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# INTRODUCTION

This exercise will be useful to you if you are interested in using historic maps from Historic Digimap in GIS (Geographical Information System). To complete all the exercises in this guide, you will need:

- To be able to login to Historic Digimap your college or university must have a subscription to the service to allow this.
- Access to ArcGIS software.
- These notes were prepared using ArcGIS version 10.1

### WHAT WILL I LEARN?

By the end of this guide, using the instructions and map data provided, you will be able to:

- Download historic maps from Historic Digimap
- Add and view raster historic maps in ArcGIS
- Add and view vector Ordnance Survey map data
- Apply a cartographic style to vector map data

What data have you given me?

We have supplied some contemporary vector map data for Leeds city centre, in order that you can complete the exercises in this guide.

The data is **Vector Map District** data. It can be downloaded from Digimap's Ordnance Survey Collection Data Download service.

Vector Map District is supplied in 100 x 100 km areas. We have cropped the data to a smaller area to make it more manageable.

The map data is supplied as SHAPE files, which are compatible with ArcGIS and many other software packages.

1. In the folder **Vector Map District**, you will find a list of files as shown in the image below. For each SHAPE file, there are associated files, e.g. SHX, DBF and PRJ files. Do not discard any of the files in this folder – all component files are required in order that your SHAPE files work in GIS.

🛗 building.dbf	building.prj	building.shp
building.shp.DLIB-CARR.5340.5236.s	\min building.shp.xml	building.shx
🛗 land.dbf	📄 land.prj	land.shp
👜 land.shp.xml	land.shx	🛗 named_place.dbf
named_place.prj	named_place.sbn	named_place.sbx
named_place.shp	🗐 named_place.shp.xml	named_place.shx
🛗 public_amenity.dbf	public_amenity.prj	public_amenity.shp
📄 public_amenity.shp.xml	public_amenity.shx	railway_station.dbf
railway_station.prj	railway_station.shp	📄 railway_station.shp.xml
railway_station.shx	🛗 railway_track.dbf	railway_track.prj
railway_track.shp	💼 railway_track.shp.xml	railway_track.shx
🛗 road.dbf	📄 road.prj	road.shp
🔮 road.shp.xml	oad.shx	surface_water_area.dbf
surface_water_area.prj	surface_water_area.shp	📄 surface_water_area.shp.xml
surface_water_area.shx	surface_water_line.dbf	surface_water_line.prj
surface_water_line.shp	🔮 surface_water_line.shp.xml	surface_water_line.shx
i woodland.dbf	📄 woodland.prj	woodland.shp
🔮 woodland.shp.xml	woodland.shx	

2. **Layers** - we have also given you a folder called Layers, which contains files that can be used to apply a pre-defined cartographic style to the Vector Map District map data. We will demonstrate this process in these instructions.

### WHAT DATA DO I NEED TO DOWNLOAD?

You will need to download some historic maps from Historic Download service. We cannot supply you with historic maps directly due to the terms of use of the Digimap licence.

Digima	<b>p</b> ®
The most comprehensive maps a	nd geospatial data available in UK Higher and Further Educatio
Map and Data Collections:	1 Historic Digimap
Welcome	View, annotate and print Historic 🕀
My Digimap     Ordnance Survey	Download Historic mapping data
Historic	Historic Download Use modern maps to find and select tiles of historic map data.
Geology	Help Resources
Marine	
Environment	
Discover	

Historic Download allows users to download historic maps for use in GIS software. Maps are provided in TIFF format and are geo-referenced.

You can choose to download map tiles referenced to the British National Grid, or the original map sheet as it was published.

The following 3 sets of map data are available:

• County Series maps at 1:2500 and 1:10560 scales published between 1843 and 1939,

• Town Plan maps at 1:500, 1:528 and 1:1056 scales published from 1848 and 1939, for towns with a population in excess of 4000 at the time of survey,

• National Grid maps at 1:1250, 1:2500 and 1:10560/10000 scales, published from 1945 – 1990s.

## DOWNLOAD HISTORIC MAP DATA

Please follow the following steps to download the historic maps we will use:

### ORDER MAPS

1. Click on Historic Download:



- 2. Select County Series 1:2500 scale, Original Sheets.
- 3. Click Continue:



- 4. On the left of the next window:
- 5. Select 1<sup>st</sup> Edition.
- 6. Type **Leeds** in the place name box.
- 7. Click Find.
- 8. Select Leeds (Leeds) from the search results

Your screen should look similar to this image:



9. **Zoom in to the Woodhouse area** (look for the words Woohouse and University in the middle of the screen) by double clicking on the map, until your screen looks similar to the image below:

# EDINA Digimap: Historic Digimap –historic maps in ArcGIS



Now we want to select tiles. Anywhere shaded blue has tiles of map data. Where the map is darker blue, means there is more than one map available for that area.



- 10. Click the Select Tiles button so that the arrow is red
- 11. Click on the map where it says University and click the tile next to it, to select those maps maps for download, until your screen looks similar to the image below.

### EDINA Digimap: Historic Digimap -- historic maps in ArcGIS



Note also that you will see the list on the right become populated, with the list of maps that you have selected.

Tiles Selec	tion	
Selected Tile(s): 2 (Max Allowed: 150)		
Your list of tiles for download can be refined at the next stage, click continue:		
Continue »		
Selected Tiles		
Tile	County	Edition
40218011	Yorkshire	1st Ed
40218021	Yorkshire	1st Ed

12. Click **Continue** (if you have selected too many tiles, you will be unable to click Continue. The easiest thing to do here is to click Start again). 13. Name your order:

Order Details	
Give your order a name, then enter	r and confirm your email address:
*mandatory	
Order Name: leeds	* Enter Email Address: vivienne.carr@ed.ac.uk *
	Confirm Email Address: vivienne.carr@ed.ac.uk
This email address will be used solely request for service management pur	<sup>7</sup> for the purpose of delivering the data you have requested to you. It will be logged against your data poses.

# 14. Check your order – the image below shows the details of the maps that we selected.

At this point you could delete some of the maps in the list if you wished.

der Content					
Tile	County	Edition	Version	Publication	Size (Kb)
40218011	Yorkshire	1st Edition	SHEET	1893	2086
40218021	Yorkshire	1st Edition	SHEET	1893	1973
		111			

### 15. Click Order data

Format & Archiving Options		
Choose Format:	Choose Zip Option:	
<ul> <li>tiff (compressed)</li> </ul>	Ip Archive	
	Tar Archive	Outline Data in
	Gzipped Tar Archive	Order Data »

### DOWNLOAD THE MAPS

- 1. Wait for an email from Digimap to tell you the maps are ready to download.
- 2. Click on the link in the email (you should be logged in):

#### Your Historic Digimap Order Is Ready For Download

EDINA Digimap <edina@ed.ac.uk></edina@ed.ac.uk>	
Extra line breaks in this message were removed.	
Sent: Mon 22/04/2013 14:51 To: vivienne.carr@ed.ac.uk	
22 April 2013 at 14:50	
The order (ref: leeds) you placed for Historic data from Digimap on 22 April 2013 at 14:46 has been processed and the data can now be collected. You can do this by logging in to Historic Digimap and clicking on the following link or copying and pasting it into your web browser:	
http://digimap.edina.ac.uk/historicdownloader/downloader? eventId_start=true&filedownload&user=edi:jaiunecwniuavx71ℴ=8ace5739- cee2-4212-8008-5a3c03d203e1	$\Big]$
NOTE: You must be logged in to access your data, if you are prompted to log in after following the link you will need to re-enter the link or click it again after logging in.	

#### 3. Click Download File.

4. Click Save File, OK and save the file somewhere on your computer:



The file you download from Historic Digimap is a zip archive file.

- 5. In Windows Explorer, or equivalent, right click on the Zip file.
- 6. Select **Extract All,** and follow the instructions to extract the contents of the file to a separate folder:

leeds_county_series_2500.zip	22/04/2012 14:57
View_historic_ArcGIS.doc	Open Extract with Express Zip
	Open in new window
	Extract All

- 7. Double click on the new folder to have a look at the contents.
- 8. Depending on what you downloaded, you should now see a sub-folder, or folders. The image below shows there is 1 folder in our download, York (we downloaded maps for the county of Yorkshire).

Name	Date modified	Туре
鷆 york	22/04/2013 14:51	File folder
Conditions.txt	22/04/2013 14:52	Text Document
Contents.txt	22/04/2013 14:52	Text Document

9. Click on the **york** folder. Now you will see a folder named **1st\_edition\_Sheet**, or similar. Remember that we selected to download original map sheets, and chose the first edition.

			355
Name	Ŧ	Date modified	Туре
Ist_Edition_SHEET		22/04/2013 14:53	File folder

- 10. Double click on 1<sup>st</sup>\_Edition\_SHEET. You should see some files, similar to the image below.
  - a. TIFF these are the maps, in TIFF image format. Maps in this format are commonly referred to as **RASTER maps**, a printed map in the form of an image<sup>1</sup>.
  - b. The remaining files contain geographic coordinates and projection information.

# DO NOT DISCARD ANY OF THE FILES!

Name	Date modified	Туре
40218011.tab	22/04/2013 14:51	TAB File
🌉 40218011.tif	22/04/2013 14:51	TIFF image
🖆 40218011.tif.aux.xml	22/04/2013 14:53	XML Document
40218011.tif.ovr	22/04/2013 14:53	OVR File
40218021.tab	22/04/2013 14:51	TAB File
🌉 40218021.tif	22/04/2013 14:52	TIFF image
🔮 40218021.tif.aux.xml	22/04/2013 14:53	XML Document
40218021.tif.ovr	22/04/2013 14:53	OVR File

<sup>&</sup>lt;sup>1</sup> <u>http://www.ordnancesurvey.co.uk/oswebsite/products/backdrop-mapping.html</u>

### VIEW HISTORIC DIGIMAP MAP DATA IN ARCMAP

Let's view our historic maps in ArcGIS. The TIFF image maps can be imported directly to ArcGIS.

These notes have been prepared using ArcMap 10.1.

1. Start ArcMap. ArcMap is the application within ArcGIS that is used to view and analyse map data: <u>http://www.esri.com/software/arcgis/arcgis-for-desktop</u>

Programs (1)	
<b>Q</b> ArcMap 10.1	

- 2. Select the default option, Blank map.
- 3. Click **OK.**

Q ArcMap - Getting Started		<b></b>
Open existing map or make new ma	ap using a template	
Existing Maps     Browse for more     New Maps     Templates     Templates     Templates     Traditional Layouts     Industry     USA     World     Browse for more	My Templates	~
C: \Users \Viv \AppData \Roaming \E	жц/Jesktop10.1/ArcMap\Templates/Vormal.mxt	
Default geodatabase for this ma C:\Users\Viv\Documents\ArcGI	p: SVpefault.gdb	What is this?
Do not show this dialog in the	future.	OK Cancel

4. Click File > Add Data > Add Data.

(	Q Ur	ntitled - ArcMap			_					_
1	File	Edit View Bookmarks	Insert Se	lectio	n Geoprocessing	Customiz	ze Wind	dows	Help	
I		New	Ctrl+N	<b>b</b> - I			<u>/</u>   🖃 (	<b>a</b> 🕫	i Ec	ditor 🕶 📄 🛌
	2	Open	Ctrl+O	k		M 👘 🖇	• •	÷ _		
ł	H	Save	Ctrl+S	-				•		
I		Save As								
ŀ		Save A Copy								
		Share As	•							
I		Add Data	•	¢	Add Data					
		Sign In			Add Basemap					
		ArcGIS Online			Add Data From Arc	GIS Online	Add Dat	ta		
	D	Page and Print Setup		**+ * Y	Add XY Data		Add ne	ew data	to the m	ap's active
		Print Preview			Geocoding		data fr	ame.		
	a	Print		÷	Add Route Events		Tip: Yo	u can a	lso drag	data into
		Export Map		SQL	Add Query Layer		your m windo	nap fror w.	n the Cat	alog
		Analyze Man								

 Click on the drop down arrow to see what Folder Connections you have and try to navigate to your york, 1<sup>st</sup>\_Edition\_SHEET historic maps folder. Image below is an example – the path to your files will be different.

*If you cannot navigate to your historic maps you may have to connect to the folder (go to Step 6).* 

Add Data			×
Look in:	🔁 1st_Edition_SHEET 💿 🛧 🏠 🗔 🛙 🏥 🔻 😫	<b>.</b>	🖆 🗊 😂
402180: 402180: 402180: 402180:	<ul> <li>H:\viv</li> <li>Z:\Geo\PRESENTATIONS\Glas_MSc_Workshop</li> <li>Z:\Geo\PRESENTATIONS\Glas_MSc_Workshop\2013\Final Data</li> <li>Z:\User Support\Training</li> <li>Geo</li> <li>Training exercises</li> <li>Historic data ArcGIS</li> <li>leeds_county_series_2500</li> </ul>		
	Ist_Edition_SHEET     Ist_Edition_Geo     Toolboxes	ш	
Name: Show of ty	Database Servers     Database Connections     GIS Servers     My Hosted Services     Tracking Connections	•	Add

6. ArcGIS has to connect to a folder before it recognises it. Click the yellow folder with the plus icon, **Connect to Folder.** 

Add Data	
Look in: 🔯	Home - Documents \ArcGIS 🔹 🛧 🏠 🕼   🏥 🕇 🔛 😂 🍑 🚳
Home - Do Folder Com Toolboxes Database Se Database C G Database C G GIS Servers My Hosted	cuments\ArcGIS nections ervers connections !Services onnections
Name: Show of type:	Add       Datasets, Layers and Results       Cancel

- 7. Select the folder containing your historic maps (the image below shows an example, where we select a folder called Historic data ArcGIS).
- 8. Click OK.

Connect To Folder	×
Choose the folder to which you want to connect:	
Flooding_exercise_CB	-
Gazetteer_Plus_ArcGIS	
B Geology_ArcGIS_guides_data	
Beology_data_MapInfo	
Historic data ArcGIS	
Download_leeds_university_72680	
HistoricData-662441480	
Ieeds_university	_
Marine_data_GIS	
🛛 🖟 NTF data	
DS MasterMap	-
<	P
Folder: Z:\User Support\Training\Geo\Training exercise	s∖Hista
Make New Folder OK Cana	<b>cel</b>

- 9. Go back to the Add Data window. Navigate to your historic maps folder. Select the TIFF files.
- 10. Click Add.

Add Data		×
Look in:	Lst_Edition_SHEET	
Name: Show of type:	40218011.tif; 40218021.tif Datasets, Layers and Results  ▼	Add Cancel

- 11. If asked to Create pyramids, select Yes.
- 12. Tick 'use my choice and do not show this dialog in the future'.

Create pyramids for 4028203130241.tif (11400 x 7590)						
This raster data source does not have pyramids or contains insufficient pyramids. Pyramids allow for rapid display at varying resolutions.						
Pyramid building may take a f Would you like to create	Pyramid building may take a few moments. Would you like to create pyramids?					
About pyramids Yes	About pyramids Yes No Cancel					
Pyramid resampling technique	Nearest Neighbor 👻					
Pyramid compression type	Default 👻					
Compression quality	75					
$\fbox$ Use my choice and do not show this dialog in the future.						

13. Click OK if you see the warning about Unknown Spatial Reference.

🗼 Unknown Spatial Reference	×
The following data sources you added are missing spatial r information. This data can be drawn in ArcMap, but cannol	eference t be projected:
40218011.tif 40218021.tif	* *
4	Þ
<ul> <li>Don't warn me again in this session</li> <li>Don't warn me again ever</li> </ul>	ОК

ArcMap should now be displaying your historic maps – note that the Table of Contents on the left is now displaying 2 map 'layers':



14. Click on the zoom in button and click on the map, for a closer look. Note that with a raster map we can look at the data but we cannot select any individual map features such as roads or buildings.





15. Click File> Save as and save your ArcMap document.



# ADD OS VECTOR MAP DISTRICT DATA

Now let's add our Vector Map District map data. A **vector map** is designed for use in a Geographic Information System (GIS). With vector maps you can select individual features, turn map layers on and off, and analyse the map data more easily.

1. Click Add Data.



- 2. Go to the Vector Map District folder.
- 3. Select all the Shape files and click Add.

Add Data	
Look in:	/ector Map District 🔹 🛧 🏠 🕼 🖬 🖬 🖆 🖆 🗊 📦
<ul> <li>building.sh</li> <li>land.shp</li> <li>named_place</li> <li>public_ame</li> <li>railway_state</li> <li>railway_trace</li> <li>road.shp</li> <li>surface_wate</li> </ul>	er_line.shp
Name:	building.shp; land.shp; named_place.shp; public_amenity.s Add
Show of type:	Datasets, Layers and Results  Cancel



Note that in the Table of Contents (shown in the image on the left), the points are added first, then the lines, then the polygon layers and raster layers at the bottom.

ArcMap imports vector map data in random colours. We will show you how to change the colours.

Depending on your map scale, you may no longer be able to see any of your historic map. The Vector Map District (VMD) polygon layers may be covering it up.

4. Right click on **building** and select **Zoom to Layer.** 



You should now be able to see the historic maps at the edge of your map window, under the VMD map.





Our aim here is to view the historic maps, with the outline of contemporary buildings overlaid on the top.

5. Switch off some polygon layers. Uncheck the boxes next to Woodland, Land and Surface Water area.

Now let's make the buildings hollow and change the outline colour.

6. Click on the square symbol under buildings.



The Symbol Selector is generated.

7. Change the fill colour to Hollow.

8. Chagne the outline width to 2, and select a bright colour, for example red. Click OK.

Type her	e to search	▼ @ & # +	Current Symbol
Search:	All Styles	Referenced Styles	
ESRI —		<b>A</b>	
Gree	n Blue	Sun	Fill Color:
Hollo	w Lake	Rose	Outline Width: 2
Beig	e Yellow	Olive	Edit Symbol Save As Reset
Gree	n Jade	Blue	
			Style References

Now if we zoom in, we can see the contemporary building outlines on top of the historic maps, as seen in this image:



## STYLE THE OS VECTOR MAP DISTRICT DATA

We can apply a cartographic style to the VMD data. There are different methods for doing this, we will try two:

- Apply a pre-defined style to each layer, contained within a layer file. The layer files we will use are specifically for use with VMD. We have provided them to you but they are also available from the Digimap help pages:
   <u>http://digimap.edina.ac.uk/webhelp/os/using\_data\_with\_arcgis/using\_vectormap\_data/using\_vectormap\_district.htm</u>
- Create a style using the attribute data contained within the Shape files.

### METHOD 1 – AMEND SYMBOLOGY USING LAYER FILES

1. Double click on the folder **layers**, supplied with the instructions for this exercise. You will see a list of files.

There is a layer file for each layer of VMD data. NOTE that we do not have all of these map layers. We only supplied you with 10 layers of map data, when we cropped the original data to a more manageable size:

Name	Date modified	Туре	Size
🔷 administrativeboundary.lyr	22/04/2013 17:08	ArcGIS Layer	8 KB
🔷 airport.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 building.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
electricitytransmissionline.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
♦ foreshore.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 glasshouse.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 heritagesite.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 land.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 motorwayjunction.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 namedplace.lyr	22/04/2013 17:08	ArcGIS Layer	10 KB
🔷 ornament.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 publicamenity.lyr	22/04/2013 17:08	ArcGIS Layer	11 KB
🔷 railwaystation.lyr	22/04/2013 17:08	ArcGIS Layer	13 KB
🔷 railwaytrack.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 railwaytunnel.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 road.lyr	22/04/2013 17:08	ArcGIS Layer	19 KB
🔷 roadtunnel.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 spotheight.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 surfacewaterarea.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 surfacewaterline.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 tidalboundary.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 tidalwater.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB
🔷 woodland.lyr	22/04/2013 17:08	ArcGIS Layer	7 KB

# TO APPLY A LAYER FILE.

1. Right click on a layer (try road) and select Properties.



2. Select Symbology, then click Import:



3. Click on the yellow folder icon.



- 4. Now navigate to the layers folder, and click on road.lyr.
- 5. Click Add.

ſ	Import Symbolo	gy from Layer		<b>X</b>		
	Look in: 🛅 I	ayers	- 🕹 🏠 🐻	🇰 🗸   🚰   🖆 🗊 🚳		
l	🔶 administrati	iveboundary.lyr	namedplace.lyr	surfacewaterarea.l		
Ľ	airport.lyr		🔷 ornament.lyr	surfacewaterline.ly		
h	🔶 building.lyr		publicamenity.lyr	🔷 tidalboundary.lyr		
	lectricitytra	ansmissionline.lyr	railwaystation.lyr	🔷 tidalwater.lyr		
	oreshore.ly	r	railwaytrack.lyr	🔷 woodland.lyr		
	glasshouse.	lyr	🔷 railwaytunnel.lyr			
	🔷 heritagesite	.lyr	🔷 road.lyr			
	land.lyr		roadtunnel.lyr			
	🗢 motorwayju	inction.lyr	🔷 spotheight.lyr			
L						
	Name: road.lyr			Add		
	Show of type:	Layer files (*.lyr)				

6. Click OK.



- 7. Set Classifica as the value field to be used. This value in the map data defines the type of road, A road, B road, Motorway etc.
- 8. Click OK.

Import Symbology Matching Dialog	×
Select field(s) from the current layer to ma in the imported symbology definition:	itch to the field(s) used
Value Field CLASSIFICA	
CLASSIFICA	-
Value Field	
	-
Value Field	
	<b>_</b>
ОК	Cancel

You should now see that there are many different symbols for different road categories in the Symbology tab.

9. Click Apply and then OK.

General	Source	Selection	Displa	ay Sym	bology	Fields	Definition	Query	Labels	Joins & F	Relates	Time	HTML Popu
how:			Draw ca	ategorie	es usin	a uniau	e values	of one	field.			nport	ř –
Catego	ies.	-	Value Fie	bld				-Color F	Ramp				
Uniq	ue values ue values	, many	CLASSI	FICA								÷	
Mate	h to symb	ols in a	Symbol	Value	,		Labe	ł		Co	unt		
Charts		F		- <all oth<="" td=""><td>er value</td><td>s&gt;</td><td><all ot<="" td=""><td>her valu</td><td>es&gt;</td><td></td><td>Second Li</td><td></td><td></td></all></td></all>	er value	s>	<all ot<="" td=""><td>her valu</td><td>es&gt;</td><td></td><td>Second Li</td><td></td><td></td></all>	her valu	es>		Second Li		
Multiple	Attribut	tes		<head< td=""><td>ding&gt;</td><td></td><td>CLAS</td><td colspan="4">CLASSIFICA</td><td></td><td></td></head<>	ding>		CLAS	CLASSIFICA					
			A Road B Road			A Roa	A Road ? B Road ?						
						B Roa					1		
		6	-	Local S	Street		Local	Street		?			х. Й
•		+ =	Minor Road			Minor	Road	Road ?			+		
<u> </u>		NTS I		Motorw	/ay		Motor	way		?			
	L L	<b>*</b> (* ) =		Pedest	rianised	Street	Pedes	trianised	Street	?			
				Primary	Road		Primar	y Road		?			
1	1-1			Private	Road P	ublicly A	cces Private	e Road	Publicly A	cces?		-	
	1 7	for a	Add All V	alues	Add V	alues	Remo	ve	Remov	/e All	Advag	iced 🔹	

10. If you zoom out, you should be able to see a motorway junction and some of the different road types.



11. OPTIONAL - You could now go ahead and apply the relevant layer file(s) to some or all of the different layers of VMD you have on your map. Go ahead and try this out if it's of interest to you.

### METHOD 2 – AMEND SYMBOLOGY USING ATTRIBUTE DATA

You can also use the *attribute* data in map layers to style it. Let's look at the attribute data for a layer first.

- 1. Right-click on the **public\_amenity** layer.
- 2. Click Open Attribute Table.



The attribute table shows us all the data that we have for a layer.

Currently all the **public\_amenity** points have the same symbol. For this layer we could use the **Classifica** field to style the data, so that we have a different symbol for Place of Worship, for Education Facility and so on.

3. Close the Attribute Table.

Ta	ble				□ ×
0	- 1	b -   🖣	N 🖓 🖸 🖓		
pu	blic_an	nenity			×
	FID	Shape	CLASSIFICA	FEATCODE	*
F	0	Point	Place Of Worship	25253	
	1	Point	Education Facility	25250	
	2	Point	Education Facility	25250	E
	3	Point	Place Of Worship	25253	
	4	Point	Place Of Worship	25253	
	5	Point	Leisure Or Sports Centre	25254	
	6	Point	Place Of Worship	25253	
П	7	Point	Education Facility	25250	
П	8	Point	Place Of Worship	25253	
	Q	Point	Police Station	25251	<b>T</b>
р.	∙ • ublic_a	menity	1 → →   📄 💻   (0 out of 17	7 Selected)	

- 4. First, right-click on **public\_amenity** and select **Properties.**
- 5. Open the Symbology tab.
- 6. Select **Categories** and **unique values** on the left.
- 7. Select Classifica as the value field and click Add all values.

ayer Properties	11201	1.	N/	×
General Source Selection	on Display Symbology Fields	B Definition Query Labels	Joins & Relates Time	HTML Popup
Show: Features	Draw categories using unio	que values of one field.	Import	
Categories	Value Field	Color Ramp		
Unique values Unique values, many Match to symbols in a				•
Quantities	Symbol Value	Label	Count	
Charts Multiple Attributes	Add All Values	<all other="" values=""></all>	ve All Adva <u>n</u> ced	
			OK Cancel	Apply

You will see the different types of public amenity populate the Values field, with a different coloured symbol for each one.

- 8. You can click Apply and OK to select these symbols, or you can edit them.
- 9. To amend the symbols used, just click on any symbol to generate the Symbol Selector, for example click on the symbol enxt to **Hospital.**

Layer Properties		1.00	100	2	×
General Source Selection	on Displa	ay Symbology Fields	Definition Query Labels	Joins & Relates	Time HTML Popup
Show:	Draw ca	tegories using unique	values of one field		aport
Features					iport
Categories	Value He	bid	Color Ramp		
Unique values	CLASSI	FICA	-		<b>•</b>
Match to provide in a					
Quantities	Symbol	Value	Label	Count	
Charts	•	<all other="" values=""></all>	<all other="" values=""></all>	0	
Multiple Attributes	_	<heading></heading>	CLASSIFICA	17	
	٠	Education Facility	Education Facility	6	
		Hospital	Hospital	1	
		Leisure Or Sports Centre	Leisure Or Sports Centre	1	
۰ T	٠	Place Of Worship	Place Of Worship	8	•
	•	Police Station	Police Station	1	
	Add All V	alues Add Values	Remove Remove	e All 🛛 🗌 Adva <u>r</u>	iced •
			0	K Ca	ncel Apply

10. Choose any symbol you like from the Symbol Selector and click OK.

NOTE: you can search for symbols, using the search box at the top of the box.

Symbol Selector	- An	<u></u>	×
hospital	- 🧟 🔊	-	Current Symbol
Search: () All Styles	Referenced Styles		
Hospital Ship N Hospital Ship U		^	( <del>+</del> )
Civic			Color:
	õ.		
Hospital 1 Hospital 2	Hospital		Size: 18.00
Environmental			Angle: 0.00
•			Edit Symbol
Hospital / First Aid			Save As Reset
ERS Homeland Security			
	•		
L1 Hospital L1 Hospital Ship	L2 Hospital		Style References
	<u>A</u>	-	OK Cancel

11. When you are satisfied with your selection of symbols, click Apply and OK.



### LABEL MAP FEATURES

There are lots of options for labelling features. Here are some simple options for applying labels to the road layer.

- 1. Right click road and select Properties.
- 2. Select Labels.
- 3. Select the options as shown below.
- 4. Click Placement Properties.

Layer Properties	-	~ 1	100	0	-	-	×
General Source Se	election Display S	mbology Fields	Definition Query	Labels	Joins & Relates	Time	HTML Popup
Label features in t	his layer						
Method:	Label all the feature	es the same way.		-			
All features will be la	abeled using the optic	ons specified.					
Text String							
Label Field:	NAME			•	Expression		
Text Symbol					_		
	ABc	Aria	B Z U	8 Symi	• bol		
Other Options Placement	Properties	Scale Range	Pre-defi	ned Label Label	Style Styles		
				0	K Ca	ncel	Apply

- 5. Select the options as shown, to place labels on the road line.
- 6. Click OK.

EDINA Digimap: Historic Digimap -historic maps in ArcGIS

Placement Properties	<b>X</b>
Placement Conflict Detection	
Line Settings	
Orientation	Position
Horizontal	Above Above Below
Parallel	🔽 On the line 👘 🛉
Curved	Below Above Below
Perpendicular	Orientation Page -
	Offset 0 map units
Location	
Location along the line:	At Best
<ul> <li>Duplicate Labels</li> <li>Remove duplicate labels</li> </ul>	
Place one label per feature	•
Place one label per feature	e part
	OK Cancel

7. Now click Symbol, then Edit Symbol.

Layer Proper	ties			-	1	100				-	×
General S	Source	Selection	Display	Symbology	Fields	Definition Qu	ery Lab	els	Joins & Relates	Time	HTML Popup
☑ Label f	features	in this layer									
Method:		Label	all the fea	tures the sam	e way.			•			
All featu	ıres will t	oe labeled u	sing the o	ptions specifi	ed.						
- Text S	String — Field:	NZ	ME						Evoression		
Laber	rielu.	IN/	INE.				•		Expression		
Text S	Symbol -				Aria	4	▼ 8		-		
		ABc				в <i>I</i> <u>U</u>		Symt	bol		
Other	Options				_	Pre	-defined L	abel	Style		
	Placeme	ent Propertie	s	Scale	Range		l	Label	Styles		
								0	K Ca	ncel	Apply

- 8. Select the Mask tab and click Halo. This will place a white background on your label to make it easier to read.
- 9. Click OK.

Preview	Properties:
	Type: Text Symbol  Units: Points
	General Formatted Text Advanced Text Mask
	Style:
	○ None
	Halo
Inner Ring Road	Size: 2.0000 Symbol
II 53 🖽 100% 💌	

10. Click Apply and OK.

			M 144				A DESCRIPTION OF A DESC
Layer Properties	-	100	200	0	-	-	×
General Source Selection	n Display Symbology	Fields De	finition Query	Labels	Joins & Relates	Time	HTML Popup
Label features in this lay	yer						
Method:	el all the features the san	ne way.		•			
All features will be labeled	d using the options specif	ìed.					
Text String							
Label Field:	NAME			•	Expression		
Text Symbol							
AI	Bc	<ul> <li>Anal</li> <li>Anal</li> </ul>	• • <u> </u>	8 Syn	▼ nbol		
Other Options			Pre-defi	ined Labe	l Style		
Placement Prope	rties Scale	e Range		Labe	el Styles		
					OK Ca	ncel	Apply

Your labels should be visible on the roads.

