRIPTION OF THE OWNER	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	220	areas selected			11	11 Dr Dk	Ron 13-E 471

8. Keep the document open for the next tutorial.

3.2 Add a new column to a MAP Attribute table

Continue working with the previous tutorial.

- 1. If necessary, open the MAP Attributes panel and select all objects on the *world_area* layer. The panel displays all of its attribute columns and values.
- 2. Click the Edit Schema button at the bottom of the MAP Attributes panel.

The Edit Schema dialog box displays the columns associated with the MAP Attributes table on the currently selected layer.

- 3. Click Add to add a new attribute column.
- 4. In the Name box, rename Attribute1 to Head of State.
- **Note:** Notice that spaces are not accepted for column names. MAPublisher inserts an underscore (_) if a space is typed into a column name. Also, notice that the Display Name box is populated with the same name. This can be changed to reflect a name with no spaces in it.
- 5. In the Display Name box, remove the spaces, so the name becomes Head of State.
- 6. In the Type drop-down list, choose String (this allows the column to contain alphanumeric values).
- 7. Set a width of 10 (this is the number of characters which can be displayed in each cell).

In certain instances, a default value for an attribute may be required. Setting a Default Value gives each record the same value. Do not enter a default value for this tutorial.

8. Click OK to close the dialog box.

The new column is created and can be given values in the MAP Attributes panel.

9. Leave the document open for the next tutorial.

3.3 Change an existing column's properties

Continue working with the previous tutorial.

- 1. If necessary, open the MAP Attributes panel and select all objects on the *world_area* layer.
- 2. Open the Edit Schema dialog box and select Capital in the attribute column list.
- 3. In the Display Name box, rename it to **Capital City**. Also, change the size to **30**.

The column type may be changed after it is created (e.g. convert a type real column to a type integer column). For this tutorial, leave the type as *String*. Also, any new polygons added to the *world_area* layer will have a default value of *None*.

4. Leave the Visible check box enabled and the Read-only and Derive value from expression unchecked.

Edit Schema				
Perimeter	*	Name:	Capital	ОК
B #PathClosed R #ArtScale		Display name:	Capital City	Cancel
R #Area		Type:	S String •	
S Country		Size:	30	
S Continent R Arable Pct		Default value:		
R Population		Weiblo		
R Literacy		Read-only		
Inflat_Rate Unempl Rate	E	Derive value from	expression:	
R Indust_Grwth		Expression:		
<pre>pen_pattern brush_pattern</pre>				
S Head_of_State				
	۲ ۲			
Auu Remove				.4

5. Click OK.

The column is now renamed and its width is increased to accommodate longer names.

6. Leave the document open for the next tutorial.

3.4 Create a new column using expressions

Continue working with the previous tutorial.

- 1. If necessary, open the MAP Attributes panel and select all objects on the world_area layer.
- 2. Open the Edit Schema dialog box.
- 3. Click Add to create a new attribute column called Annual_Increase and set the Type to Integer.
- 4. Check the Derive value from expression check box and click the Expression Builder button next to the Edit Expression box.

Build expressions by making selections from the Objects list in combination with using the operators available at the top of the dialog box.

5. In the Expression Components section at the bottom of the dialog box, double-click the Population column in the Objects list, click the * symbol button, click the (symbol button, double-click **Pop_Grw_Rt** column, click the / symbol button, then type **100**. Finally, click the) symbol button to close the expression builder. The final expression in the Edit Expression box is: **Population*(Pop_Grw_Rt/100)**.



The expression is valid statement means that the expression syntax is correct and can be performed.

6. Click OK to close the Attribute Expression Builder dialog box

B #PathClosed		Name:	Annual_Increase		OK
R #ArtScale		Display pamar	Annual Terrane		
R #Area		Display name:	Annual_Increase		Cancel
S Capital		Type:	1 Integer	-	
S Country					
S Continent					
R Arable_Pct	_				
Population		Default value:	0		
R Pop_Grw_Rt					
R Literacy		Visible			
Inflat_Rate		✓ Read-only			
R Unempl_Rate	E	Derive value	from expression:		
Indust_Grwth		Denve volue			
pen_pattern		Expression:	Population*(Pop_Grw_Rt/100)	J 5.	
brush_pattern		J The evo	eccion is valid		
S Head_of_State	_	- The exp			
Annual_Increase					
	Ψ.				

The expression box is populated with the expression that was just created.

7. Click OK again to close the Edit Schema dialog box.

The Annual_Increase attribute column is updated with values calculated from the expression. Notice that these calculated values are grayed out. They can only be edited by modifying the attribute expression.

MA Lay	MAP Attributes ~ Layer: [▲ world_area (220 areas selected) / ▼ -D											
	eracy RInflat_Rate RUnempl_Rate RIndust_Grwth SHead of State I Annual_Increase											
1	29.00000000	92.00000000	0.000000000	6.20000000		£.	855,415					
2	72.00000000	0.000000000	0.000000000	0.000000000		1.00	60,030					
3	50.00000000	20.00000000	26.00000000	0.90000000		1.00	650,554					
4	0.000000000	0.000000000	0.000000000	0.000000000		1.00	1,276					
5	42.000000000	23.20000000	0.000000000	0.000000000		£.	234,043					
6	95.000000000	4.500000000	5.00000000	0.000000000		£.	41					
7	0.000000000	0.000000000	0.000000000	0.000000000		£∞	0					
•							•					
220	areas selected				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10. f(x) 🛛 🖉 🕇					

8. Close the document without saving.

3.5 Join tables

- 1. Create a new Adobe Illustrator document.
- 2. Import canada.shp from the *Tutorial Data* folder.
- 3. Open the MAP Attributes panel and click the Join Table button at the bottom right of the panel.
- 4. Make sure the Data Type is set to Files (ASCII, Excel, Sdts, Dbf)*, click Browse next to the Dataset Name box and select CA_commute.csv from the *Tutorial Data* folder.
- 5. Check the First line contains column names check box and choose **NAME** from the Matching Column drop-down list. Leave the schema specifications character encoding at their default values. Since there is only one MAP Layer in the MAP View, the Destination Target Layer will default to **canada_area**.

* The Data Type drop-down list is not available on Mac.

6. The Matching Column drop-down list shows attribute columns of the same type (String) from the target layer to base the join on. Set the matching column to **NAME.**

Source:		OK
Data type:	Files (ASCII, Excel, Sdts, Dbf)	Cancel
Dataset name:	Data/Tutorial Data/CA_commute.csv Browse	Curren
Name:	CA_commute 💌	
Matching column:	S NAME -	
	First line contains column names	
	Specify Schema	
Character encoding:	System 👻	
Dectination		
Target laver:	canada area 👗	
Matching column:	S NAME	
Options:		
Case sensitive wh	nen matching	

7. Make sure that the dialog box matches above and click OK.

											4	< ×			
MA	AP Attributes											*≡			
La	yer: 🔼 canada_	yer: 🖪 canada_area (13 areas selected)													
	SCODE	SNAME	TPOP2001	1 POP 20 10	SQKM_2001	Cmt_Drive	Cmt_Public	Cmt_Walk	Cmt_Bicycl	Cmt_Other	Cmt_Ride				
1	CA13	Nunavut	26,745	33,220	1,936,113	2,585	15	5,095	15	1,360	1,225				
2	CA06	Northwest Terri	37,360	43,759	1,183,085	10,920	150	5,410	425	1,570	2,065				
3	CA12	Yukon Territory	28,674	34,525	474,391	11,650	410	2,125	425	325	1,195				
4	CA02	British Columbia	3,907,738	4,530,960	925,186	1,353,790	195,150	130,280	37,370	27,620	145,845				
5	CA01	Alberta	2,974,807	3,720,946	642,317	1,253,085	155,480	99,725	19,300	25,555	133,395				
6	CA11	Saskatchewan	978,933	1,045,622	591,670	336,320	9,305	34,300	6,455	7,070	30,755				
7	CA03	Manitoba	1,119,583	1,235,412	553,556	378,365	46,605	38,605	8,380	6,090	45,390				
8	CA08	Ontario	11,410,046	13,210,667	967,741	4,038,035	736,055	320,070	69,035	57,345	470,410				
9	CA10	Quebec	7,237,479	7,907,375	1,365,128	2,525,440	445,250	230,580	48,395	32,280	192,310				
10	CA04	New Brunswick	729,498	751,755	71,450	251,625	6,365	21,385	2,110	5,490	36,090	•			
13	areas selected								I		b, f(x) 🖬 🕇				

- 8. Scroll to the right to view the joined attributes. The imported table is joined with the attribute table of *canada.shp*.
- 9. Close the document without saving.

4 Plotting Points

See User Guide, Chapter 6

4.1 Plot points in decimal degree and degrees-minutes-seconds formats

1. Open usa48.ai from the Tutorial Data folder.

This document contains the conterminous United States. The polygons are on the usa_area layer, in a MAP View named usa. The specified coordinate system is United States: Albers Equal Area, meter.

2. In the MAP Views panel, click the Add MAP Layer button. In the Add MAP Layer dialog box, rename Layer 1 to **Cities**, set the Feature type to **Point** and click OK.

Add MAP Layer		
Layer name:	Cities	ОК
Feature type:	Point 🔻	Cancel
Advanced:		1
Check this option to in	crema on: I usa_area ~	

- 3. Open the Adobe Illustrator Symbols panel (*Window > Symbols*).
- 4. In the Symbols panel option menu, click *Open Symbol Library > MAP Symbols > MAP Symbols*. If you're using a non-English version of Illustrator, browse to Open *Symbol Library > Other Library* and load **MAP Symbols.ai** from *Helpful Styles & Symbols\MAP Symbols* folder (see page iii).
- 5. Choose several city symbols in the Map Symbols panel to add them to the Adobe Illustrator Symbols panel.



- 6. In the MAP Views panel, select the Cities layer.
- 7. Open the MAP Point Plotter panel (choose *Window* > *MAPublisher* > *MAP Point Plotter*) or click the **MAP Point Plotter** button and the MAPublisher toolbar.
- 8. To change the plot symbol, click the [MAPublisher Default Symbol] and select a different map symbol. Leave the Scale set to 100%
- 9. Set the Input Coordinate System to Use: WGS 84.
- 10. Ensure that **Decimal Degrees (D+[.d*])** is chosen in the Format drop-down list.
- 11. To plot a point for Los Angeles, type -**118.4183** in the Long box and type **34.1151** in the Lat box. Click the Plot button to plot the point on the map.

	× **
MAP Point Plotter	
Current Layer:	
P Cities	
United States: Albers Equal Area, meter	·
Display:	
Symbol: Point of Interest 3	
Scale: 🔹 100%	
Input Coordinate System:	
 Use Current Layer's coordinate sys 	tem
• Use: <u>WGS 84</u>	
Coordinates:	
Format: Decimal degrees (D+[.d*])	•
✓ Long: -118.4183	deg 👩
✓ Lat: 34.1151	deg Ϋ
Plot	

A point is plotted at the location of Los Angeles (34.1151 degrees north, 118.4183 degrees west).

- 12. Choose Delimited Degrees Minutes Seconds (D+dMM'SS[.s*]") from the Format drop-down list.
- 13. To plot a point for New York City, type 73d56'39.0"W in the Long box and 40d41'14.0"N in the Lat box.
- 14. Click the symbol text name to select a symbol style, change the Scale to 150% and click Plot.

A point is plotted at the location of New York City (40 degrees, 41 minutes, 14 seconds north and 73 degrees, 56 minutes, 39 seconds west).

15. Finally, plot a point for Chicago. Type **87d41'18**"W in the Long box and **41d50'21"N** in the Lat box. Alternatively, change the Format back to **Decimal Degrees (D+[.d*])** and type **-87.6883** in the Long box and **41.8392** in the Lat box.



All the points are plotted on the map. Experiment with plotting your own points, using different symbols, coordinates, coordinate systems and data.

16. Keep the document open for the next tutorial.

4.2 Plot centroids

Continue working with the previous tutorial.

1. Choose Plot Centroids from the MAP Point Plotter panel option menu.

MAP View:	🚱 usa 🔻	ОК
Source layer:	🔺 usa_area 🔻	Cancel
Destination:		
Existing layer:	🕑 Cities 🔻	
New layer:	centroid P	
	This layer will inherit the source layer's attribute schema.	
Options:		
Style:	Point of Interest 3	
Scale	100 %	

The MAP View and Source layer are already set in the Plot Centroids dialog box. The Destination is already set to be a new layer called **centroid**. This creates a new destination layer and places the points on this layer.

- 2. Change the Style to a different map symbol and change its scale to 50%.
- 3. Leave the other options as default and click OK to close the dialog box.



Points are plotted for the centroid location for each state polygon.

5 Drawing with MAPublisher

See User Guide, Chapter 7

5.1 Create shapes with specific map dimensions

- 1. Create a new Adobe Illustrator document.
- 2. Import fsatoronto.mif and import torontostreets.mif from the Tutorial Data folder.
- 3. Transform the coordinate system of the fsatoronto MAP View to NAD83 / UTM zone 17 (see Tutorial 2.9).
- 4. Zoom to an intersection of these streets. A recommended zoom level is 600%.



To construct an imaginary building at precise map dimensions

- 5. In the MAP Views panel, add a new MAP Layer called **Buildings** and specify it as an Area feature type.
- 6. In the Adobe Illustrator Tools panel, click the MAP Area Plotter Rectangle Tool button.
- 7. In the Adobe Illustrator Layers panel, make sure the *Buildings* layer is active. Click once near the intersection of the two selected streets to open the Area Plotter dialog box.
- 8. Type 50 into the Width box, type 30 into the Height box, check the Center area on click check box, and click OK.

Area Plot	tter
Target	t: 🖪 Buildings 🔹 🗸
Input:	Cancel
🔘 Pag	e coordinates (Global Rulers)
Wor	rld coordinates: 🔇 fsatoronto 🔻
Coc	ordinate system: NAD83 / UTM zone 17N
	Use: WGS 84
Input fo	ormat: Projected units
Option	IS:
Shape:	Rectangle 👻
Location	n type: Position 🔹
Point:	Center
🛷 X:	630,144.391970 m
🖌 Y:	4,835,476.612399 m
Dimen	isions:
Units:	Meter
Width:	50.000000000000 m
Height:	30.0000000000000 m
	Constrain dimensions

Since the *fsatoronto* MAP View is in UTM, the units are displayed in meters. These settings create a rectangle 50 x 30 meters. The center of the polygon locates at the single-click point from the previous step.



9. Move the building to the southeast corner of the intersection. Rotate it so that it is parallel to College St. using the Rotate Tool. Give the building a fill color.



Presume that this building is an established grocery store. In a recent survey it was found that on average, the majority of its customers lived within 500 meters of the store.

10. In the main Adobe Illustrator Tools panel, click the MAP Measurement Tool. 🚫 Click the center of the building rectangle and move the cursor outwards until the distance is about 500 meters.



The MAP Measurement Tool displays a distance of about 500 meters. This helps to approximate a distance of 500 meters around the grocery store. To measure multiple straight sections, hold the Shift key and click.

- 11. In the main Adobe Illustrator Tools panel, click the MAP Area Plotter Rectangle Tool button (Alternatively, click and hold the button to choose the MAP Area Plotter Ellipse Tool). Single-click in the center of the building to open the Area Plotter dialog box.
- 12. In the Options section, type **1000** for both the Width and Height (or click the Constrain Dimensions check box). Make sure the Shape is an Ellipse and the Point is Center. Click OK.

Options:	
Shape: Ellipse	
Location type: Position	
Point: Center 👻	
✓ X: 630,182.724626	m 🕒
✓ Y: 4,835,603.456861	m 👢
Size:	
Units: Meter	•
Width: 500.000000000000 m	
Height: 500.000000000000 m	A V
Constrain dimensions	

A 1000 meter diameter circle (500 meter radius) is placed around the grocery store and shows where the majority of customers live. The circle can be selected and styled like other area and line elements.



6 Cropping with MAPublisher

See User Guide, Chapter 7

6.1 Crop data with MAP Vector Crop Tool

- 1. Create a new Adobe Illustrator document.
- 2. Import torontostreetsjoined.mif and fsatoronto.mif from the Tutorial Data folder.
- 3. With all data on both layers selected, open the MAP Attributes panel.

MA	AP Attributes					** > *
La	yer: 🖪 fsator	onto_area (19 areas se	lected)			-Da
	SFSA	Aprtmnt_cnt	Bus_cnt	Farm_cnt	Hse_cnt	RArea_km_sq
1	M4Y	25,450	3,269	0	4,257	1.142590000
2	M5B	346	1,267	0	0	0.516775000
3	M5C	17,690	5,397	0	3,260	0.190753000
4	M5E	724	2,011	0	0	0.474701000
5	M5G	169	965	0	0	0.645136000
6	M5H	35	743	0	0	0.010545300
7	M5J	3,213	2,369	0	260	3.959310000
8	M5K	789	230	0	0	0.054582100
9	M5L	2,347	96	0	0	0.034467000
10	M5R	54	125	0	0	2.821930000
. ◀ 19 ;	areas selected				1 3 K 🗗	•

Examine the table structure and map attribute records. Deselect the data and close the MAP Attributes panel.

4. Click the MAP Vector Crop Rectangle Tool from the main Adobe Illustrator Tools panel.

Notice the mouse cursor has changed to a cross hair.

- 5. Click once near the center of the map. This opens the Vector Crop dialog box.
- 6. In the Size section, enter a width of **0.025** and a height of **0.045** (degrees). In the Target section, choose Only and choose the **fsatoronto_area** layer in the drop-down list.

	All layers in d	ocument		Cancel
•	All layers in:	G fsatororito	*	
	Only:	K fsatoronto_area	•	Advanced
•	🔄 Include s	ublayers		
deg 🥥				
deg 👢				
-				
0				
	deg deg v	deg e deg e deg e	A stayes ne le batronnis .rea Oriy: Estronnis .rea Incluie sublayers deg deg deg 	Configure en la constante a la constante la constante a la constante a la constante a la constante a la co

Move the dialog box out of the way to see a preview of the crop area size. This will give you an idea of what section of the data will be cropped. The crop should only target fsatoronto_area layer and the streets will remain untouched.

7. Click OK to complete the crop.

The fsatoronto_area layer is cropped to the crop extent and the streets were untouched because they were not included as a target.



8. In the Adobe Illustrator Tools, click and hold the MAP Vector Crop Rectangle Tool button to choose the Ellipse Rectangle Tool. On the artboard, click and drag an ellipse to draw a crop extent. Release the mouse button to complete the crop.



- **Note:** To achieve a proportional crop area, hold the Shift key while dragging the crop area.
- 9. Once again, select all data in both layers and open the MAP Attributes panel.

	Circa	Anthent out	But ont	Earn out	Thing out	Baren im co
1	MAY	25,450	3 269	0	4 257	1.142590000
2	M58	346	1.267	0	0	0.516775000
1	MSC	17,690	5,397	0	3,260	0.190753000
4	MSE	724	2,011	0	0	0.474701000
5	MSG	169	965	0	0	0.645136000
6	MSJ	3,213	2,369	0	260	3.959310000
7	M5K	789	230	0	0	0.054582100
8	MSL	2,347	96	0	0	0.034467000
9	M5S	11,706	3,635	0	5,914	1.790720000
10	MST	9,889	5,844	0	2,568	1.535210000

Notice that the attributes have been maintained, but there are fewer features because of the crop.

7 Art and Line Functions

See User Guide, Chapter 8

7.1 Buffer art using an entered value

- 1. Create a new Adobe Illustrator document.
- 2. Import **burlroads.mif** from the *Tutorial Data* folder and assign **NAD83 / UTM zone 17N** as the source coordinate system. Navigate to the location, **Projected > UTM > NAD83** to find the coordinate definition (Tutorial 1).
- 3. Select a few lines to be buffered.



- 4. On the MAPublisher toolbar, click the **Buffer Art** button (3) or choose Object > MAPublisher > Buffer Art.
- 5. In the Buffer Art dialog box, click the Only buffer selected art check box. Under the Buffer Width section, choose the Static Value option, in the Units drop-down list choose Meter, and type 25 into the adjacent box. Under the Destination section, choose the New Layer option and type Line Buffers into the box. Under the Options section, click the Apply style check box and choose a fill color.

1	Buffer Art		
	Source:		ОК
	Layer:	L burlroads_line	▼ Cancel
		Only buffer selected art	Cancer
	Buffer Width:		
	Units:	Meter	
	Static value:	25.00000 m	-
	Add buffer a	t intervals of: 0.000000 m	
	O Attribute value:	#Opacity	-
	Merge buffered r	esults by buffer width value	
	Destination:		
	Existing layer		-
	New layer:	Line Buffers	A
		This layer will inherit the source layer's attribute schema	
	Options:		
	Apply style:	🔣 Stroke: 🔽 [None] 🔹 🔽 📎 100% 🖶 🚞 1.00 pt	A
		Fill: C=75 M=0 Y=100 K=0 🔹 100% 🖨	

A static value of 25 meters represents a buffer value of 12.5 meters on either side of the selected roads.

6. Click OK to apply the buffer art settings.

The lines that were selected for buffering now have a buffer around them on a layer called Line Buffers. The buffered lines were styled according to the fill color options set. Like any other object in Adobe Illustrator, then can be styled separately. As with most buffers, it's best to make them stand out from the features above them.



Alternatively, a Graphic Style can be chosen in the Buffer Art dialog box so that a style is automatically applied to the newly created buffer. To do this, click the toggle to switch to Graphic Style mode.

7.2 Flip lines

There are two methods in MAPublisher to ensure that text labels are oriented correctly when they are attached to paths. The first is to check the *Reverse right to left paths (flip upside-down text)* option in Label Features or the MAP Tagger Tool. Alternatively, permanently correct any digitizing irregularities by using the Flip Lines function.

- 1. Create a new Adobe Illustrator document.
- 2. Import torontostreetsjoined.mif from the Tutorial Data folder.
- 3. Select the two lines as indicated in the graphic below and add arrowheads to the lines by choosing *Effect* > *Stylize* > *Add Arrowheads* in CS4. In Illustrator CS5 the Add Arrowheads controls have been integrating into the Stroke panel, which can be found at *Window* > *Stroke*.



4. Accept the default arrowhead style and click OK.



Arrowheads are added to the selected road lines.

5. On the MAPublisher toolbar, click the Flip Lines button.

Notice how the selected lines now have their beginning and end points switched (as indicated by the arrowhead). The orientation of the lines are permanently corrected. Any labels placed along these lines are now oriented correctly (labels would be oriented below the lines if the lines were not flipped).

7.3 Join lines based on attribute value

- 1. Create a new Adobe Illustrator document.
- 2. Import torontostreets.mif from the *Tutorial Data* folder.



Select individual line segments to see that lines are not joined with other line segments, even though the line may be of the same street.

3. Select all objects on the *torontostreets_line* layer.

In the MAP Attributes panel, notice there are 1197 line segments in the torontostreets_line layer.

- 4. On the MAPublisher toolbar, click the Join Lines button.
- 5. Make sure that torontostreets_line is selected as the Target Layer. Leave join lines on target layer selected.
- 6. Under Destination choose the Copy result to new layer option and enter the layer name Joined Streets.
- 7. Under Join Options, leave the Only join lines with shared values from option checked and choose the **Street** attribute from the drop-down menu.
- 8. Type **0.01** in the Proximity box and make sure the proximity unit is set to **Degree**. Proximity is the tolerance setting used in the join process.
- 9. Ensure the Close Segment Gaps check box is unchecked.

largetLa	iver: IL torontostreets_in		Attributes:				OK
Only jo	in selected lines		Attribute	Operation	Options		Cancel
Destinati	on:		Street	Join on	N/A		
🗇 Join or	iginal lines on target layer		FromLeft	Clear if different	N/A		
Copy n	esults to new layer:		ToLeft	Clear if different	N/A		
Joined	Streets		FromRight	Clear if different	N/A		
Join Optic	oms:		ToRight	Clear if different	N/A		
Proximity:	0.010000	•	Type	Clear if different	N/A		
	Degree	•	I pen_patter	n Clear il different	N/A		
Close s	egment gaps in lines with shared values fro reet	et.	Apply to eve Only apply a	ry grouped compone ittribute operations to	nt o grouped component	s that satisfy:	

10. Make sure that the dialog box matches the one above and click OK.

A new layer called *Joined Streets* is created and contains 264 line segments (according to the MAP Attributes panel). The original dataset contained 1197 line segments. Select an individual line segment and notice that the line is joined with line segments that share the same street name (the attribute the join was based on).

11. Close the document without saving.

7.4 Simplify lines

- 1. Create a new Adobe Illustrator document.
- Import the ukrail.gen file from the *Tutorial Data* folder and specify British National Grid as the coordinate system. It is located under Projected > Europe > United Kingdom.
- 3. Select all objects in the *ukrail_line* layer and click the Simplify Lines button 2^{-1} on the MAPublisher toolbar.
- 4. In the Simplify Lines dialog box, type 2000 in the Proximity box and choose Meter in the Units drop-down list.
- 5. Click Preview to see a preview of the simplified data with the current settings.

Simplify Lines	Simplify Lines
Proximity: 2000.000000 💮 Meter 🗸 OK	Proximity: 2000.000000
Vertex Count:	Vertex Count:
Original: 17186	Original: 17186
Simplified: 0 Preview	Simplified: 8756 (50%) Preview
Uses Douglas-Peucker line simplification Maintains topology between areas with shared edges	Uses Douglas-Peucker line simplification Maintains topology between areas with shared edges

6. Click OK to start the simplification process.



The selected lines are now simplified based on a proximity value of two kilometers (2000 meters) and have been simplified from 17,186 vertices to 8,756 vertices or a vertex reduction of about 50%.

7.5 Join points

- 1. Create a new Adobe Illustrator document.
- 2. Import **torontostreetsjoined.mif** and **torontopoints.mif** from the *Tutorial Data* folder. After import, ensure the *torontopoints_point* layer is positioned at the top of the layers hierarchy in the Adobe Illustrator Layers panel.
- 3. If necessary, deselect all layers and only select the points of the *torontopoints_point* layer and open the MAP Attributes panel.

MAF	P Attributes						-
Lay	er: 🛛 P torontopoi	nts_point (13	3 points selected)			•	-D4
	LineNumber	SID	SType		AreaNumber		-
1	0	P43	Node		9	1	
2	0	P43	Node		8		
3	0	P43	Node		7		
4	0	P43	Node		6		
5	0	P43	Node		5		
6	0	P43	Node		4		
7	0	P43	Node		3		
8	0	P43	Node		2		
9	22,902	R1	Node		0		
10	22,901	R1	Node		0		•
133	points selected			I.	11 De 🗖	f(x)	

The *ID* attribute column contains four unique values identifying points that compose: two subway lines (S1 and S2), the mainline rail track (R1), and a park boundary (P43). The *LineNumber* and *AreaNumber* columns contain rising numeric values indicating the number of each point in its sequence. Note that some points contain matching values.

4. Deselect all points and on the MAPublisher toolbar, click the Join Points button.

Since only one point layer is present in the document and there are no points selected, the Source Layer defaults to the *torontopoints_point* layer in the Join Points dialog box.

- 5. In the Destination Layer box, type **Joined Points** (a new layer will be created with this name) and leave the Close paths check box unchecked.
- 6. In the Group By Column drop-down list, choose **ID**. This contains the unique attributes that will be used to join similar points together.
- 7. In the Sort By section, click **LineNumber** in the Available Columns list, and click the right arrow button to add it to the Sort Order list. Click **AreaNumber** and click the right arrow button again to add it to Sort Order.

Ensure that *LineNumber* is at the top of the Sort Order list box. Having *LineNumber* at the top of the *Sort Order* column makes it the primary sorting column when determining the order of points in the chain. The *AreaNumber* column is used as the secondary sorting column, if any points in the primary column contain matching values.

ource layer:	P torontopoints_	point	 Attributes: 			Ok
	Only join selecte	d points	Attribute	Operation	Options	Can
estination:			I LineNumber	Clear if different	N/A	Can
ayer:	Joined Points		I ID	Join on	N/A	
	Close paths		S Type	Clear if different	N/A	
iroup By:			AreaNumbe	r Clear if different	N/A	
Attribute:	S ID		•	cicar in different	11/13	
Available colum	ns	Sort order				
Available column Image: Image with the second sec	ns me	Sort order				
Available column S #LayerNa R #PageX R #PageY I #Id S #Name R #Horizont R #VerticalS R #Rotation	ns me talScale	Sort order	Apply to every	/ grouped componer	t	
Wailable column #LayerNa #PageX #PageY #Id #Name #Horizont #VerticalS #Rotation #Style 	ns me talScale cale =	Sort order	Apply to every Only apply att	/ grouped componen	t grouped componer	nts the
Available column S #LayerNa R #PageX R #PageY I #Id S #Name R #Horizont R #VerticalS R #Rotation S #Style R #MapX	ns me talScale cicale	Sort order	Apply to every Only apply att	r grouped componer ribute operations to	t grouped componer	nts the

8. Make sure the dialog box matches the one above and click OK.



All the points are joined based on the specified parameters. A line layer called Joined Points is created that contains four new lines. The lines represent two subway lines, the mainline rail track, and the perimeter of a small park. To see the Joined Points line more clearly, hide the other layers.

9. Select the four lines of the Joined Points layer and open the MAP Attributes panel.

M.	AP Attributes	Points (4 lines se	lected)						•	- [-D4
Г	LineNumber	SID	S Type	[I AreaNu	umber					
1	0	S2					0				L
2	0	S1					0				L
3	0	R1					0				L
4	0	P43	Node				0				L
											•
41	ines selected				包括		<u>,</u>	f(x)	3-6		

Notice that an attribute column named *ID* was created and contains the values specified in the Group By Column setting in the Join Points dialog box. Note that the small segment with the attribute P43 is the outline of a park area. However, this segment should be closed and should be deleted using the following steps.

- 10. In the Adobe Illustrator Layers panel, select the *torontopoints_point* layer and use the MAP Selections to select all the points with an ID equal to P43 (see Tutorial 10 on Making Selections).
- 11. With the points of P43 selected, click the Join Points button.

In the Join Points dialog box, the torontopoints_point layer and Selected Points option are chosen by default.

- 12. In the Destination Layer box, type **Park Area**. This time, check the Close Paths check box. Leave the Group By column as the default of ID.
- 13. Add AreaNumber and LineNumber to the Sort Order column list, and make sure LineNumber is at the top of the list.

Ioin Points							
Source layer:	P torontopo	ints_point	•	Attributes:			ОК
	Only join s	elected points		Attribute	Operation	Options	Cance
Destination:				I LineNumber	Clear if different	N/A	
Layer:	Park Area		A	S ID	Join on	N/A	
	Close path	5		S Type	Clear if different	N/A	
Group By:				AreaNumber	Clear if different	NIA	
Attribute:	S ID		•	AreaNumber	clear in different	N/A	
Sort By: Available column S #LayerNar R #PageX #PageY #Id S #Name R #Horizont R #VerticalSo R #Rotation	ns ne	Sort order	aber Aber	 Apply to every 	grouped componen	nt	
S #Style R #MapX R #MapY S Type	-			 Only apply attri Empty expr 	bute operations to	grouped components	tha 5

14. Make sure your dialog matches the graphic above and click OK.

The selected points are joined based on the specified parameters. A new *Park Area* layer is created that contains a polygon that represents the perimeter of a small park. The map can be styled to more clearly show the subway lines, rail line and park.



15. Close the document without saving.

7.6 Join areas

- 1. Create a new Adobe Illustrator document.
- 2. Import **worldd.mif** from the *Tutorial Data* folder.
- 3. With the *world* layer selected open the MAP Attributes panel.

								ι x
MAP	Attributes							•=
Laye	er: 🚺 world_are	ea (220 areas selec	ted)					-04
	S Capital	SCountry	S Continent	R Arable_Pct	R Population	R Pop_Grw_Rt	R Literacy	
1	Kabul	Afghanistan	Asia	12.00000000	16,450,304.0000	5.20000000	29.00000000	
2	Tirane	Albania	Europe	21.00000000	3,335,044.00000	1.80000000	72.00000000	
3	Algiers	Algeria	Africa	3.00000000	26,022,188.0000	2.50000000	50.00000000	
4	Andorra la Vella	Andorra	Europe	2.00000000	53,197.000000000	2.40000000	0.00000000	
5	Luanda	Angola	Africa	2.00000000	8,668,281.00000	2.70000000	42.00000000	
6	The Valley	Anguilla	North America	0.000000000	6,922.000000000	0.60000000	95.00000000	
7	none	Antarctica	Antarctica	0.000000000	0.000000000	0.000000000	0.00000000	
8	St. Johns	Antigua	North America	18.00000000	63,917.000000000	0.40000000	89.00000000	
9	Buenos Aires	Argentina	South America	9.000000000	32,663,983.0000	1.100000000	95.00000000	
10	Yerevan	Armenia	Europe	0.000000000	3,412,000.00000	0.000000000	0.00000000	-
•	1						•	
220 a	areas selected					1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	b , f(x)	انہ ا

Notice that the Continent column holds the contient entry for each country. This is the attribute that you will join areas with.

- 4. Deselect all art by going to *Select > Deselect* in the file menu.
- 5. On the MAPublisher toolbar, click the Join Areas button

Since only one are layer is present in the document and there are no areas selected, the Source Layer defaults to the *world_area* layer in the Join Areas dialog box.

- 6. Under Destination, choose the *Copy results to new layer* option and type **Joined Areas** (a new layer will be created with this name).
- 7. Under Join Type, choose the *Join areas by attribute* option and choose **Continent** from the drop-down menu.
- 8. Leave all attributes set to Clear if different when joining. Notice beside Continent it states "Join on". Click Ok.

Target Layer: 🚺 world	area	Attributes:				OK
		Attribute	Operation	Options	16	Cancel
Destination:	get løver	医 Capital	Clear if different	N/A		
Copy results to new laye	r: Joined Areas	S Country	Clear if different	N/A		
100		S Continent	Join on	N/A		
Join all selected areas on target layer		R Arable_Pct	Clear if different	N/A		
Join areas by attribute:	Continent	• R Population	Clear if different	N/A		
Conly join a	Only join selected areas	R Pop_Grw_Rt	Clear if different	N/A		
Join Flethod: Group areas Create compound areas Classive borders between adjacent sub-areas		I Literacy	Clear if different	N/A		
		Inflat_Rate	Clear if different	N/A		
		I Unempl_Rate	Clear if different	N/A		
		Indust_Grwth	Clear if different	N/A		
		pen_pattern	Clear if different	N/A		
		brush_pattern	Clear if different	N/A		
		 Apply to every ; 	rouped component			
		Only apply attrib	ute operations to g	rouped components that	satisify:	
					1.65.1 (66)	

New areas have been created based on matching Contient attributes and the boundaries of counties of have been dissolved.



8 MAP Themes and Legends

See User Guide, Chapter 9

8.1 Create an area stylesheet theme

- 1. Create a new Adobe Illustrator document.
- 2. Import world.mif from the Tutorial Data folder.
- 3. In the Adobe Illustrator menu, choose *Window > Graphic Styles* to open the Graphic Styles panel.
- 4. In the Graphic Styles panel option menu, choose *Open Graphics Style Library > MAP Graphic Styles > MAP Area Solid Colors*. For non-English installations of Illustrator choose *Open Graphics Style Library > Other Library* and load **MAP Area Solid Colors.ai** from the *Helpful Styles & Symbols**Graphic Styles* folder (see page iii).
- 5. Shift-select all the graphic styles in the MAP AREA SOLID COLORS panel and drag them into the Adobe Illustrator Graphic Styles panel.



6. Open the MAP Themes panel (choose *Window > MAPublisher > MAP Themes*) or click the MAP Themes button on the MAPublisher toolbar.



- 7. In the MAP Themes panel option menu, click New MAP Theme.
- 8. In the New MAP Theme dialog box, type **Continents1** into the Theme Name box, choose Stylesheet as the Theme Type, choose **Area** from the Feature type drop-down list, and click OK.

			- UN
there type:	@ Stylesheet	•	Carrol
		1000	Cance
Theme Optio	ns		
Feature type:	M Area		

9. Double-click Continents1 stylesheet, or choose Edit "Continents1" from the MAP Themes panel option menu.

Click the Layers button and choose the *world_area* layer. In the Edit Stylesheet Theme dialog box, click the Add button to add a style rule. Rename Rule 1 to **Africa**.

- 10. Under Expression, click the Expression builder/Simple expression toggle button to view simple expression mode with its three drop-down menus in the first row.
- 11. Use the left-hand drop-down list to set the attribute to **Continent**, select the equal sign for the operator, and select **Africa** from the right-hand drop-down list as the attribute value.
- 12. Under Apply Properties click the Style check box and choose a graphic style from the list of styles previously loaded into the document.

·			
Edit Stylesheet Theme			
Theme name: Continents1		Visual properties: <u>Never reset.</u>	ок
Layers: world_area		Batch Generate Rules Edit Visual Property Ramps	Cancel
Auto-assign: No imported layers will be auto-assigned to t	his stylesheet.		Apply
Rules:			
Africa	Name: Africa		_
	Stop applying ru	ules if art qualifies for this rule	
	Do not apply this	is rule	
	Expression:		
	S Continent 🔹	= • Africa • fr	•
		T Africa T	
	Expression: Continent = "	Africa"	
	Apply Visual Propertie	s:	
	Style:	Land 39 🔹	•

- 13. Leave the other display properties at their default values and click Apply to see the changes made to the map.
- **Note:** The MAPublisher Log records which artwork was affected or not. If changes are made to a style, click white empty space in the dialog box before clicking the Apply button.
- 14. Repeat steps 9 to 11 for each of the subsequent continents. Note that the same style cannot be used more than once, as one style equals one legend entry. When all of the continents are assigned a style, click the Apply button to see the changes, or click OK to close the dialog box.

Edit Sty	lesheet Theme		
Theme Auto-	name: Continents1 Layers: world_area assign: No imported layers will be auto-assigned to	Visual properties: <u>Never reset.</u>	OK Cancel Apply
	Rules: Continent: 'Africa' Continent: 'Africa' Continent: 'Antarctica' Continent: 'Australia' Continent: 'Yuopa' Continent: 'Yuopa' Continent: 'Vooth America' Continent: 'South America'	Name: Continent: "Africa" If Stop applying rules if art qualifies for this rule If on one paper him rule Expression: If continent If continent <	

The styles specified have been applied to the map. The styles in the Graphic Styles panel are now linked to the attribute values specified by the style rules.



15. Save this document as MyWorld.ai in the Tutorial Data folder. It will be used again in Tutorial 8.4.

8.2 Create a line stylesheet theme

- 1. Create a new Adobe Illustrator document.
- 2. Import **fcstreets.mif** from the *Tutorial Data* folder.
- 3. Open the Adobe Illustrator Graphic Styles panel.
- 4. Use the Adobe Illustrator Line Segment Tool to create a graphic style by drawing a line on the page. Assign the line a stroke weight of 2 pt, a stroke color of red, and a fill of none.
- 5. Open the Adobe Appearance panel via *Windows > Appearance*. From the Appearance panel option menu choose *Add New Stroke*. Set the color to yellow and the stroke weight to 1.6. Make sure the newly created stroke is above the 2 pt red stroke in the Appearance panel.



6. Use the Selection Tool to drag this line into the Graphic Styles panel. In the Graphic Styles panel, double-click the style to open the Graphic Style Options dialog box. Rename the style to **Primary Road**.



Delete the line on the artboard (the style will remain available inside the Graphic Styles panel).

- 7. In the Graphic Styles panel option menu, click *Open Graphic Style Library > MAP Graphic Styles > MAP Line Styles*. If using a non-English version of Illustrator, choose *Other Library > Open Graphic Style Library* and browse to the MAPublisher supplied file **MAP Line Styles.ai** from *Helpful Styles & Symbols**Graphic Styles* folder (see page iii).
- 8. Add the graphic styles MAP Line 12 and MAP Line 16 from the MAP LINE STYLES panel to the document's graphic style panel by Ctrl-clicking the two styles and dragging them to the graphic style panel. These new styles will now be available for use in the current document. Double click each of the newly added graphic styles to rename them. Rename MAP Line 16 to **Secondary Road** and MAP Line 12 to **Local Road**. Close the MAP LINE STYLES panel.
- 9. Open the MAP Themes panel and in the panel option menu, click New MAP Stylesheet.
- 10. In the New MAP Theme dialog box, type **Road Types** into the Theme Name field, choose Stylesheet as the Theme Type, choose Line from the Feature type drop-down list, and click OK.

- 11. Double-click the *Road Types* stylesheet. Click the Layers button and click the **fcstreets_line layer** checkbo in the Selected column, then click OK.
- 12. In the Edit Stylesheet Theme dialog box, click the Add button three times to add three rules. Rename Rule 1 to **Primary Road**, Rule 2 to **Secondary Road**, and Rule 3 to **Local Road**.
- 13. In the Expression field, for the Primary Road rule select "Number" from the pull down menu displaying attributes, and choose the unique attribute value "A25". Under Apply Properties, check the Style check box and choose the Primary Road style.
- 14. In the Expression field, for the Secondary Road rule select "Number" from the pull down menu displaying attributes, and choose the unique attribute value "A31". Under Apply Properties, check the Style check box and choose the Secondary Road style.
- 15. In the Expression field, for the Local Road rule select "Number" from the pull down menu displaying attributes, and choose the unique attribute value "A41". Under Apply Properties, check the Style check box and choose the Local Road style.

eme name: Road Types		Visua	l properties: No	er reset.		OK
Layers: fcstreets_lne		0	Batch Generate R	tules Edit Visual	Property Ramps	Cancel
rto-assign: <u>No imported lavers will be aut</u> Rules:	o-assigned to this stylesheet.					Apply
Primary Road Secondary Road Local Road	Name: Local Road	ying rules if a ply this rule	ert qualifies for th	is rule		
	Expression:	•	• A41		• 10	
	Expression: Number Apply Visual Prop	= "A41" erties:				
	12 style:	Local	Road		+ fto	

16. When all the rules are defined with a style and expression, click Apply.



17. Save this document as MyRoads.ai in the Tutorial Data folder. It will be used again in Tutorial 8.6.

8.3 Create a point stylesheet theme

- 1. Complete Tutorial Guide exercise 1.6 or open MyPoints.ai in the *Tutorial Data* folder.
- Open the Adobe Illustrator Symbols panel (choose Window > Symbols), in the Symbols panel option menu, click Open Symbol Library > MAP Library > MAP Symbols > MAP - Symbols. If using a non-English version of Adobe Illustrator choose Open Symbol Library > Other Library and load MAP - Symbols.ai from \Helpful Styles & Symbols\ MAP Symbols (see page iii).
- 3. Shift-select all the symbols in the MAP Symbols panel, and drag them into the Adobe Illustrator Symbols panel.



- 4. Open the MAP Themes panel and in the panel option menu, click New MAP Theme.
- 5. In the New MAP Theme dialog box, type **Point Data** into the Theme Name field, choose Stylesheet as the Theme Type, choose **Point** from the Feature type drop-down list, and click OK.

Theme name:	Point Data		OK
there type:	ab Stylesheet	•	Cancel
Theme Opti	ons:		

- 6. Double-click the *Point Data* stylesheet, or choose Edit "Point Data" from the MAP Themes panel option menu. Click the Layers button and select the *azdeci_point* layer.
- 7. In the Edit Stylesheet Theme dialog box, click the Add button four times to add four rules. Rename Rule 1 to Airport, Rule 2 to Church, Rule 3 to Hospital and Rule 4 to Park. In the Expression column, build the expression: C3 = "airport" and under Apply Properties, check the Symbol check box and from the drop-down list choose MAP Symbol 34 (airplane symbol). Check the Scale check box and change the Scale to 70%.
- 8. Select the Church rule and in the expression column, build the expression C3 = "church". Under Apply Properties heck the Symbol check box and from the drop-down list choose a church symbol. Check the Scale check box and change the Scale to **70**%.
- 9. Select the Hosptial rule and in the expression column, build the expression C3 = "hosptial". Under Apply Properties check the Symbol check box and from the drop-down list choose a hospital symbol. Check the Scale check box and change the Scale to **70**%.
- 10. Select the Park rule and in the expression column, build the expression C3 = "park". Under Apply Properties check the Symbol check box and from the drop-down list choose a park symbol. Check the Scale check box and change the Scale to **70**%.

Edit Stylesheet Theme	
Theme name: Point Data	Visual properties: <u>Never reset.</u> OK
Layers: azdeci_point	O Batch Generate Rules dif Usual Property Ramps Cancel
Auto-assign: No imported layers will be auto-assigned to t	his stylesheet. Apply
Rules:	
Airport	Name: Park
Church	Stop applying rules if art qualifies for this rule Do not apply this rule
✓ Park	Expression:
	S C3 ▼ = ▼ park ▼ f∞
	Expression: C3 = "park"
	Apply Visual Properties:
	Graphic style: [Default]
	Symbol: 🔣 Green - Camping 🗾 🌆
	Rotation: 0.00 👘 🗸 Angle is relative to MAP View 🌆
	✓ Scale: 70%
	Opacity:

- 11. Click Apply. The specified symbol styles are applied to the map. The styles used in the Symbols panel are now linked to the attribute values specified by the style rules.
- 12. Close the document without saving.

8.4 Generating stylesheet theme rules

- 1. Create a new Letter sized Adobe Illustrator document in landscape orientation.
- 2. Import world.mif from the Tutorial Data folder.
- 3. In the MAP Themes panel option menu, click New MAP Theme.
- 4. In the New MAP Theme dialog box, type **Population** into the Theme Name box, choose Stylesheet as the Theme Type, choose **Area** from the Feature type drop-down list, and click OK.

New MAP Ther	ne	
Theme name:	Population	ОК
Theme type:	Stylesheet ▼	Cancel
Theme Optic	nns:	
Feature type:	🔺 Area 🔻	
Tip: Double-click	in the Theme panel to edit the theme.	

- 5. Double-click Population stylesheet, or choose Edit "Population" from the MAP Themes panel option menu.
- 6. Click the Layers button and select the *world_area* layer.
- 7. Click the **Batch Generate Rules** button to open the Rule Generator dialog box. Under Source: choose be sure that the world_area layer is selected. Choose **Population** from the Attribute drop-down list.
- 8. Click Load to generate rules. Rules are produced using the default values of 5 classes using Equal Intervals.
- 9. The Natural Breaks Jenks-Caspall method offers a more mathematically rigorous classification. Click the Method drop-down list and change Equal Intervals to Natural Breaks Jenks-Caspall.
- 10. Under Visual Property Assignment click the Set fill icon and choose a color ramp from the drop-down list. Available color ramps are those loaded into the Illustrator Swatches panel. Reverse the color ramp as necessary.

Source: ayer: 🚯 world_area	0	ignore:						A
Attribute: Population	•	() Endly	expres	sion. In po	stion: 0			Can
ource: 220 value(s) (211 tethod: [Natural Breaks ()	unique) from Pop Ienks-Caspal) 💌	ulation Data dasses: 5	¢	Indusv	e boundary: Start	value -	•	
Expression	Start	End		fill]
1 0 <= Populatio 0.0		12,965,996.0000						
2 12,965,996 <= P 12	,965,996.0000	42,112,082.0000						
3 42,112,082 <= P 42	,112,082.0000	116,601,424.000						
4 116,601,424 <= 11	6,601,424.000	866,351,738.000						
5 866,351,738 <= 86	6,351,738.000	1,151,486,981.0						
Add rule expressions to Asual Property Assignm	Recent Expression	ns in Expression Libr	WY				🗌 Add rule for ignored expression	
🖾 Set style:	From list of 0	style(x): Select.			Set scale:	1%	10 to 100% 10 Reverse 2	
🔄 Set stroke:	Reverse of	ill + Grays olour ramp			🕑 Set fil:	Rev	Warm 9 💌 🚅	
	at [055 [2]	to 100%	Rever		Set fil opacity:	0.46	🕆 to 100% 🗄 🗆 Reverse 🎑	
Set stroke opacit								

11. Click Add to close the Rule Generator dialog box, and back in the Edit Stylesheet Theme dialog box click Apply. Your map has now been stylized based on your generated rules.



8.6 Create a bar chart theme

- 1. Create a new Adobe Illustrator document.
- 2. Import **canada.shp** from the *Tutorial Data* folder.
- 3. In the MAP Themes panel option menu, click New MAP Theme. In the New MAP Theme dialog box, type **Population** into the Theme Name box, choose **Chart** as the theme type.

hene type: [ills Chart *] Ca	hene name:	Population	 OK
	here type:	illi Olert	 Cancel
			 0.000

- 4. Double-click *Population* Chart theme in the Themes Panel. Click Yes when the alert box asks to create the required Legend layer.
- 5. In the Edit Chart Theme dialog box, choose **Bar Chart** from the Type drop-down list.
- 6. Check the "Ignore" check box and enter in the following expression: LIKE(NAME,"Yukon") OR LIKE(NAME,"Nunavut") OR LIKE(NAME,"Northwest Territories"). This will prevent bar charts from being applied to Canada's far north.
- 7. In the Source Data tab, with *canada_area* selected in the Layer drop-down list, click the Add button twice to add two attributes.
- 8. Highlight the first unspecified attribute. In the Attribute drop-down list, choose **P0P2001**. In the Appearance section choose a fill color and set the stroke to None.
- 9. Repeat these steps with the second unspecfied attribute highlighted, this time using the **P0P2010** attribute and a different color for the chart bar (and no stroke).

heme name: P	opulation		Typ	e: Tance:	Bar chart Annu - Ann	wn 🗐 1
Source Data	Chart Options	General Options	Tide	Labels		
A POI	nada_area • P2001 P2010		Attribute Label:	POP20	0P2001 •	
			Appears Stri Fil:	oke: 🔽	[Diane]	10 pt 🕴
00)			-		

10. In the Chart Options tab, change the bar thickness to 10, the maximum bar length to 80, the bar spacing to 4.

Source Data Chart	Options General Options	Title Labels	
Bar thickness:	10.0 px		
Maximum bar length:	80.0 px		
Bar orientation:	Vertical up 🔹		
Bar spacing:	4.0 px		
Bar height relative to:	Chart max value 🔹		

11. In the General Options tab, click the *Draw chart border* check box.

12. In the Title tab, click the *Show title* check box. Enter **Pop** as the title in the Specify box.

Source Data	Chart Options	Gener	al Options	Title	Labels			
Show title	e: 🔳 A	vel Black, 1	2.02.01					
Specific	y: Pop							
From a	ttribute: SIC	ODE				Ŧ		
Algomenti	=	lign center	•					
E Show t	ite ine: 🔟	Stroke:	Speafy cal	our .			 100%	1.00 pt 🔅
III strick	title to fit chart							

- 13. In the Labels tab, click the *Show attribute value labels* check box. Change the rotation value to **90** and click the Appearance text style link.
- 14. In the Edit Text Rendition dialog box change the text size to 8.00 pt and click OK.
- 15. Click the Align value labels check box.
- 16. Click the Show attribute name labels check box and repeat steps 13 and 14.



- 17. Click Apply to apply the theme to the map.
- 18. Select the newly created charts and go to *Object > Transform > Transform Each*. Adjust the horizontal and vertical scale to both 30% and click OK.



8.7 Create a pie chart theme

- 1. Create a new Adobe Illustrator document.
- 2. Import **canada.shp** from the *Tutorial Data* folder.
- 3. Join the table **CA_commute.csv** to the *canada_area* layer on the NAME column (see Exercise 3.5).
- 4. In the MAP Themes panel option menu, click New MAP Theme. In the New MAP Theme dialog box, type **Commuting** into the Theme Name box, choose **Chart** as the theme type.

here here all that	
THE OWNER AND A DESCRIPTION OF A DESCRIP	Cancel
and the second sec	Canto

- 5. Double-click Commuting Chart theme in the Themes Panel. Click Yes when prompted to create a Legend layer.
- 6. In the Edit Chart Theme dialog box, choose **Pie Chart** from the Type drop-down list.
- Check the "Ignore" check box and enter in the following expression: LIKE(NAME,"New Brunswick") OR LIKE(NAME,"Nova Scotia") OR LIKE(NAME,"Prince Edward Island") OR LIKE(NAME,"Newfoundland and Labrador"). This will prevent pie charts from being applied to Canada's Maritime region.
- 8. In the Source Data tab, with *canada_area* selected in the Layer drop-down list, click the Add button six times to add six attributes to the pie chart.
- 9. Highlight the first unspecified attribute. In the Attribute drop-down list, choose **Cmt_Drive**. In the Label field, enter **Drive Own Vehicle**. In the Appearance section, choose a fill color from the drop-down list or click the color swatch to open the Color Picker dialog box.
- 10. Repeat step nine for the five remaining attributes choosng a unique color for each attribute and assigning attributes and labels as follows: Cmt_Ride as Small Vehicle Passenger, Cmt_Public as Public Transit, Cmt_Walk as Walk, Cmt_Bicycl as Bicycle, and Cmt_Other as Other.

ene name. Commuting	Type: Pe chart *	OK
utput layer: 🖽 Chart 🔹	🗹 Ignore: 🖋 LDE(NAME, "New Brunswick") OR LDE(NAME, "Nova Scotla") 📈 📓	Cancel
Source Data Chart Options General Options	Trite Labels	Apply
Layer: 🚺 canada_area 💌		Scaling.
Drive Own Vehicle	Attribute: Cmt_Other	
Small Vehicle Passenger Public	Løbel: Other	
Walk	Appearance:	
Other		
	explode: 0.00 px 😰	
eview:		
	Actual size	

- 11. In the Chart Options tab, change the Pie radius to **25.00**.
- 12. In the Labels tab, click the *Show attribute value labels* check box. Set the offset to **3.0**, click the *Label with pie percentage* check box, and click the Appearance text style link.

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8 MAP Themes and Legends

13. In the Edit Text Rendition dialog box, leave the font as Arial and choose Narrow as the text style and change the font size to **8.00** pt.

Source Data	Chart Options	General Options	Tide	Labels		
Show att	ibute value labe	ls		Show at	tribute nam	e labels
Appearance	es 📕 Arial	Nerrow, 8.00.pt		Appearan	ce: 🔳 Arial	Black, 12.00 p
Offset:	3.0 px	0		Offsets	5.0 px	0
Rotation:	0	4		Rotation:	0	1
Displayed o	iecimals: 0 💿					
Algn v	sive labels					
Label v	ith pie percentage	1				

14. Click Apply to apply the theme to the map.

Note that some text labels, particularly the value labels for "Other" and "Bicylcle" attributes, will need to be manually adjusted for optimal appearance. This is caused by small percentage values.



15. Leave the document open for the next exercise.

8.8 Create a chart legend

- 1. Create a MAP Theme, Bar chart or Pie chart like those found in exercise 8.4 to 8.7. Click a Chart Theme in the MAP Themes panel, open the MAP Themes panel option menu and click **Create Legend**.
- 2. In the Create Chart Legend dialog box, accept the default output layer.
- 3. Click the Label apperance text style link. In the Edit Text Rendition dialog box, leave the font as Arial, choose Narrow as the text style, and change the font size to **10** pt.
- 4. In the Style tab, change the number of columns to 2.
- 5. In the Title & Border tab, click the *Draw title* check box and enter **Commuting Modes**. Click the *Draw title line* check box and increase the margin to **8.00** px.

Autput layer:	E Chart *					C	Create
abel appearance:	Arial Narro	w. 10.00 pt					Save
Style Title 8.8	lorder						Cancel
Draw title:	Commuting N	lodes			Align cente	60.T	
	Appearance:	Arial Black, 12.00 pt				_	
	Draw tite	line:	-				
	Stroke:	Back Back	- 💌 💌 10	0% 🔄 🗮	1.00 pt	0	
Draw border:	Stroke:	Illack	- 🔳 📎 10	0%	1.00 pt	1	
	Filt	[None]	• 🛛 • 🖬	016			
	Margin: 8.00	px 🗘					
review:							
					Actua	l size	
		Commuting	Modes				
		Drive Den Whicke	Park.				
		Coull Whick Passing	per Doycle				
		Fuble	Other				

6. Click Create to create the Chart Legend. The Legend will be placed in the centre of the current MAP View, and can be manually placed elsewhere on the document.



8.9 Create a dot density theme

- 1. Create a new Adobe Illustrator document.
- 2. Import **southchinasea.shp** from the *Tutorial Data* folder.
- 3. In the MAP Themes panel option menu, click New MAP Theme.
- 4. In the New MAP Theme dialog box, type **Population** into the Theme name box and choose **Dot Density** as the Theme type.

nene name:	Population	OK
there type:	14- Dot Density	

- 5. In the MAP Themes panel, double-click the *Population* Dot Density theme.
- 6. In the Edit Dot Density Theme dialog box, choose **POP_ADMIN** from the attribute drop-down list. Click the Load button to view the attribute's data range. Notice that the low end of the range contains negative values.
- 7. Enter a dot value of **25000**.
- 8. Leave the Dot Options at default values and click Apply to create dot density theme.
- 9. Click View Log in the MAPublisher alter box. Notice that three pieces of art were not stylized as they held negative values in the POP_ADMIN column. Close the MAP Theme Log dialog box.



9 Labeling Functions

See User Guide, Chapter 10

9.1 Generate labels for a line layer using Label Features

- 1. Create a new Adobe Illustrator document.
- 2. Import torontostreetsjoined.mif from the *Tutorial Data* folder.
- 3. In the MAP Views panel, add a new MAP Layer called Street Names and set the Feature type to Text.

Layer name:	Street Names	ОК
Feature type:	Text 🔹	Cancel
Advanced:		
Base attribute	schema on: 🔳 torontostreetsjoined_line 🔻	
	the second se	

- 4. Open the Window > Type > Character panel. Set the font to Arial 8 pt size. This will be the style for the labels.
- 5. Select several streets from *torontostreetsjoined_line*. These are going to be labeled.
- 6. On the MAPublisher toolbar, click the Label Features button.
- 7. Only one layer is listed (*torontostreetsjoined_line*). In the Attribute drop-down list, choose **Street**. In the Target drop-down, choose **Street Names**. Leave the Style as *Use current settings*.

yer Labels				ОК
Layer	Attribute	Target	Style	Cancel
torontostreetsjoined_line	S Street	Street Names	Use current settings	Curreer

The *Layer* column shows the line, area, point, and text layers currently containing selected data. For each layer, the *Attribute* drop-down list is populated with the attribute structure of that layer. Label the data based on a column that holds the appropriate attribute values.

The Label Settings tabs, contain options to adjust label position, alignment to lines of latitude, minimum font sizes, and horizontal scaling to best place labels within polygons and paths. MAPublisher places line labels intelligently, depending on the curvature and length of the line string.

8. In Line Settings tab, set the Label Position option to Descender. Leave all of the other options as their default.

Labels can be modified if they exceed the length of the line with the current default font size.

- 9. Check the Adjust label if larger than line check box to activate the label rules.
- 10. Check the *Reduce font size* check box to reduce the size of the font to a specified minimum size in points. The default minimum font size value is set to **5 pt.**
- 11. Check the *Reduce horizontal scaling to a minimum of* check box and set the value to **50%.** This allows text to be scaled down horizontally by the fraction specified to adjust the kerning of the text.
- 12. Check the Set all labels to the same minimum font size check box.

Area Settings	e Settings Point Settings
Label type:	Follow line, create text on a path 🔹 Path length: Short 🔹
Distance from start:	Auto 🔹 0% 🛕
Reverse right-to-left path	s (flip upside-down text)
Smooth lines with offset:	4.00 px (A)
Label position:	\underline{g} \odot Baseline
	O Descender
	<i>──𝔥</i> ── ○ Center
📝 Adjust label if larger than	ine:
Reduce font siz	ee to a minimum of: 5 pt 🔹
Reduce horizor	ntal scaling to a minimum of: 10% 🚔
	-
Set all labels to the	same minimum font size

If *any* of the labels have been adjusted in size due to the activation of a line adjustment rule, *all* labels can be resized to the same size. In this case, it is set to reduce to a minimum of 5 pt.

13. Make sure your dialog box matches the graphics above and click OK to label your map.



The labels are added to the map for the streets that were selected. These labels are static and can be styled, edited, and moved.

9.2 Generate labels for an area layer using the MAP Tagger Tool

- 1. Create a new Adobe Illustrator document.
- 2. Import **fsatoronto.mif** from the *Tutorial Data* folder.
- 3. In the MAP Views panel, add a new Text MAP Layer called **Zone Names** to the fsatoronto MAP View.
- 4. In the Type Character panel, set the font to Arial and its size to 8 pt. This will be the style for the labels.
- 5. Double-click the MAP Tagger Tool 💷 button in the Adobe Illustrator Tools panel.

Similar to the *Label Features* in the previous tutorial, the label settings must be chosen before MAPublisher is able to determine the attributes that will be labeled. The *Layer* column shows the line, area, point, and text layers currently containing selected data.

6. In the Label Settings dialog box, choose **FSA** in the Attribute drop-down list. This attribute contains the name of every postal code zone in the selected MAP Layer. In the Target column, choose *Zone Names*. Click OK to confirm these settings.

yer Labels				OK
Layer	Attribute	Target	Style	Cancel
A fsatoronto area	S FSA	I Zone Names	Vse current settings	Curree

Notice that the mouse cursor is now the MAP Tagger Tool cursor. Using the MAP Tagger Tool, click on any area feature to label it. You can click multiple times on an area to label it more than once.



- **Note:** To create leader lines, hold the Shift key and click and drag. Release when the leader line is the appropriate length. To reopen the Label Settings dialog box, double-click the MAP Tagger Tool button.
- 7. Close the document without saving.

9.3 Create knockouts for labels

1. Open **Contours.ai** from the *Tutorial Data* folder.

Three MAP layers are visible: contours_labels, contours_line and Background. The contour labels are positioned above the contour lines. Use the Create Knockouts feature to mask the contour line below the label.

- 2. From the MAPublisher toolbar, click the Create Knockouts button.
- 3. Click the Select Layers icon and click the check box for **contours_line**, then click OK.

Layer(s): contours	line			Clear	ОК
Text layer: 🚺 co	ntour_labels			•	Cancel
Mask opacity: 100	% ÷				
Replace existing	knockouts				
Use clipping ma	sk instead of	opacity mask (only i	use when exporting to PDF o	r PostScript)	
Round corners	using radius:	5.00 px 🗘			
Knockout bo	ces:				
Left buffer:	0.00 px				
Right buffer:	0.00 px	•			
Top buffer:	0.00 px	•			
Bottom buffer:	0.00 px	(Q)			
E Limit to cap	height				
Text shaped	knockout				
	1.0	брх 🗄			
Buffer size:					
Buffer size:	detait:				

The Create Knockouts feature bases the masks on the input of contours_line and contour_labels. Accept the default settings shown above to see how the knockouts will look.

4. In the Create Knockouts dialog box, click OK.



The knockouts are created. However, the labels are too close to the contour ends. Adjust the masks by adding a buffer and changing the transparency. There is no need to undo the previous step.

- 5. In the MAPublisher toolbar, click the Create Knockouts button.
- 6. Set the Mask opacity to 80%. In the Knockout boxes section, set both the Left and Right buffer to 5.00 pixels.

Layer(s): contours	Inc		-	Clear	ОК
Text layer: 🚺 co	ntour_Jabeh			•	Cancel
Mask opacity: 801	4 2				
Replace existing	knockouts				
Use clipping mas	k instead of	opacity mask (only	use when exporting to PC	F or PostScript)	
Round corners	using radius	5.00 px 🗘			
Knockout box	ces:				
Left buffer:	5.00 px				
Right buffer:	5.00 px	4			
Top buffer:	0.00 px	•			
Bottom buffer:	0.00 px	2			
E Limit to cap	height				
Text shaped	knockout:				
Buffer size:	1.0	0 px 📳			
Set shape o	ietal:				
1 4 4 5 4 10 M 10	areas ()				

The Mask opacity adjusts the transparency of the contour lines so that they will be slightly visible (100% opacity means that it is completely invisible). The side buffer adds space to the left and right sides of the label so that it creates the effect that the contour lines are further away from the label. The reason there is no need to Undo the previous mask is because the *Replace existing knockouts* option is checked.

7. Click OK to close the Create Knockouts dialog box.



The knockouts are created with a 5 pixel buffer and 80% opacity. To further adjust the mask, change the settings in the Transparency panel.

8. In the Adobe Illustrator Layers panel, click the target to select all art on the *contours_line* layer. Go to the Window menu and click Transparency, then click the Mask (right-hand frame). In the Adobe Illustrator Layers panel, click the target to select all the art of <Opacity Mask>. In the Transparency panel, adjust the Opacity to see how it affects the contour lines.



10 Making Selections

See User Guide, Chapter 11

10.1 Create an attribute filter

- 1. Create a new Adobe Illustrator document
- 2. Import fcstreets.mif from the Tutorial Data folder. It is a line file depicting the major roads of Falls Church, Virginia.
- 3. Select *fcstreets_line* and click the MAP Selections button on the MAPublisher toolbar.
- 4. Click the Create New MAP Selection button at the bottom of the panel.



5. In the Name box, type Route number. Leave the type as Attribute Filter.

ame:	Route number		OK
ype:	Jon Attribute Filter	•][Cancel
ayer(s	i): <use current="" layer=""></use>		
xpres	sion:		

- 6. Click the Expression Builder button to open the Expression Builder dialog box.
- 7. In the Objects list, under the heading *fcstreets_line*, double-click **Number** so that it is entered into the expression entry box above. Click the equals (=) button and type "A25" (including quotes).

	and a state of the	/
() AND OR -1-<>		OK
Number = "A25"		Cancel
The expression is valid. Objects	Postor: 13	
The represent is valid. Objects Printe Chard Printe Char	Position: 13 Position: 13 Position: 13 Position: 13 Position: 27 Posit	

- **Note:** To view the unique values of a specific attribute column, click *display unique values* under the Description box. Click a value to enter it into the expression entry box. It recognizes the attribute as a string and places quotations around the value.
- 8. Click OK to close the Edit Expression dialog box.

lame: F	loute number	ОК
Type:	fixi Attribute Filter	▼ Cancel
.ayer(s):	<use current="" layer=""></use>	
Expressio	n: Number= "A25"	

The expression is valid.

9. Click OK. In the MAP Selection panel, click the Apply as New Selection button.

Lines corresponding to the selection parameters are selected and the MAP Selection is saved in the panel.

MAP Selections	XIEHUH,
f(x) Route number (Number= "A25") (Layer=Using current layer)	
1MAP Selection 11 41 4.1 42 4.1 W 2	and the second of the second o

10. Deselect all artwork and leave the document open for the next tutorial.

10.2 Create a spatial filter

Continue working with the previous tutorial.

- 1. In the MAP Selections panel, click the Create New MAP Selection button.
- 2. In the New MAP Selection dialog box, type **Intersect Route A25** into the Name box. In the Type drop-down list, choose Spatial Filter.

This spatial filter will select any roads that intersect with Route A25. Use the attribute filter that was created in the previous tutorial.

- 3. In the Filter Using drop-down list, choose Existing MAP Selection. In the frame below, the attribute filter Route Number is already chosen (because it is the only one).
- 4. Ensure that the Spatial Relationship drop-down list is set to Intersect and contain.

5. Uncheck the Do not select art on the same layer as the 'Filter Using' art option.

New MAP Selection	
Name: Intersect Route A25 Type: Spatial Filter Filter Using: Existing MAP Selection	OK Cancel
Existing MAP Selection:	
Options:	
Select from Layer(s): <all layers=""></all>	
Spatial relationship: Intersect and contain 💌	
Filter text by: Full size of text	
Do not select art on the same layer as the 'Filter Using' art	

Since this spatial filter is selecting art on the one and only MAP layer, this option must be unchecked.

- 6. Make sure the dialog box matches the one above and click OK.
- 7. In the MAP Selection panel, click the Apply as New Selection button.



Roads that intersect Route A25 are selected and the MAP Selection is saved in the panel.

8. Deselect all artwork and leave the document open for the next tutorial.

10.3 Create an art selection filter

Continue working with the previous tutorial.

- 1. Select all artwork on the *fcstreets_line* layer.
- 2. In the MAP Selections panel, click the Create New MAP Selection button.
- 3. In the New MAP Selection dialog box, type **All Routes** into the Name box. In the Type drop-down list, choose Art Selection and click OK.

	ОК	All Routes	lame:
ype: Car	ncel	C Art Selection	ype:



All selected roads are saved as a MAP Selection in the panel. Now use the MAP Selections panel controls to select subsets and add or remove selections altogether.

4. In the MAP Selections panel, select the Intersect Route A25 spatial filter and click the Remove from Current Selection button.



All the roads that were based on the spatial filter are removed from the current selection.

5. Select the Route Number attribute filter and click the Add to Current Selection button.



Route A25 is added to the current selection. Experiment with different combinations to vary selections.

11 Working with Images

See User Guide, Chapter 13

11.1 Register an image with a reference file

- 1. Create a new Adobe Illustrator document in landscape mode Letter sized.
- 2. Import southchinasea.shp from the Tutorial Data folder.
- 3. In the MAP View panel create a new layer of Image type and name it Borneo.
- 4. Make sure that the Layer Borneo is selected. In the Adobe Illustrator menu, click *File > Place*, navigate to the *Tutorial Data* folder, select the sample raster image file **borneo.tif**, and click Place.



The raster image is placed at a default position and scale in the center of the screen.

- 5. With the image selected, click the Register Image button on the MAPublisher toolbar.
- 6. Click the Load File button and select **borneo.tfw** from the *Tutorial Data* folder.

All boxes in the dialog box are updated to reflect the data contained in the reference info file. Click OK to close the warning.

legister Image				
Upper Left Pla	ice	ment:		ОК
-	X:	108.3375605	deg	Cancel
	Y:	7.7816585	deg	Cancer
•				Load File
Image Size: 854	by	957 pixels		
1 Pixel =	X:	0.0127730000	deg	
Ľ	Y:	0.0127650000	deg	
		Constrain Proportions		
Effective Map	Siz	:e:		
Ľ	X:	10.908142	deg	
Ľ	Y:	12.216105	deg	
Reference File	2 Co	oordinate System:		
Unknown				Degree 👻

7. Click OK to register the image.

The image is registered; its size and position have been changed to reflect the information in the reference file.



- **Note:** A new map view can be created by registering an image on a non-map layer. The new map view will have the same coordinate system of the registered image, the image will be scaled to fit the document size and placed on an MAP Layer of the Image type. For more information on this see MAPublisher User Guide, Chapter 12.
- 8. Leave the document open for the next tutorial.

11.2 Register an image without a reference file

Continue working with the previous tutorial.

- 1. Select and delete the existing Borneo image, but leave the Borneo layer in the document.
- 2. With the *Borneo* layer highlighted, in the Adobe Illustrator menu, click *File* > *Place*, navigate to the *Tutorial Data* folder, select the sample raster image file, **borneo.tif**, and click Place.

The raster image is brought in at a default position and scale in the center of the screen.

3. With the image selected, click the Register Image button on the MAPublisher toolbar.

One of the four corners of the raster image is what MAPublisher will use as the raster anchor point (Upper Left Placement, Lower Left Placement, Upper Right Placement or Lower Right Placement).

- 4. Click the Upper Left Placement (top left corner of the blue diagram) and type the following values into the Upper Left Placement X and Y boxes: X=108.3375605, Y=7.7816585.
- 5. Make sure that Constrain Proportions option is checked and type pixel size X equal to **0.012773**.

Register Image				
Upper Left P	lace	ment:		ОК
•	X:	108.3375605	deg	Cancel
	Y:	7.7816585	deg	Cancer
				Load File
Image Size: 85	4 by	957 pixels		
1 Pixel =	X:	0.012773	deg	
Ľ	Y:	0.012772999601977	deg	
		Constrain Proportions		
Effective Ma	p Si	ze:		
Ľ	X:	10.908142	deg	
Ĺ	Y:	12.223760619092	deg	
Reference Fi	le C	oordinate System:		
Unknown				Degree 🔻

6. Make sure the dialog box matches above and click OK.



The image is registered to the selected layer. This method is useful if no reference file is available. However, it is necessary to know the coordinates for one of the corners of the image as well as the pixel scale in order to register the image correctly.

7. Leave the document open for the next tutorial.

11.3 Export a placed image as a georeferenced raster file

Continue working with the previous tutorial. A referenced image must be placed on an Image layer in order to export it.

1. To set the color mode, in the Adobe Illustrator menu, click *File > Document Color Mode*.



Select RGB Color or CMYK Color depending on the color mode required for the exported raster image.

- 2. For this example, choose CMYK Color.
- 3. With the *Borneo* layer selected within the southchinasea MAP View, choose **Export "Borneo**" from the MAP View panel option menu.
- 4. In the Export Image dialog box, choose **GeoTIFF** in the Store Geography As drop-down list to set the georeferencing output format.

tore Geography As:	GeoTIFF	Save As

- 5. Click Save As and navigate to a location to save the export image.
- 6. Type a file name (e.g. MyBorneo.tif) for the export image and click Save to complete the export process.

Departure - III V	-	New Folder		
Favorite Links		Name	Date taken utor	Tags
Folders Quick Start Guide & Tutorial Guide & D Tutorial Data MAPWebAuths ImageFiles	St. Dat - lata pr_Tu +	e		
File name: N	tyBorneo	tif		
Environment G	TIFE 61	27 HOF 7 HOFF)		

The image of Borneo is exported as a GeoTIFF file using the coordinate system of the South China Sea layer.

12 Grids, Graticules and Indexes

See User Guide, Chapter 13

12.1 Create an index grid

1. Open grids-example.ai from the Tutorial Data folder.

Make sure the world_area layer in the WGS 84 MAP View is chosen. Several graphic styles and character styles have been created for you for this tutorial to style grids and graticules. You can also create these prior to using the Grids & Graticules dialog box and the styles will be available from the menus. Alternatively, you can use the Custom mode to create a style or font and apply it directly.

2. On the MAPublisher toolbar, click the Grids & Graticules button. III In the message, click Create Legend layer.



3. In the Grids & Graticules dialog box, click the Index Grid button to show its options. Leave the By number of columns/rows as **10** for each box.

id Collection:	💿 🐚 🥥 Grid Dimer	nsions:	ок
/ Index Grid	By numb	er of columns/rows:	Cancel
Grid Lines	Columns	s: 10	
Grid Border	Rows:	10	Preview

4. In the Grid Collection box, click Grid Lines. Ensure the Draw Grid Lines check box is checked and the Solid line option is chosen. Click the style link (1 pt Black). In the Edit Appearance dialog box, click the Graphic style/Custom style toggle icon and then select Grid Style from the Style drop-down list, then click OK.

] Style: Grid Style	• ОК
	Cancel

5. In the Grid Collection box, click Grid Border. Ensure the Draw Border check box is checked and the Solid line option is chosen. Click the style link (1 pt Black). In the Edit Appearance dialog box, change the stroke weight to **1.25** pt, then click OK.

Edit Appearance	
Stroke: Black	▼ 🕑 100% 🗧 🧮 1.25 pt 🔮 🛛 OK
	Cancel

6. In the Grid Collection box, click Cell References. In the Label placement control, click both the top label (1, 2) and the left label (A, B) to enable them. Notice that labels in the Label placement control highlighted with a green box when the mouse hovers over the different style options.

Grid	Collection:	0 🗈 0	Cell Reference Labeling:					C	ОК
	Index Grid				1	2	1		Cancel
	Grid Lines ▷ Grid Border			A	A1	A2	A		Preview
	Line Labels Cell References						D		sus Cattings
				в	B1	B2	в	S	ave Settings
					1	2	-		

Clicking the border reference labels enables or disables the display of border labels on the grid.

7. Click Preview.



The Grids & Graticules dialog box minimizes and a grid is drawn with the settings you specified. You'll change more index settings such as offset and label style.

- 8. Click Restore.
- 9. In the Label placement control, click the center style label to enable them.
- 10. Under the Cell References section, increase the Place labels off cell by value to 5.00 px.
- 11. Click the Border style link. In the Edit Text Appearance dialog box, click the Character style/Custom style toggle icon, and choose **My Grid Style** from the Character style drop-down list, then click OK.

Edit Text Appearance	
Garacter style: ^{™™} My Grid Style ▼	OK Cancel
Advanced:	
Graphic style: 🔀 [None]	
Note: If a Graphic Style is selected, its stroke & fill are interleaved with the specified font stroke & fill as follows:	
1. Graphic Style stroke	
2. Font stroke 3. Font fill	
4. Graphic Style fill	

- 12. Click the Center style link. In the Edit Text Appearance dialog box, change the font size to **9.00** pt and choose a gray fill color. Then click OK.
- 13. Click the Row order drop-down list and choose Ascending.

Grid C	olle	ectio	on:	o 🗅 O	Cell Reference	Labeling:							ОК
	⊿	Ind	ex Grid					1		2	٦		Cancel
		⊳	Grid Border Line Labels				в	B1	E	32	в		Preview
			Cell References				A	A1	A	12	A		Save Settings
								1		2]		
					Cell Reference	s:							
					Place labels off c	ell by:	5.00 p	x				\$	
					Border style:		Style M	y Grid Style					
					Center style:		A	rial Black, 9.00) <u>pt</u>				
					Reference Ord	er:							
					Alpha on left	/right, nume	eric top/	/bottom					
					Numeric on le	eft/right, alp	ha on t	op/bottom					
					Row order:	Ascending						•	
					Column order:	Ascending						•	

14. Make sure your settings match the ones above and click OK to create the index grid.



An index grid is placed on the map. Each cell is labeled with an alphanumeric reference label. The border labels are offset from the border compared to the first preview. To edit an existing grid, select the grid and click the Grids & Graticules button.

15. Save the document as MyGrid.ai. It will be used in Tutorial 12.4 Creating an Index: Feature Based.

12.2 Create a graticule

1. Open grids-example.ai from the Tutorial Data folder.

Hide all other layers and make sure the world_area projected layer is visible in the Mollweide MAP View.

- 2. From the MAPublisher toolbar, click the Grids & Graticules button. In the message box, click Create Legend layer.
- 3. In the Grids & Graticules dialog box, click the Graticules button to show its options. Under Latitude, type **20** in the Interval box. Under Longitude, type **20** in the Interval box.

Grid C	ollection:	o 🗈 🧿	Latitude:			ОК
	 Graticules Grid 		Interval:	20	•	Cancel
	Grid Lines ▷ Grid Border		Pass through:	0	•	Preview
	Line Labels		Longitude:			
	Cell References		Interval:	20	•	Save Settings
			Pass through:	0	•	

Graticules can be plotted to intersect at specific lines of latitude and longitude. Pass through values of zero will create a graticule that passes through the Prime Meridian and the Equator. This graticule will have lines at intervals of 20 degrees.

The Vertices slider controls the number of nodes to construct the graticule. Higher numbers should be used if graticules are curved or in anticipation of transforming them. For now, leave the default setting.

- 4. In the Grid Collection box, click Grid Lines. Ensure the Draw Grid Lines check box is checked and the Solid line option is chosen. Click the style link (1 pt Black). In the Edit Appearance dialog box, click the Graphic style/Custom style toggle icon and then select Grid Style from the Style drop-down list, then click OK.
- 5. Click the Show Ticks Along Grid Lines check box. Change the Place tick every setting to **10.00** (degrees) and the Tick length setting to **4.00** px.

Grid	Collection: Grid Cirid Grid Lines Grid Border Line Labels		Grid Line Options: Image: Solid line Image: Image: Solid line Image: Image: Image: Solid line	size: 10.00 px 🚖		OK Cancel Preview
	Cell References	[Grid Style	Grid Lines:		Save Settings
			Place tick every: Pass through:	10.000 ÷	Degree 👻	
			Tick length:	4.00 px		
			Offset: Orientation:	0.00 px	or 🔻	
			V Tick follows line	direction		
			Use grid style:			

6. In the Grid Collection box, click Grid Border. Click Draw Grid Border to uncheck it.

- 7. In the Grid Collection box, click Line Labels. In the Label placement control, click the West label (Lat) to enable it.
- 8. Under the Coordinate Values Along Grid/Graticule Border section, click the Longitude style link and change the character style to **My Grid Style**. Click the East link to change the offset to **5.00** px. Finally, make sure the If line does not hit bounds, label drop-down list is set to **Latitude & Longitude**.

6 . I.C. II. II.	Line Labeling:				
Grid Collection:				D1	OK
Graticules Grid	Bot		ng	Both	Cancel
Grid Lines		N/A			
Grid Border					Preview
Line Labels	La			Lat	
Cell References			N/A		Save Settings
	Bot	h L	ng	Both	
	Coordinate Values Along Grid	/Graticule Bor	der:		
	Longitude style: 25 My Grid Style	L Contraction of the second			
	Latitude style: ^{33/6} My Grid Style		V L	lse longitude style	
	Same orientation on all borders	•]		
	East: Offset: 5 px, Rotation: 0				
	West: Offset: 5 px, Rotation: 0				
	North: Offset: 5 px, Rotation: 0				
	South: Offset: 5 px, Rotation: 0				
	Format: <u>0 decimals, Decimal degre</u>	es (D+[.d*])			
	If line does not hit bounds, label:	Latitude & Longi	tude		▼

9. Click OK to create the graticule.

A graticule is placed over the map with latitude labels. To edit an existing grid, select the grid and click the Grids & Graticules button.



12.3 Create a measured (UTM) grid

1. Open grids-example.ai from the Tutorial Data folder.

Hide all other layers and make sure the toronto_area layer is visible in the Toronto NAD 83 / UTM 17N MAP View.

- 2. From the MAPublisher toolbar, click the Grids & Graticules button. In the message box, click Create Legend layer.
- 3. In the Grids & Graticules dialog box, click the Measured Grid button to show its options. Set the Cell Size Width and Height to **1000** (meters). Leave the Positioning options as default.

Grid (Collection:	0 🖣 🥥	Cell Size:				ОК
	Measured Grid		Width:	1000	Meter	•	Cancel
	Grid Lines		Height:	1000	m		
	 Grid Border Line Labels 	id Border ne Labels	Positioning:				Preview
	Cell References Grid passes through point:						Save Settings
			🖋 X: 0.0	00000		m 🥥	
			🖌 Y: 0.0	00000		m 🤳	
			Preset original	1:			

Grid cell sizes will be created at 1000 x 1000 meters in size.

- 4. In the Grid Collection box, click Grid Lines. Ensure the Draw Grid Lines check box is checked and the Solid line option is chosen. Click the style link and change it to the **Grid Style** graphic style.
- 5. In the Grid Collection box, click Grid Border. Click the Draw Ticks Along Border check box and change the Tick length to **5.00** px.



- 6. In the Grid Collection box, click Line Labels. In the Label placement control, click the X and Y labels for East, West, North, and South to enable them.
- 7. Under the Coordinate Values Along Grid/Graticule Border section, change the Easting style to the **My Grid Style** character style. Change the East offset to **3.00** px.
- 8. Click the Format link and choose Full value with units and Direction in the Label format drop-down list and click OK.

Label format:	1234000 mE Full value with units and Direction	- (ОК
Number of decimals:	0	A V	Cancel

9. Make sure your dialog box matches the following and click OK.

Grid (Collection:	💿 🗈 🥥 Lii	ne Labeling:				ОК
	 Measured Grid Grid Lines Grid Border Line Labels Cell References 		×81 ¥	N/A	< 	XRY V	Cancel Preview Save Settings
			X8.Y	,	¢	X8.Y	
		Co	oordinate Values Along Grid,	Graticule Bord	ler:		
		Ea No	ssting style: swe My Grid Style orthing style: swe My Grid Style		V U	se easting style	
		Sa	ame orientation on all borders	•]		
		Ea We No So Fo Ifi	st: Offset: 3 px, Rotation: 0 est: Offset: 3 px, Rotation: 0 rrth: Offset: 3 px, Rotation: 0 suth: Offset: 3 px, Rotation: 0 puth: Offset: 3 px, Rotation: 0 prmat: <u>0 decimals, Full value with</u> line does not hit bounds, label: [i <u>units and Directi</u> None	ion, show unit	<u>s</u>	•

A grid is placed on the map based on the specifications made. Each cell line has UTM map coordinate labels. To edit an existing grid, select the grid and click the Grids & Graticules button. If the grid is moved, the grid labels will automatically adjust to new coordinates.



12.4 Create a feature based index

- 1. Open **MyGrid.ai** (saved from Tutorial 12.1).
- 2. In the Adobe Illustrator Layers panel, turn on the Country labels Text layer.



- 3. Select the grid in the map document and click the Make Index button on the MAPublisher toolbar. A-1
- 4. Choose the Make index based on label and matching feature position option. In the Label Layer drop-down list, choose **Country labels**. In the Feature layer drop-down list, choose **world_area** (the layer that was labeled). In the Label text matches attributes drop-down list, choose **Country** (the attribute column used to label the map).

urrent Grid:				Save As
Grid Name: In	dex Grid			Carre
MAP View: @ W	GS 84			Carce
Layer: 🏭 Le	egend			Advance
Specify Grid				
Make index based	t on label pos	ition		
Layer(s): Countr	ry labels			
Make index based	t on label and	matching feature posit	on	
i shel lauer-		TT Country labels		
Label layer: Feature layer:		Country labels	•	
Label layer: Feature layer: Label text match	es attribute:	Country labels	•	
Label layer: Feature layer: Label text match	es attribute:	Country labels	•	
Label layer: Feature layer: Label text match Make index bases Feature layer:	es attribute: I on feature p	Country labels world_area #Opacity position and attribute vi	• • •	
Label layer: Feature layer: Label text match Make index based Feature layer: Attribute:	es attribute: I on feature p World_are	Country labels world_area area area area area area area area	•	
Label layer: Feature layer: Label text matchs Make index based Feature layer: Attribute:	es attribute: J on feature ; iii world_are iii #Coacty source art	Country labels	• • •	
Label layer: Feature layer: Label text match Make index bases Feature layer: Attribute: Spatially filter the Bis act on layer	es attribute: I on feature p World_are BU #Opecity source art	Country labels		
Label layer: Feature layer: Label text match Make index based Feature layer: Attribute: Spatially filter the By art on layer:	es attribute: fon feature p ill world_are ill #Coacity source art	Country labels		

Advanced options are available for fine-tuning index appearance.

- 5. Click the Advanced button.
- 6. In the Advanced Options dialog box, choose Feature label from the Sort by drop-down list. Under Output Formats, choose the Single-line expanded option. To add an attribute to the index, select the Capital and Population attributes in the Select Additional Attributes list.

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ort By: Feature la	pel 👻	Select Additional Attributes:	ОК
Include	letter headers	From: 🔺 world_area	
Dutput Format: Single-line conder Single-line expand Multiline	sed ed	#AreaDirection #VertecCount #VertecCount #StrokeWeight #FstrokeWeight #Perimeter #PethClosed	
Treat grouped tex	t as a single entry	III #ArtScale III #Area	
abel tab Attribut he delimiter will be the ochange the attribut anel.	arator: (a) tab A (>> 2 (> 5 (> 7 (> B2))) te one selected above. te order, edit the schema in the MAP Attributes	Country Continent Continent Parable_Pct Population Pop_Grw_Rt L Literacy	III
Toronto On Edmonton A2 Vancouver A-(tario A5-7;B3 ;B3 ;2;L2,3 ;stial:7ca	El Inflat Rate III Unempl.Rate III Unempl.Rate III indust_Grwth iii pen_pattern II brush.pattern	Ţ

The grid cell locator and feature name in the index file are separated by a single tab. The index is sorted alphabetically by feature label.

7. Click OK to accept the advanced options and in the Make Index dialog box, click Save As to save the index. Browse to a location to save the index, name it **MyIndex.txt**, and click Save.

MyIndex	.txt - Notepac				0	
File Edit	Format Vie	w Help				
Country	Capital	Population	Grid_Locati	ons		
Australia	Canberra	17288044.0000000	00 C9;C10;D9;E	10;E9;E10		
Brazil	Brasilia	155356073.000000	000 E)4;E3;E4;E5;F4		
Canada	Ottawa	26835036.0000000	00 H2;H3;H4;I2;	13;14;J2;J3;J4		
China	Beijing	1151486981.00000	0000 0	58;G9;H8;H9;I8;I	9	
Russia	Moscow	145311000.000000	000 H	17;H9;H10;I1;I6;I	7;18;19;110;J1;J6;J7;J8;J9;J10	
United Sta	ates	Washington DC	252502000.	00000000	G1;G2;G3;H2;H3;H4;I1;I2;I3;J1	;J2

A text file is created based on the specifications entered in the Make Index dialog box.

- 8. The index may be inserted into the map document by creating an Adobe Illustrator box and using the *Place* command (*File > Place*).
- 9. Leave the document open for the next tutorial.

12.5 Create a text based index

Continue working with the previous tutorial.

- 1. Select the grid in the map document and click the Make Index button on the MAPublisher toolbar.
- 2. Choose the Make index based on label position option. Click the Layers button and click the Selected toggle for Country labels, then click OK.

Current Grid:		(Save As
Grid Name:	Index Grid	ĺ	Cancel
MAP View: 🔇	WGS 84		
Layer: 🔠	Legend	(Advanced
Specify Grid Make index ba Layer(s): Cou	sed on label position ntry labels		

Indexing by label position generates an index containing only grid cells that contain a text label within it.

Note: Text labels are indexed according to the text object's anchor.

 Click the Advanced button. Choose Grid Cell from the Sort index by drop-down list. Under Specify Index Separator, to the right of *Attribute*, click the **tab** button. In the Edit Attribute-Grid Separator dialog box, type "," into the Custom box and click OK.

🗇 Tab		ОК
🔿 None		Cancel
O Custom:	,	

The grid cell locator and feature label in the index file is separated by a single comma. The index is sorted alpha-numerically by grid cell label.

4. In the Make Index dialog box, click Save As to save the index. Browse to a location to save the index, name it **MyGridIndex.txt**, and click Save.



13 Scale Bars and North Arrows

See User Guide, Chapter 14

13.1 Create a scale bar

- 1. Open usa48.ai from the *Tutorial Data* folder.
- 2. On the MAPublisher toolbar, click the Scale Bar button. 🔤 When prompted, create a Legend layer.
- 3. In the Scale Bar dialog box, use the up and down arrow buttons to view scale bar styles (for this tutorial, use the default one). Choose **Kilometer** in the Units drop-down list. In the Interval box, type **250**.

Depending on the scale bar chosen, select the Number of horizontal lines to use in the plotted scale bar. These settings create a scale bar that equates centimeters on the page to kilometers on the map.

4. In the Number of labeled intervals box, type 4. Set the Number of intervals to subdivide to 1 and the Number of sub intervals to 5.

These settings create a scale bar that represents a total distance of 1000 km. It has four main intervals each representing 250 km with the first interval further divided into five smaller intervals.

- 5. In the Labeling Options section. Click the Tick label appearance hyperlink to open the Edit Text Rendition dialog box. Click the character style / custom style toggle icon so that [Normal Character Style] is displayed. Click OK.
- 6. Click the *Display scale value* check box, choose **Show above** from the drop-down list, and choose **Align center**.
- 7. Click the Display units to right of last interval label check box.
- 8. Click the *Display page to map units ratio* check box, choose **Centimeters** from the Page units for captions drop-down list, and choose **Show below** from the Placement drop-down list.

Scale 1:	20.000.000				OK
					Cancel
0 250 5	500 750 1000	Kik	ometers		
1 Centimeter = 2	200.000 Kilometers				Tigs: Edit an
	Main Bar		Unused		existing scale by selecting it
Units:	Klometer •	1.	Maine -	1.	menu Oliciect
Interval:	250)e	600000		COL DURK DR
	🕑 Maintain relative size		[2] Maintain relative size		
To be and the Manual					
Number of labeled intervals:	4 interval(s)	0	5 interval(s)		
Number of horizontal lines:	0 line(s)		(0 line(c)		
Number of intervals to subdivide:	1 interval(s)	-	0 interval(s)		
Number of sub-intervals:	5 sub-interval(s)	101	2 sub-interval(s)	1	
Apply locale formatting to nur	nbers (e.g. thousand separator	rs) in	interval labels		
Add interval left of '0'					
Labeling Options:	2012/02/2012				
Labeling Options: Tick label appearance:	Diornal Character Style]				
Labeling Options: Tick label appearance: Tick label spacing:	Normal Character Style 0.00 px				
Labeling Options: Tick label appearance: Tick label spacing: IV Display scale value:	Riternal Character Style 0.00 px Show above	•	Algn center	•	
Labeling Options: Tick label appearance: Tick label specing: I Display scale value: I Display units to right of last in	Plormal Character Style 0.00 px Show above terval label	•	Align center	•	
Labeling Options: Tick label appearance: Tick label specing: Display scale value: Display units to right of last in Display page to map units rat	Biormal Character Style1 0.00 px Show above terval label o:	•	Algn center	•	
Labeling Options: Tick label appearance: Tick label specing: Display scale value: Display units to right of last in Display page to map units rat Page units for captions:	Biomal Character Style1 0.00 px Show above terval label io: Certimeters	•	Sign center	•	
Labeling Options: Tak label appearance: Tak label specing: Display scale value: Display units to right of last in Display page to map units rat Page units for captions: Predstorn:	Biomal Character Style 0.00 px Grow above from above for Centimeters 3 decmal(s)	•	I Algn center	•	

Look at the preview to see how these settings affect the look of the scale bar.

9. Click OK to close the Scale Bar dialog box.

The Scale Bar is placed at the center of the page according to the defined Settings. If necessary, resize the scale bar using the bounding box. The scale automatically adjusts after it is resized.



10. Click the scale bar to select it. Click and drag the top anchor of the bounding box slightly downward to resize the scale bar. (Note: dragging it too much will prevent it from resizing).



- 11. Leave the document open for the next tutorial.
- **Note:** The scale bar can edited through the Adobe Illustrator menu *Object > Edit Scale Bar*. When the MAP view is rescaled, the scale bar dynamically updates. The scale bar can be expanded to be edited as regular Adobe Illustrator artwork (however, doing so breaks the link to the MAP View scale value).

13.2 Create a north arrow

Continue working with the previous tutorial.

- 1. In the MAP Views panel, add a new MAP Layer called **North Arrow** and specify the Feature type as **Legend**.
- 2. Make sure the North Arrow layer is active and use the Adobe Illustrator Type tool to type the letter N.
- 3. Select the letter N and click the North Arrow button on the MAPublisher toolbar.



The type is changed from regular text (above left) to a north arrow (above right) and is aligned in the north direction. North arrows can be created from any art object in Adobe Illustrator including symbols and characters. Note that the north arrow created is added to the Symbols panel*.

- 4. In the MAP Views panel, double click the usa MAP View.
- 5. In the MAP View editor, set an Angle of 45 degrees, click the Auto Scale button and the center page alignment.

* Sample north arrow designs are located in the \Helpful Styles & Symbols \Symbols folder (see page iii).

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13 Scale Bars and North Arrows



6. Click OK to accept the angle edits.

The north arrow is oriented according to the MAP View it is placed in. Any changes made to the coordinate system or angle of the MAP View will cause the north arrow to automatically orient itself towards North.



14 MAP Web Author

See User Guide, Chapter 15

14.1 Prepare the map for web tags

1. In Adobe Illustrator, click *File > Open*, navigate to the *Tutorial Data\MAPWebAuthor_Tutorial* folder and open the **Flash_Canada.ai** tutorial document.



Before creating any Flash map, it is recommended to appropriately set the document size in Adobe Illustrator. This will also determine the size of the Flash map. Use Document Setup or the Artboard Tool to set the document dimensions. For this tutorial, the document is already set at 500 pixel width x 500 pixel height.

- 2. In the Adobe Illustrator menu, click the MAP Web Author button on the MAPublisher toolbar.
- 3. In the MAP Web Author panel option menu, choose Specify Source Media Folder.
- 4. Select the Relative Path option and leave the Source Media Folder field blank.

Source Media Folder:		Browse	ОК
	Absolute Path e Relative Path		Cancel
			Reset
	An empty relative path indicates the same folder as the document.		

This dialog box sets the path to the *ImageFiles* folder (the folder containing the image data) for Web tagging. To indicate that the *ImageFiles* folder is in the same directory as Flash_Canada.ai, leave the path blank.

- 5. Click OK to close the Specify Source Media Folder dialog box.
- 6. Click a province on the map and open the MAP Attributes panel to become familiarized with the attribute structure and data.
- 7. Close the MAP Attributes panel and continue to the next tutorial

14.2 Create web tag callouts

This tutorial creates Web tag callouts for every object in the *Provinces* layer. These Web tags are used to expose attribute information when map features are clicked.

1. In the Adobe Illustrator Layers panel, click the target button beside the *Provinces* layer name to select all art on the layer.

										>
Layers	_	_	_	_	_	_	_	_	_	T
۲	►	25	Maj	or cit	y nam	es			0	
۲	►	52	Maj	or cit	ies				0	
۲	Þ	1	Pro	vince	s				0	
۲	►		bac	kgrou	und				0	
4 Layers					Q		₩3	J	\$	

2. In the MAP Web Author panel, click the Edit button to open the Multiple Web Tag Dialog dialog box.

		44 X
MAP Web Author		*
Tag: Edit	Remove	Export: Export To Web
Selection:		
All Web Art	Web Art On La	ayer
◄ ► [Sele	ction contains no	n-web artwork]
Zoom to selec	ted art	

- 3. In the Multiple Web Tag Dialog dialog box, type **%NAME%** into the Callout Title box.
- 4. In the Callout Image frame, make sure the By Attribute option is selected and type %IMAGE% into the box above.

%NAME%		Callo	ut Previev	v ->	Nunavut
Callout Image		Width:	190 px	\$	· + *
%IMAGE%	Image Path: C:/Users/Public/Documial/ImageFiles/NV.png	Height:	160 px	A V	-B
Insert Image: 🔘 Manually	Original: 80 x 45 pixels	Auto	Size		
By Attribute Attri					

The %NAME% and %IMAGE% variables retrieve values from the Provinces attribute table. In the case of %IMAGE%, the attribute is the image path. The image path and dimensions are shown on the right-hand side of the frame. By default, the Callout Preview is enabled. This previews what the Web tag callout will look like when exported to Flash.

Note: The attribute names are case sensitive and should match exactly as they are in the MAP Attribute table.

Now, add more information to the Web tag callout by entering some basic HTML code. View the Callout Preview to see how it changes as the code is typed.

5. In the main content entry box type the following:

Province: %NAME%
Population: %Population%
Capital City: %CapitalCity%

Go to the government website

6. Click the Auto Size check box.

		Callout Preview 🔶	Nunavut	
Callout Image %IMAGE% Insert Image: Manually	Image Path: [mixed]	Width: 190 px + Height: 160 px + V Auto Size	*	 Province: Nunavut Population: 17500 Capital City: Iqaluit Go to the government web:
By Attribute				
B I @ @ I = [(<insert attribute=""></insert>	•		
<pre>cb>Province: %NAME% cb>Population: %Population%<br cb=""/>Capital City: %CapitalCity%</pre> So to the g	r> br> overnment website			
lick here to see which HTML tags are supporte	d in Flash.			
lick <u>here</u> to see which HTML tags are supporte	d in Flash.			
lick <u>here</u> to see which HTML tags are supporta Trigger External URL (Advanced) Hover URL:	d in Flash.	Target:		
lick <u>here</u> to see which HTML tags are supports Trigger External URL (Advanced) Hover URL: Click URL:	d in Flash.	Target:		

Click the Previous and Next buttons to scroll through the Web tags for each province. The dialog box title bar shows the current and total number of Web tags being edited. The Callouts can be manually resized, however, the Auto Size feature ensures that content will fit properly inside each Web tag.

- 7. Click OK to save the web tags and to close the Multiple Web Tag Dialog dialog box.
- 8. The MAP Web Author panel displays that one web artwork is selected (out of 13).

			< X
MAP Web Author			-=
Tag: Edit	Remove	Export: Export To Web	
Selection: All Web Art	Web Art On La	ayer	
🔺 🕨 Web	Artwork 1 of 13	selected.	
Zoom to selec	ted art		

9. Keep the document open and continue with the next tutorial.
14.3 Export Flash map

After creating the Web tags, the next step is to export the map to Flash so that it can be viewed in a Web browser and shared over the Internet.

1. In the MAP Web Author panel, click the Export To Web button.



2. In the Web Export Dialog dialog box, click the Browse button next to the Export Location box. In the Export File dialog box, navigate to *Tutorial Data* and create a new folder called **canada**. Save the file into the *canada* folder and use the default file name of **index.html**. Click Save.

Folders	*	Name	~	Date modifi
MAPublisher Helpful Sty Unick Start Tutorial Gu Tutorial Gu Tutori	8 ^ ^ les & Symbols ro Tutorial Guide & Guide & Data de & Data da ata Efiles	2	This folder is empty.	
File name:	index.html			
Save as type:	HTML (*.html *.htm)			
Hide Folders			Save	Cancel

The Export Location box populates with the new file path.

3. In the Web Export Dialog Export Settings tab, locate the User Toggle column and check the check boxes for Major city names, Major cities and Provinces.

Export Settings	Viewer Style Viewer Settings		Export.
Export Location:	\Public\Documents\Avenza\MAPublisher 8\Tutor	rial Guide & Data\Tutorial Data\canada\index.html	owse Close
User Toggle	Layer Name	Options	*
	Major city names	[Double Click Here To Set Layer Options]	
	Major cities	[Double Click Here To Set Layer Options]	
	Major cities Provinces	[Double Click Here To Set Layer Options] [Double Click Here To Set Layer Options]	

The User Toggle allows the layers of a map to be turned on and off in the map interface.

4. Under the Options column for the Major city names layer, double-click to setup layer options. In the Layer Export Options dialog box, choose Hide the layer when the map is initially loaded option and click OK.

	Initial Visibility Show the layer when the r Hide the layer when the m	map is initially loaded Cancel	
xport Settings	Viewer Style Viewer Settings		Export
xport Location:	Public\Documents\Avenza\MAPublisher 8\Tutorial	I Guide & Data \Tutorial Data \canada \index.html Brow	vse Close
xport Location: User Toggle	\Public\Documents\Avenza\MAPublisher 8\Tutorial	I Guide & Data \Tutorial Data \canada \index.html	vse Close
xport Location: User Toggle	Public/Documents\Avenza\MAPublisher 8\Tutorial Layer Name Major city names	I Guide & Data\Tutorial Data\canada\index.html Brow Options Hidden when map is initially loaded.	vse Close
xport Location: User Toggle	IPublic/Documents/Avenza/WAPublisher 8\Tutorial	I Guide & Data\Tutorial Data\canada\ndex.html Brow Options Hidden when map is initial\loaded. [Double Click Here To Set Layer Options]	Nse Close
xport Location: User Toggle V V	Public/Documents/Avenza/MAPublisher 8/Tutorial Layer Name Major city names Major cities Provinces	I Guide & Data\Tutorial Data\canada\ndex.html Brow Options Hidden when map is initially loaded. [Double Click Here To Set Layer Options] [Double Click Here To Set Layer Options]	vse

The Options column now shows that the Major city names layer is hidden when the map is initially loaded. Experiment with the other Layer Export options to see what kind of affect it has on the final map. Refer to the MAPublisher 9 User Guide for more information.

5. Leave the other options in the Export Settings tab as the default and click the Viewer Style tab.

6. In the Viewer Style list, scroll down to Click Highlight Line and double-click the color value to change it. Select a purple color (**#aa00ff** or RGB 170, 0, 255) and click OK. Double-click the Line Thickness value and change it to **2**. Scroll down to Hover Highlight Line and change the color to blue (**#00aaff** or RGB 0,170,255) and the Line Thickness to **1**.

Export Settings Viewer Style Viewer Settin	ngs	Export.
Name	Value	Close
Click Highlight Line		
Visible	true	
Color	#aa00ff	
Transparency	0.7	
Line Thickness	2	
Hover Highlight Line		
Visible	true	
Color	#00aaff	
Transparency	0.7	
Line Thickness	1	
Search Highlight Line		
Visible	true	E
Color	#ffff00	

The Viewer Styles are used to style Flash elements on the map. Do not confuse these with the MAP Stylesheets or Adobe Illustrator graphic styles. These are strictly to style elements such as the Web tag callout, the navigation buttons, overview map and search box. Changing the default Viewer Style settings creates a Cascading Style Sheet (CSS) that contains CSS code that manipulates the look of the Flash elements. For more information about this and MAP Web Author, see chapter 15 of the MAPublisher User Guide.

7. Leave the options in the Viewer Settings tab as the default and click Export.

After finishing export, the Web Export Log dialog box appears. It provides a summary of which layers were exported, the corresponding export file name, the number of vertices in each layer and the Flash file sizes. It also provides a link to the Export Folder that was specified earlier.

Set folder perm	ssions in the Flash Player Global Se	curity Settings panel	a varkai lavat	<< Export Agai
Løyer	File	# of Vertices	Size	Done
Major city names	map_L1.swf	0	10 KB	
Major cities	map_L2.swf	0	1 KB	
Provinces	map_L3.swf	2936	156 KB	
background	map_L4.swf	0	7 KB	
and the second second second				
Iotal SWIF file size: 174 KU This size should be less than 600KB Metadata (.xmi) file size: 15 KB This size should be less than 50 KB To reduce exported file sizes: • Use the "Simplify Lines"	for best performance. 9 compressed (or 400 KB uncompressed) fi * tool to reduce the number of veri	or best performance. Icces in your data.		

Note: Make sure you have properly configured permissions in the Flash Player Global Security Settings panel. See chapter 15 of the MAPublisher User Guide for more information.

8. Click the Export Folder link to open the folder. The index.html is located in the export folder. Double-click the index_data folder to view all of the map export files.

Name	Date modified	Туре	Size	
🕏 avenza.js	22/05/2012 2:15 PM	JScript Script File	6 KB	
expressInstall.swf	22/05/2012 2:15 PM	Shockwave Flash	1 KB	
amap.png	23/05/2012 4:36 PM	Adobe Fireworks	74 KB	
👍 map.xml.zip	23/05/2012 4:36 PM	Compressed (zipp	15 KB	
map_L1.swf	23/05/2012 4:36 PM	Shockwave Flash	10 KB	
map_L2.swf	23/05/2012 4:36 PM	Shockwave Flash	1 KB	
map_L3.swf	23/05/2012 4:36 PM	Shockwave Flash	156 KB	
map_L4.swf	23/05/2012 4:36 PM	Shockwave Flash	6 KB	
MAPublisherViewer.swf	22/05/2012 2:15 PM	Shockwave Flash	467 KB	
MAPublisherViewer-Io	22/05/2012 2:15 PM	Shockwave Flash	467 KB	
💼 map-viewer.css	23/05/2012 4:36 PM	Cascading Style S	1 KB	
README.txt	22/05/2012 2:15 PM	Text Document	3 KB	
🗟 swfobject.js	22/05/2012 2:15 PM	JScript Script File	10 KB	
viewer_parameters.txt	23/05/2012 4:36 PM	Text Document	1 KB	

9. Return to the canada folder and double-click index.html to open the Flash map in a Web browser.



Navigate the map using the map zoom slider and zoom in and out buttons, the pan tools and using the mouse to pan around the map. When the mouse hovers over a province, it highlights to the color specified earlier. Click the province and the Web tag callout appears with information defined in the Multiple Web Tag Dialog. Notice that the Major city names are hidden. This option was set earlier. Use the layers list to toggle the visibility of the provinces, major cities and city names. The overview map in the bottom right corner can be used to navigate the entire map without having to zoom out.

The latest Flash Player is required. It can be downloaded from the Adobe Website at *www.adobe.com*. If you encounter a Flash permissions warning, please see the Avenza Systems forums at www.avenza.com/forum.

10. Close the document without saving.

15 Geospatial PDF Export

15.1 Export to geospatial PDF

- 1. Open **usa48.ai** from the *Tutorial Data* folder.
- 2. Click the Export Geospatial PDF button on the MAPublisher toolbar. In the Export dialog box, choose **Geospatial PDF** from the Save as type drop-down list. Navigate to the *Tutorial Data* directory, specify the file name as **tutorial15.pdf** and click Save.

Save in:	🔋 🔒 Tutorial Data		•	0	1 🖻 🛄	•	
æ	Name		Date modified		Туре		
Recent Places	MAPWebAu NorthernOnd	thor_Tutorial tario.gdb					
Network	File name:	tutorial 15.pdf			•	Sa	ave
	C	0	C # 000	_		Ca	

- 3. In the Geospatial PDF Export Settings dialog box, click *usa_area* to enable the Model Tree Preferences.
- 4. Click the check box beside *Use attribute for item name*. Make sure the sort order is set to Ascending and click the *Use Natural String Comparison* check box.

Object			Export Attributes	Cancel
🔺 🌔 MAP	Views		\checkmark	Curreer
- 4 🙆 <u>u</u>	Isa		\checkmark	
Z	usa_area		\checkmark	
Model Tree F	Preferences 👗	usa_area		
Model Tree F	Preferences A	usa_area		
Model Tree F V Use attribu	Preferences A te for item name:	usa_area	•]
Model Tree F	Preferences A	usa_area	•]
Model Tree F Use attribution to the solution of the solution	Preferences A te for item name:	usa_area]
Model Tree F Use attribution Item Sorting Sort order:	Preferences A te for item name: :: Ascending	usa_area	•]
Model Tree F Use attribution Item Sorting Sort order: Use natura	Preferences A te for item name: :: Ascending I string comparison	usa_area	•]

This setting will use the attributes of STATE_NAME, in an ascending sort order, in the Model Tree.

- 5. Open the operating system file browser window and navigate to the *Tutorial Data* folder.
- 6. Double-click to open tutorial15.pdf in Adobe Acrobat Reader (the latest version is required).



The latest Acrobat Reader supports geospatial PDF files and comes with tools to explore the map. The Analyze toolbar is located in the Tools menu. It holds three tools specific to geospatial PDFs: Object Data Tool, Measuring Tool and Geospatial Location Tool. On the left hand side, there are two useful Navigation panels related to geospatial PDFs: Layers and Model Tree. There are also Acrobat Reader preferences to change display elements such as geographic units.

7. Click the Layers button in the Navigation panel to expand it. (If it is not present, right-click the Navigation panel and choose Layers.)

	Layers	•
	8⊒ ▼	- *
<i>⊗</i>		
43		

Only the usa_area layer is present in this geospatial PDF. Click the eye button to toggle the layer's visibility.

8. Click the Model Tree in the Navigation panel to expand it. Click the + symbol beside *usa*, then *usa_area* to expand them. Click on a state to view its relative location on the map. Alternatively, use the Object Data Tool and click features on the map.



The Model Tree shows the map features of all the layers in the document. At the bottom of the Model Tree is a window that displays attribute data. In this case, the state name for the feature selected is California.

9. Click Tools, click Analyze, then click the Geospatial Location Tool. A status window appears in the bottom-right corner that displays the longitude and latitude of the cursor position.



10. In the Analyze menu, click the Measuring Tool. Click the southeast corner of Oregon and draw a measurement line to the southeast corner of Kansas. Use the Object Data Tool to find these states if you are unfamiliar with the geography. (If necessary, zoom in to see the features in more detail).



When the Measurement Tool is enabled, a secondary measurement toolbar appears that contains Snap Types and Measurement Types. A status window in the bottom-right corner appears that displays information on the distance measured, azimuth, latitude and longitude of the cursor position. In this case, the straight line distance from Portland to Kansas is approximately 1218 miles (or about 1,960 km).

11. In the Acrobat Reader menu, click Edit > Preferences. In the Categories list, click Measuring (Geo).

and a second	Geospatial Measuring
Commenting	Measuring Line Color: Measurement Markup Settings Chable Measurement Markup Color: Default And
3D & Multimedia Accessibility	Use Label:
Action Wizard Catalog Color Management Convert From PDF Convert To PDF Forms Identity	Snap Settings Snap to Content Paths Path Endpoints Path Midpoints Path Intersections Snap Hint Color: Sensitivity: 10
International Internet JavaScript Measuring (2D) Measuring (3D)	Latitude and Longitude Format Display value as: Decimal
Measuring (Geo)	Always display latitude and longitude as WGS 1984
incurrently (oco)	
Multimedia (legacy) Multimedia Trust (legacy) Online Services	Vie default distance unit: Miles
Multimedia (legacy) Multimedia Trust (legacy) Online Services Reading Reviewing Search	Use default distance unit: Miles

This panel is used to change geospatial measuring options. See the MAPublisher User Guide for detailed information on all of its options and settings.

- 12. In the Display value as drop-down list, choose Degrees, Minutes, Seconds.
- 13. In the Use default distance unit drop-down list, choose Miles.

Latitude and Longit	ude Format			
Display value as:	Degrees, Minutes, Seconds 💌		olay direction as:	Signed 💌
🔽 Always display	latitude and longitude as V	/GS 1984		
Vse default distan	ce unit: Kilometers	-		
V Use default area u	nit: Square Mil	25 🔻		
Don't show transp	arency layer in GeoTIFF an	d JPEG 2000 image	es	

- 14. Click OK to accept these settings.
- 15. Using the Measure Tool, choose several points to measure.



Notice that the distance is displayed in miles (km) and that the coordinates are displayed as Degrees, Minutes, Seconds. Return to the Measuring (Geo) preferences to experiment with the settings to see how they can help you explore geospatial PDF maps.

16 Import Spatial Databases

16.1 Import Esri Personal or File geodatabase

Note: To work with this tutorial, an ArcGIS license is required. See the User Guide for more information.

In this tutorial, you will be importing data to be used for a Northern Ontario rail map.

- 1. In Adobe Illustrator, click *File > New* ,and create a new landscape oriented document.
- 2. Using Simple Import or Advanced Import click, from the Format drop-down list choose Esri File Geodatabase [*.gdb] or Esri Personal Geodatabase [*.mdb].
- 3. Click Browse and in the Tutorial Data folder select **NorthernOntario.gdb** to open a File Geodatabase or **NorthernOntario.mdb** to open a Personal Geodatabase.
- 4. The Select Feature Classes dialog box appears. Click the *populated_points*, *canada_rail*, and *canada* feature classes to select them.



5. Click OK to close the Select Feature Classes dialog box and OK again to import the feature classes.



Notice on import that the imported point data covers all of North America. You will import the data again, instead this time specifying a spatial filter and using SQL (Special Query Langauage) to perform an attribute filter to limit the amount of imported data.

- 6. Click *Edit* > *Undo* to remove the imported data.
- 7. Use Simple or Advanced Import again to import the NorthernOntario geodatabase again.

Note: To only use a spatial filter, click the Spatial Filter button on the Select Feature Classes dialog box. To perform both a spatial filter and an SQL query simultaneously, choose SQL Query.

Select Feature Classes:	OK
🔟 canada_rail	Cancel
A canada	
P populated_points	
Specify Spatial Filter	
opecity operation include	
SQL Query:	

8. In the Select Feature Classes dialog box, choose SQL Query and click the Create SQL Select Query button.

9. In the Create SQL Select Query dialog box, enter the following query:

SELECT * FROM populated_points WHERE populated_points.STATEABB='CA-ON'; SELECT * FROM canada WHERE canada.NAME IN ('Ontario', 'Quebec', 'Manitoba'); SELECT * FROM canada_rail

ſ	Create SQL Select Query	
	SELECT FROM WHERE IN LIKE III IN C # SELECT * FROM populated_points STATEA88 = CA-ON; SELECT * FROM canada WHERE canada.NAME IN (Ontario', 'Quebec', 'Manitoba'); SELECT * FROM canada SELECT * FROM canada_rail	OK Cancel
		Recent Validate
	Select Feature Class or Attribute name:	
	 ▶ ▲ canada ▶ ₽ populated_points ▶ ■ canada_rail 	
	(Add to Query)	
	When creating a query, it is necessary to specify a single "SHAPE" field in the select dause. To specify multiple SQL queries, separate them using a semicolon(;). Specify Spatial Filter	

- 10. At the bottom of the dialog box, click the Specify Spatial Filter button.
- **Note:** Note that the spatial filter has been defined by the extents of the data selected by the SQL query. Through the spatial filter, you will further refine the selection to an envelope just beyond Northern Ontario.

11. Ensure the Intersects relationship option is chosen and enter the following Lower left and Upper right coordinate values:

Set Filter Extent Use extents of Set points man Input Coordin	ta Tayer: v		Cancel Reset
 Use extents of Set points man Input Coordina 	layer: 💌		Reset
 Set points man Input Coordina 	ually		· · · · · · · · · · · · · · · · · · ·
Input Coordin			
	ate System: <u>NAD83(1986)</u>		
Corner:			
🛷 Long: -1	35.138611	deg	•
🖋 Lat: 43	2.112135	deg	L.
Opposite Co	rner:		
🖌 Long: -6	0.095657	deg	

The Intersects relationship option specifies that only data that intersects the spatial filter boundary will be imported. Click OK to confirm these values, OK again to confirm the SQL Query, OK to close the Select Feature Classes dialog box, and finally OK to import the features.



The feature classes are successfully imported using the SQL query and spatial filter.

12. Close the document without saving.

16.2 Import Esri ArcSDE geodatabase

Esri ArcSDE technology is a means to interface with and access spatial data from an RDBMS (Relational Database Management System). Data stored in an ArcSDE is accessed from a server, whether on an internal network, or externally through the Internet. The Utah GIS Portal (http://gis.utah.gov) is one such resource that serves GIS data free of charge. This tutorial requires the use of an Internet connection.

- 1. In Adobe Illustrator, click *File > New* ,and create a new landscape oriented document.
- 2. Using Simple or Advanced Import, choose Esri ArcSDE Geodatabase from the format drop-down list.
- 3. Click Browse. In the Browse ArcSDE Geodatabase dialog box, select Connections and click the Create New button to enter the following parameters:

Connection Name: **UtahGISPortal** Server: **gdb93.agrc.utah.gov** Service: **5151** Database Name: **SGID93** User Name: **agrc** Password: **agrc** Transactional Version: **sde.DEFAULT**

Create New ArcSDE	Geodatabase Connection	
Connection Name:	UtahGISPortal	ОК
Server:	gdb93.agrc.utah.gov	Cancel
Service:	5151	
Database Name:	SGID93	
 Database Auth User Name: agr Password: •• Check if you 	entication rc •• want MAPublisher to remember your password.	
Operating Syst	tem Authentication	
Transactional Versio	in: sde.DEFAULT Specify	

Optionally, click Test Connection to check whether these settings work. A message dialog box appears informing you whether the connection was successful or not.

4. Click OK to confirm the connection settings.

The UtahGISPortal connection is saved to the list. A saved connection can be accessed again in the future.

- 5. In the Browse ArcSDE Geodatabase dialog box, make sure UtahGISPortal is selected and click OK.

- Note: Depending on the Internet connection speed, it may take a few seconds to connect to the server.
- 6. In the Select Feature Classes dialog box, type **Bioscience** into the MAP Dataset box. Choose the feature at the top of the list **SGID93.BIOSCIENCE.DominantVegetation** and click OK.



Note: After clicking OK, it may take a few minutes to retrieve the data from the ArcSDE server.

7. In the Simple (or Advanced) Import dialog box, click OK again to finalize the import.

Simple Imp	port	
Format:	Esri ArcSDE Geodatabase	Settings OK
Dataset:	Bioscience	Browse Cancel
Encoding:	Unicode, 8-bit (UTF-8)	•
Source C	Coordinate System:	
NAD83 / U	JTM zone 12N	From File
Same a	as:	▼

The DominantVegetation layer for Utah downloads and is imported into Adobe Illustrator successfully.



- **Note:** The connection parameters to this ArcSDE database service may have changed since the time of printing. Updated parameters should be available on the Utah GIS Portal website located at http://gis.utah.gov.
- 8. Close the document without saving.

16.3 Import basic Esri ArcSDE server

Users who do not have an ArcGIS license can install the free Esri desktop application called ArcReader (see the Esri Website for information - www.Esri.com). File and Personal Geodatabases cannot be read. Access to files with Basic Esri ArcSDE Server connections is limited compared to the Esri ArcSDE Geodatabase connections.

- 1. In Adobe Illustrator, click *File > New* and create a new landscape oriented document.
- 2. Using Simple or Advanced Import, choose Basic Esri ArcSDE Basic from the Format drop-down list.
- 3. Click Browse. In the Browse Basic ArcSDE Server dialog box, select Connections and click the Create New button to enter the following parameters:

Connection Name: UtahGISPortal_Basic Server: gdb93.agrc.utah.gov Service: 5151 Database Name: SGID93 Version: sde.DEFAULT User Name: agrc Password: agrc

Connection Name:	UtahGISPortal_Basic	ОК
Server:	gdb93.agrc.utah.gov	Cancel
Service:	5151	
Database Name:	SGID93	
Version:	sde.DEFAULT	
User Name:	agrc	
Password:	••••]
Check if you wa	ant MAPublisher to remember your password.	
	Test Connection	

4. Click OK to confirm the connection settings.

The UtahGISPortal_Basic connection is saved to the list. A saved connection can be accessed again in the future.

5. In the Browse ArcSDE Geodatabase dialog box, make sure UtahGISPortal_Basic is selected and click OK.

Browse ArcSDE Geodatabase	
Select Connection or MAP Dataset:	ОК
▲ Connections	
UtahGISPortal	Cancel
Recent/saved MAP Datasets	
Create New) Edit Copy Delete	đ

- Note: Depending on the Internet connection speed, it may take a few seconds to connect to the server.
- 6. In the Select Feature Classes dialog box, type **Bioscience** into the MAP Dataset box. Choose the feature at the top of the list **SGID93.BIOSCIENCE.DominantVegetation** and click OK.

IAP Dataset	Bioscience	ОК	
Select Fe	ature Classes:	Cancel	
A	SGID93.BIOSCIENCE.DominantVegetation	A	
A	SGID93.BIOSCIENCE.Habitat_BandtailedPigeon		
A	SGID93.BIOSCIENCE.Habitat_Bison		
A	SGID93.BIOSCIENCE.Habitat_BlackBear		
A	SGID93.BIOSCIENCE.Habitat_BlueGrouse		
A	SGID93.BIOSCIENCE.Habitat_BonetailedChub		
A	SGID93.BIOSCIENCE.Habitat_CaliforniaBigHornSh		
A	SGID93.BIOSCIENCE.Habitat_CaliforniaQuail		
A	SGID93.BIOSCIENCE.Habitat_Chukar		
A	SGID93.BIOSCIENCE.Habitat_DesertBighornSheep		
A	SGID93.BIOSCIENCE.Habitat_GambelsQuail		
A	SGID93.BIOSCIENCE.Habitat_HungarianPartridge		
A	SGID93.BIOSCIENCE.Habitat_Moose		
A	SGID93.BIOSCIENCE.Habitat MountainGoat	~	
Specify	Spatial Filter		
) SQL Que	ry:		

Note: After clicking OK, it may awhile to retrieve the data from the ArcSDE server.

7. In the Simple (or Advanced) Import dialog box, click OK again to finalize the import.

Simple Imp	ort
Format:	Basic Esri ArcSDE Server
Dataset:	Bioscience Browse Cancel
Encoding:	Unicode, 8-bit (UTF-8)
Source C	oordinate System:
NAD83 / U	TM zone 12N 💽 🥥 From File
Same a	s: 💌

The DominantVegetation layer for Utah downloads and is imported into Adobe Illustrator successfully.



- **Note:** The connection parameters to this ArcSDE database service may have changed since the time of printing. Updated parameters should be available on the Utah GIS Portal website located at http://gis.utah.gov.
- 8. Close the document without saving.

Congratulations! You have completed the MAPublisher Tutorial Guide. Please see the MAPublisher 9 User Guide for more detail and information on specific features and commands. Check the Avenza Systems web site and forums for updates and more information.