



ORDNANCE SURVEY GB

OS DETAILED PATH NETWORK – GETTING STARTED GUIDE

Version history

Version	Date	Description
1.0	04/2020	Initial release of this Getting Started Guide document.
1.1	10/2021	Addition of vector tiles and GeoPackage formats to the product.

Purpose of this document

This document provides information about and insight into the OS Detailed Path Network product and its potential applications. For information on the contents and structure of OS Detailed Path Network, please refer to the Overview and Technical Specification.

The terms and conditions on which OS Detailed Path Network is made available to you and your organisation are contained in that Ordnance Survey customer contract. Please ensure your organisation has signed a valid current customer contract to be able to use OS Detailed Path Network.

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1:25 000 Scale Colour Raster
Explorer
OS MasterMap Topography Layer
OS MasterMap Highways Network
OS Terrain 5
OS Terrain 50

Contact details

[OS website 'Contact us' page \(https://www.ordnancesurvey.co.uk/contact-us\)](https://www.ordnancesurvey.co.uk/contact-us).

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I. Introduction

The OS Detailed Path Network product is a topologically connected link and node network for roads, tracks, paths and rights of way within the National Parks of Great Britain. The product has been created from a number of existing Ordnance Survey data sources, including OS MasterMap Topography Layer, OS MasterMap Highways Network, 1:25 000 Scale Colour Raster, OS Terrain 5 and OS Terrain 50. The data is intended to provide sufficient detail for routing pedestrians, cyclists and horse riders when using mobile devices, with a typical positional accuracy of 10m.

The OS Detailed Path Network dataset was originally released in 2015. It is currently updated on an annual basis and coverage is restricted to the National Park areas of Great Britain. More information about the product, along with links to support documents, can be found on the [OS Detailed Path Network Product Support page on the OS website](https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support) (<https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support>).

I.1 Adherence to standards

OS Detailed Path Network is a derived product that has been designed with consideration of the [INSPIRE](https://inspire.ec.europa.eu/) (<https://inspire.ec.europa.eu/>) Transport Networks Data Specification, although INSPIRE does not apply to off road transport. Due to the process of deriving OS Detailed Path Network, feature instances and their identifiers will be regenerated at each data refresh.

I.2 Support links

Throughout this document, we reference files or documents as part of your 'Getting Started' instructions. For ease of reference, we've compiled a list of these in [Annex A: Product support links](#).

2. Downloading the data

The OS Detailed Path Network product is available for the 15 National Park areas within Great Britain. The dataset is released in three formats: Geography Markup Language (GML), GeoPackage and vector tiles. All formats are compressed into a regular zip file (.ZIP).

Before loading the data, you will need to unzip it by using any of the regular zip programs available or via the facility within the Windows 10 operating system.

As the areas covered by the National Parks differ in size, the downloads in turn vary in size, from 11MB for the Lake District National Park to around 2MB for the Northumberland National Park.

The data is available as download only, and there are no plans for the data to be made available on hard media.

This getting started guide focuses solely on using the product in GML format. For guidance on using the product in GeoPackage or vector tiles formats, please see the following two getting started guides, which are available on the OS website:

- [Getting Started with GeoPackage guide](https://www.ordnancesurvey.co.uk/documents/getting-started-with-geopackage.pdf) (<https://www.ordnancesurvey.co.uk/documents/getting-started-with-geopackage.pdf>)
- [Getting Started with Vector Tiles guide](https://www.ordnancesurvey.co.uk/documents/user-guides/getting-started-with-vector-tiles-v1.0.pdf) (<https://www.ordnancesurvey.co.uk/documents/user-guides/getting-started-with-vector-tiles-v1.0.pdf>)

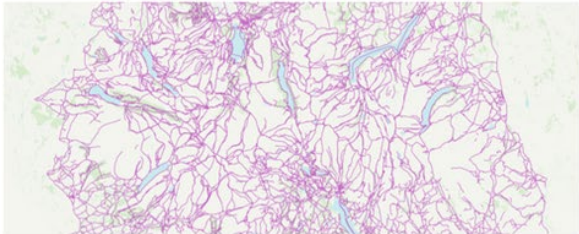
2.1 Downloading the schema (GML format only)

To use the GML data format, some Geographic Information Systems (GIS) may need third-party data translation software to make the data usable within their GI application. To help with this, we provide a downloadable [XSD schema](#) (<https://www.ordnancesurvey.co.uk/xml/schema/detailedPathNetwork/v1/detailedPathNetwork.xsd>) on the OS Detailed Path Network Product Support page on our website.

1. Go to the [OS Detailed Path Network Product Support page on the OS website](https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support) (<https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support>).
2. Find the Product schema (XML) link on the page (it is under the Getting started section which is located at the top of the page):


Getting started

The Detailed Path Network (DPN) is a digital representation of the roads, tracks and paths in the National Parks of Great Britain that the public may use to travel on and enjoy the great outdoors.



Product guide (PDF)

The product is designed to facilitate applications and services to provide routes for pedestrians, cyclists and horses being ridden, primarily for leisure purposes.



Product schema (XML)

The product schema for OS Detailed Path Networks.

3. You can either:
 - a. Right-click on the link and *Save link as* to a location of your choice
 - or
 - b. Click the link to open the schema online, then copy and save the content into a text editor

3. Loading the data (GML format)

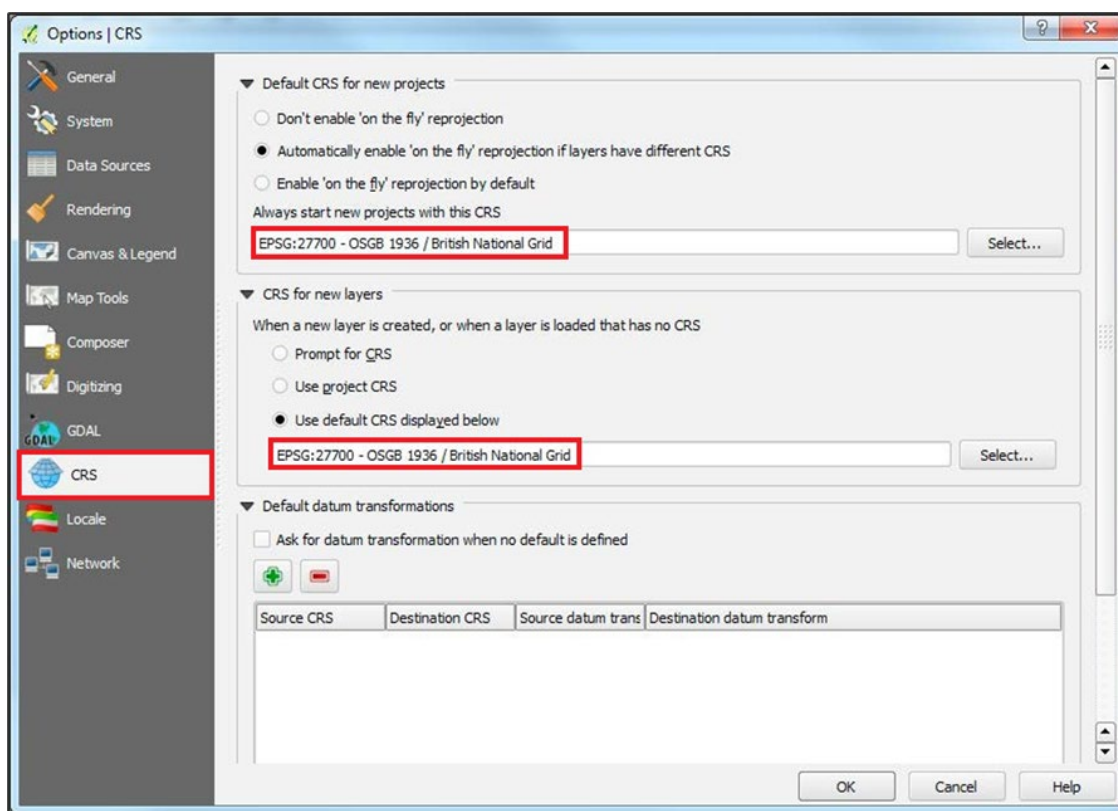
This section provides basic steps on loading the OS Detailed Path Network data into some common GI applications.

General information about using GIS with OS data is available on the [Using GIS software page on the OS website](https://www.ordnancesurvey.co.uk/business-government/tools-support/gis/using-gis) (<https://www.ordnancesurvey.co.uk/business-government/tools-support/gis/using-gis>).

3.1 QGIS

These instructions are based on QGIS 3.4 – a Long Term Release.

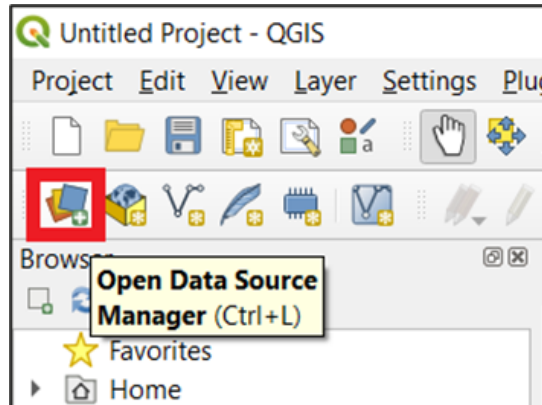
1. Launch QGIS and click *Settings > Options*.
2. Select CRS from the left-hand menu, then check that the coordinate reference system is set to *British National Grid* in the Default CRS for new projects section and in the CRS for new layers section.



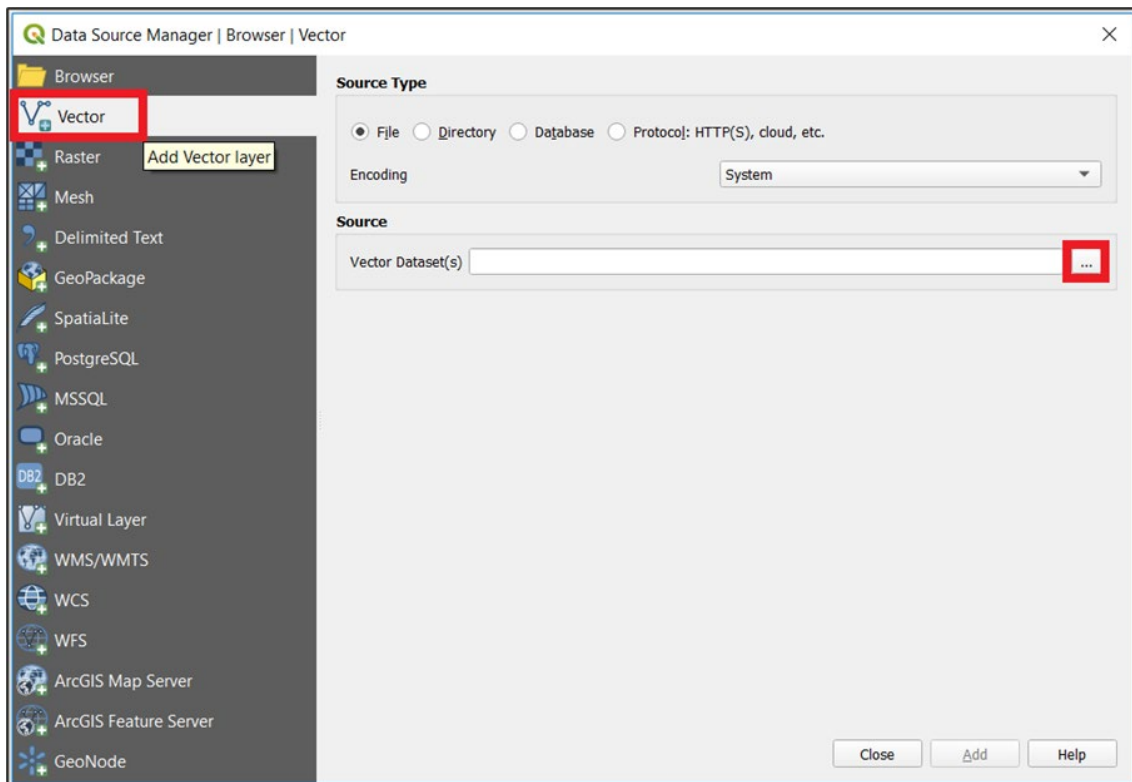
If British National Grid is not already set as the default CRS in these sections, click the *Select...* button at the end of each field and type 27700 into the filter box to find and select *British National Grid*. Alternatively, if you intend to use Latitude and Longitude columns, select *ETRS89 [EPSG: 4258]*.

3. Click OK.

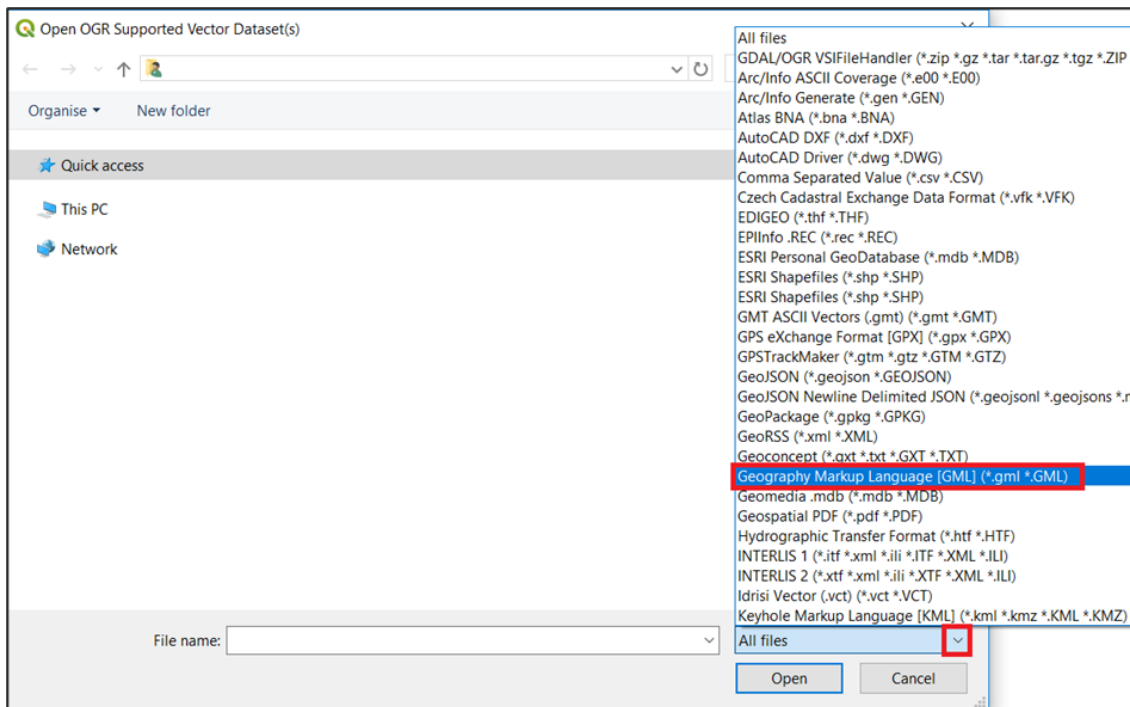
4. Back in the main window, open the *Data Source Manager*.



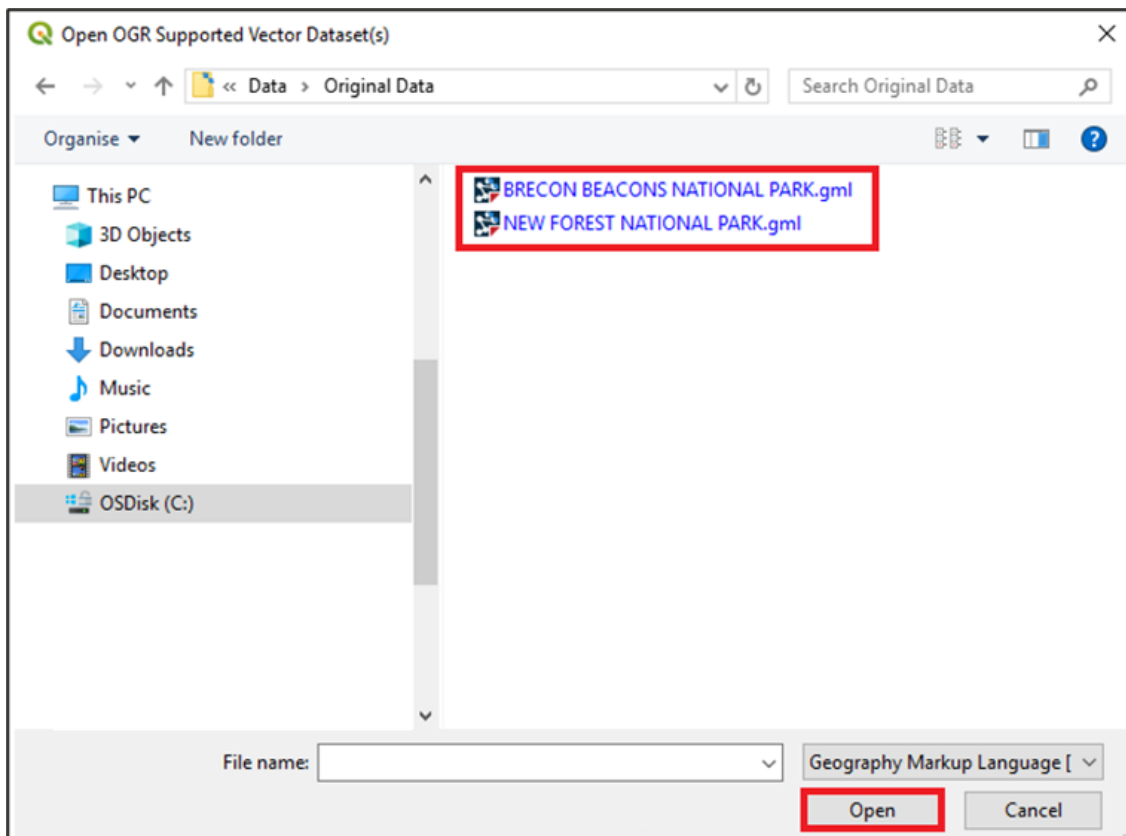
5. Select *Add Vector Layer* from the left-hand toolbar, and under *Source*, click the [...] button to browse to your Vector Dataset(s).



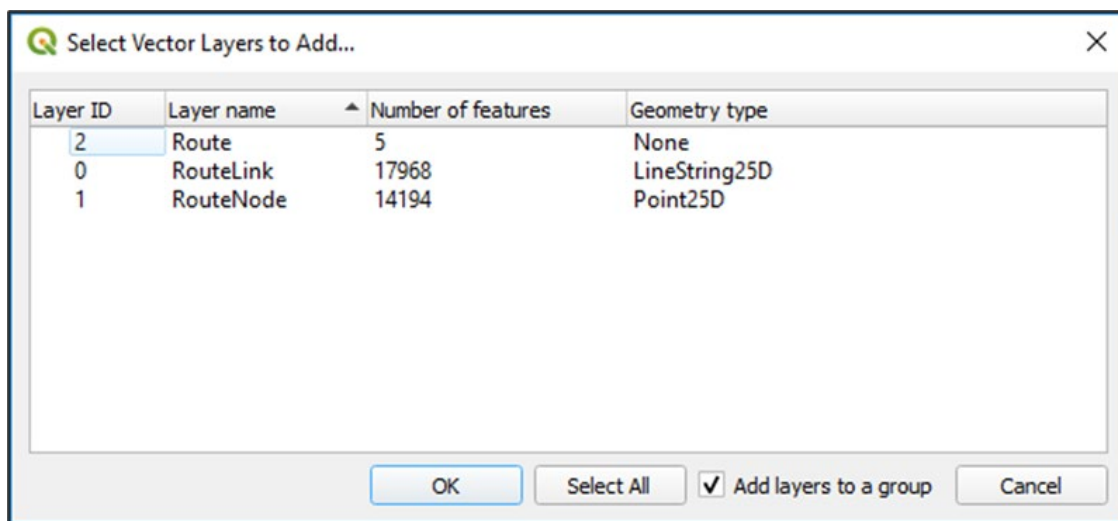
- Set the file type to show only Geography Markup Language (.gml) files, then browse to the folder where the OS Detailed Path Network data is located.



- Select the file(s) to be loaded and click *Open*.

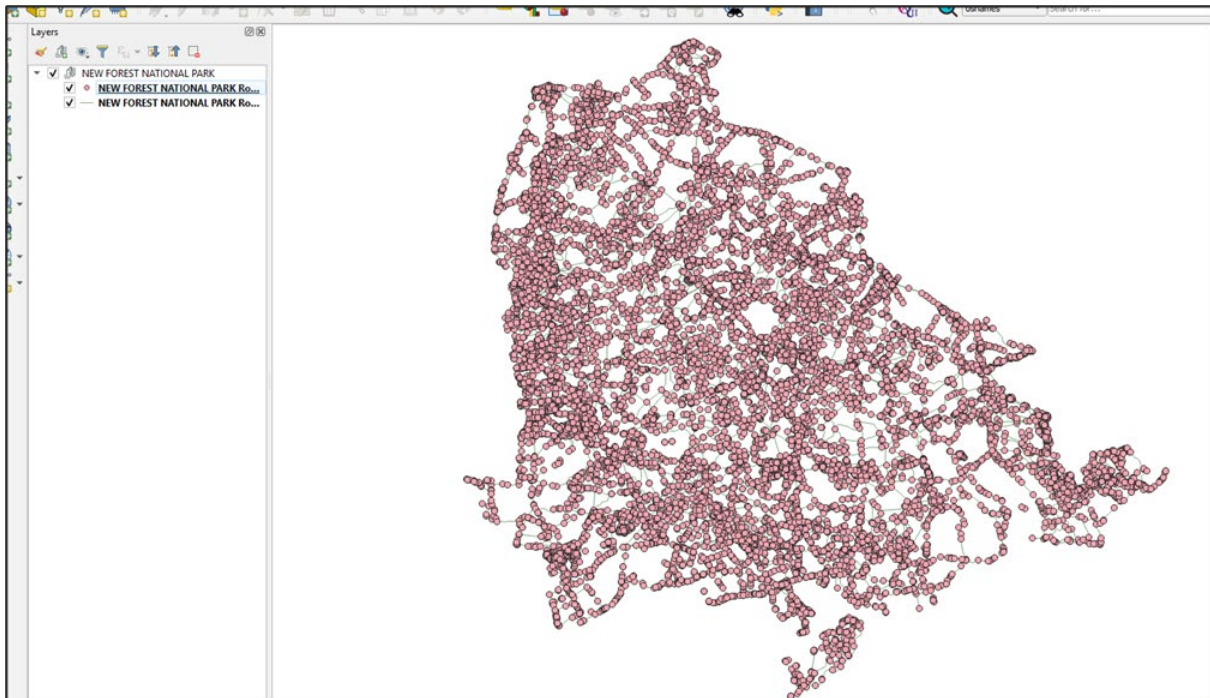


8. Click **Add**.
9. Next, select the Vector Layers you wish to load. There are three layers available for the OS Detailed Path Network product:
 - a. **Route** – A lookup table that records collections of links representing a named entity which forms a recognised and signed route that the public can use.
 - b. **RouteLink** – Line geometry representing the general alignment of roads, tracks, paths and rights of way.
 - c. **RouteNode** – Point geometry at the start or end of a RouteLink feature which is used to record the connectivity between links.



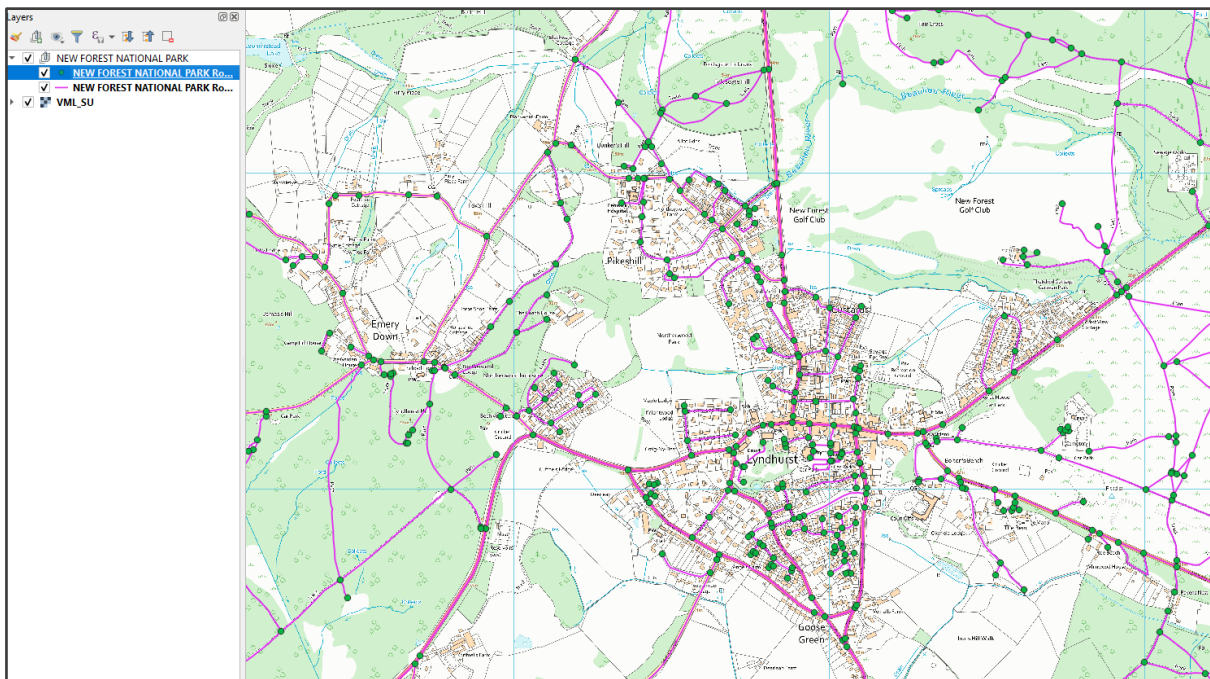
For further details on the product structure and attribution of these features, please refer to the OS Detailed Path Network Technical Specification document, which is available on the [OS Detailed Path Network Product Support page of the OS website](https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support) (<https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support>).

10. Select the *RouteLink* and *RouteNode* layers, then click *OK* to load the geometry into the QGIS map window.



11. The data can now be styled using the tools available within QGIS enhance visualisation of the data. Additionally, it can be overlaid on other datasets to provide a backdrop mapping context.

Note: GML data cannot be spatially indexed, which means rendering can be slow. To improve performance, we recommend that you save the data to another regular GI format, such as an ESRI shapefile.

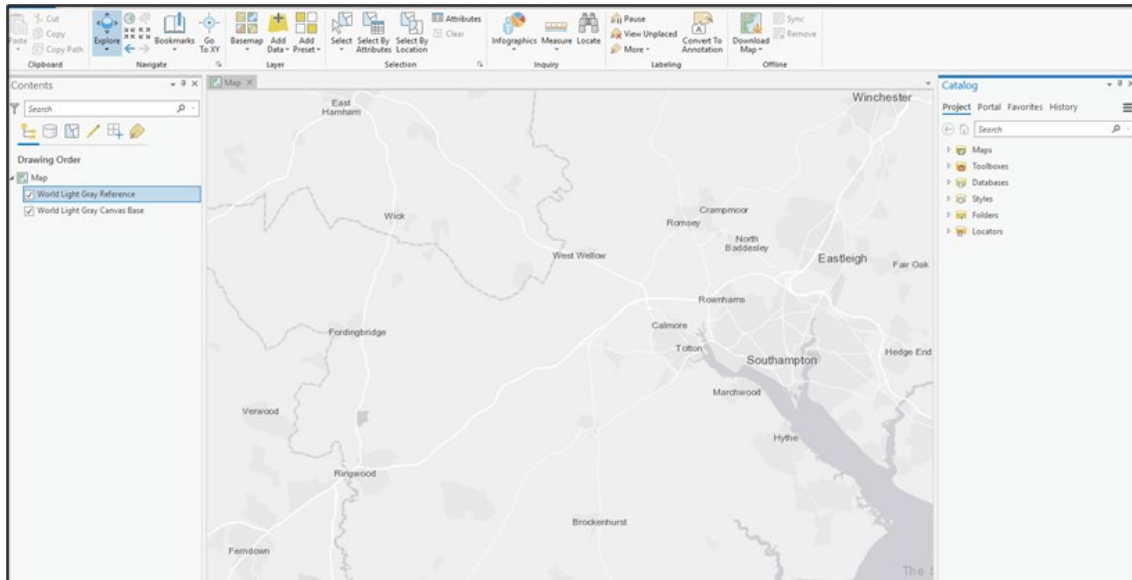


The preceding screenshot shows what the OS Detailed Path Network data can look like when it has been styled and superimposed upon other datasets, such as the OS VectorMap Local product.

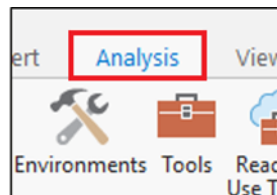
3.2 ArcGIS Pro

The following instructions are based on ArcGIS Pro version 2.3 and assume that users have knowledge of the Data Interoperability Extension to convert the supplied GML into a suitable ArcGIS Pro format.

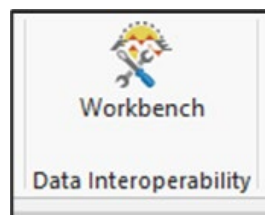
1. Open ArcGIS Pro and create a new project. You may wish to select a basemap for backdrop context.



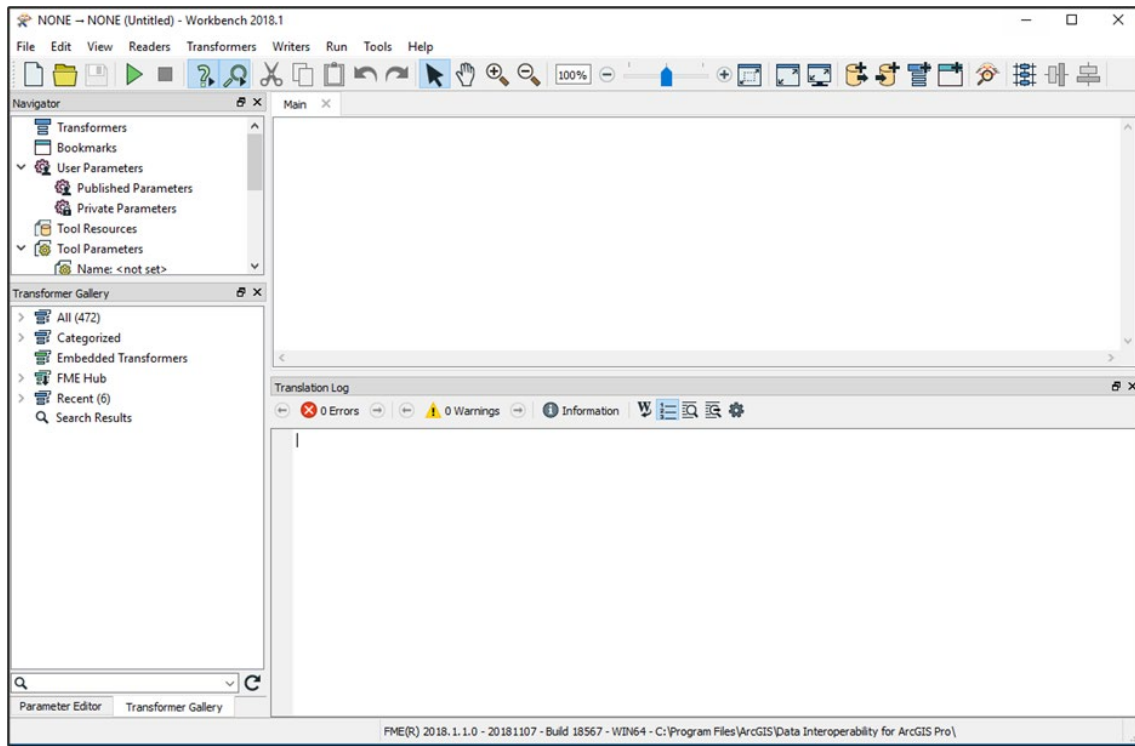
2. Click on the *Analysis* tab along the top menu.



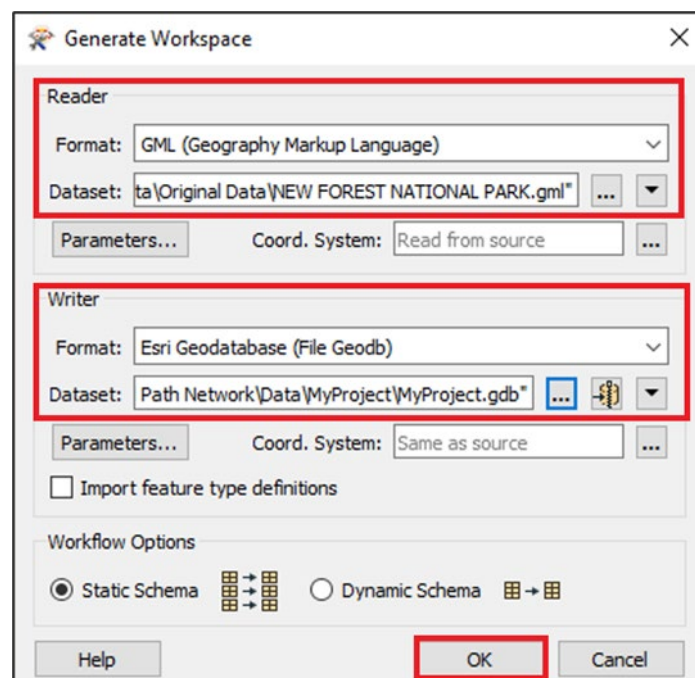
3. Select the *Workbench* option from the ribbon menu.



4. A new window will open, which provides access to the full interface of the Data Interoperability Extension. The next steps assume basic understanding of using this main interface of FME, which is an application provided by Safe Software that is embedded into ArcGIS Pro.



5. In this example, we will perform a simple conversion from GML to an ESRI file geodatabase using our OS Detailed Path Network's *New Forest National Park* dataset. Enter your parameters as shown in the following screenshot:



Reader (Input)

Format: GML (Geography Markup Language).

Dataset: Location of your downloaded OS Detailed Path Network dataset.

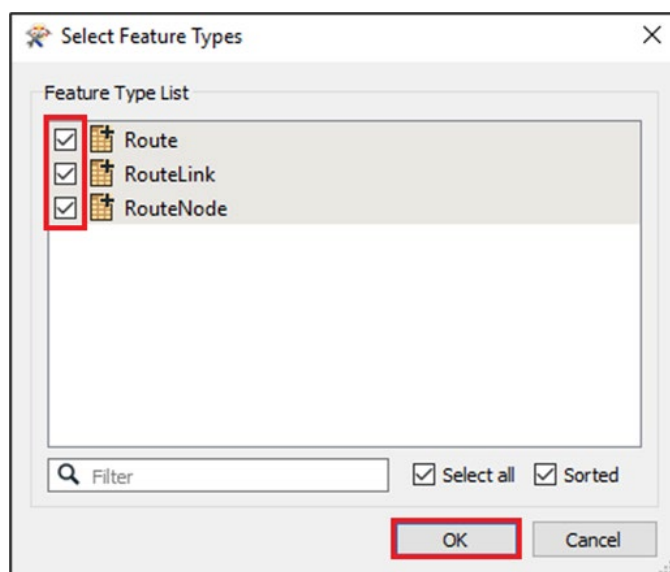
Writer (Output)

Format: Esri Geodatabase (File Geodb).

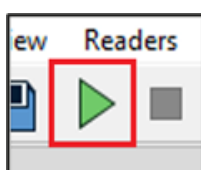
Dataset: Location of the file geodatabase generated upon creating the ArcGIS Pro project.

6. Click OK.
7. You will see three Feature Types listed in the Select Feature Types dialog box:
 - a. **Route** – A lookup table that records collections of links representing a named entity which forms a recognised and signed route that the public can use.
 - b. **RouteLink** – Line geometry representing the general alignment of roads, tracks, paths and rights of way.
 - c. **RouteNode** – Point geometry at the start or end of a RouteLink feature which is used to record the connectivity between links.

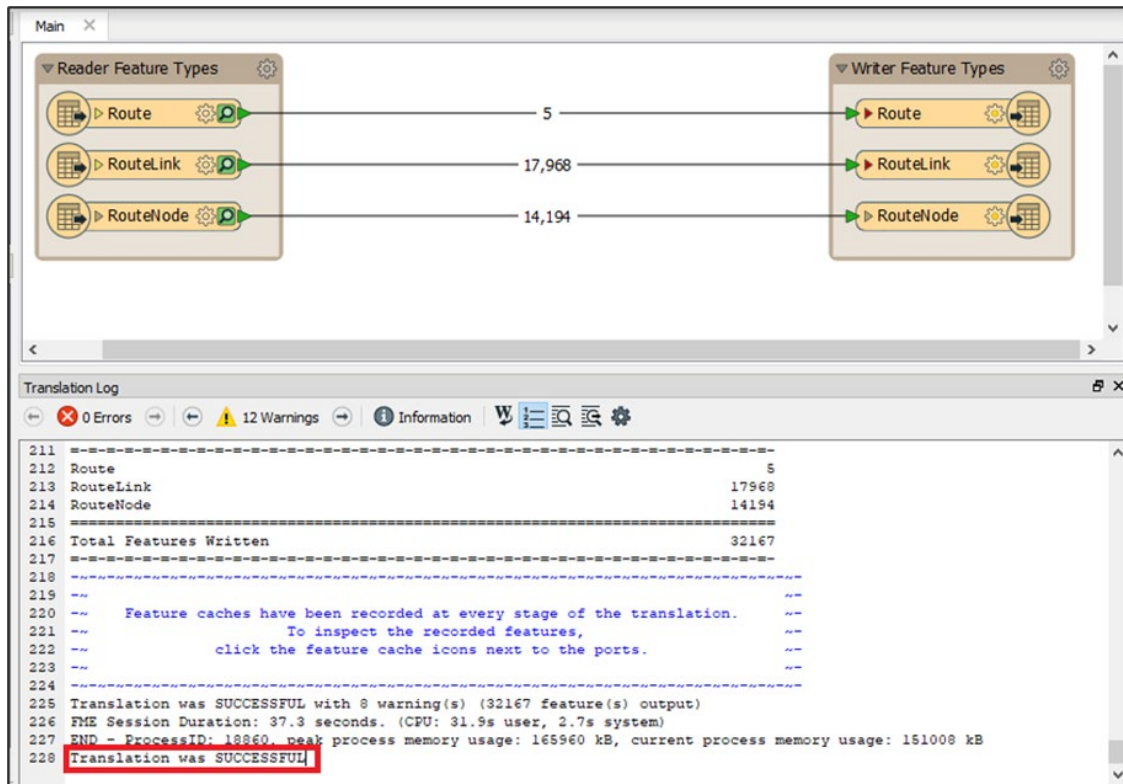
For further details on the product structure and attribution of each of the feature types, please refer to the OS Detailed Path Network Technical Specification document, which is available on the [OS Detailed Path Network Product Support page of the OS website](https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support) (<https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support>).



8. Tick the Feature Types you wish to translate, then click OK.
9. To start the workbench, click the green Run arrow at the top of the window.

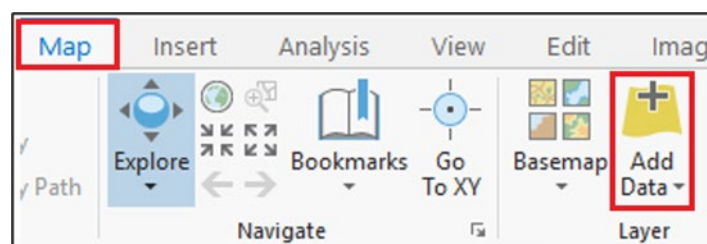


10. The translation will run. Wait until you see the final log message *Translation was successful*.

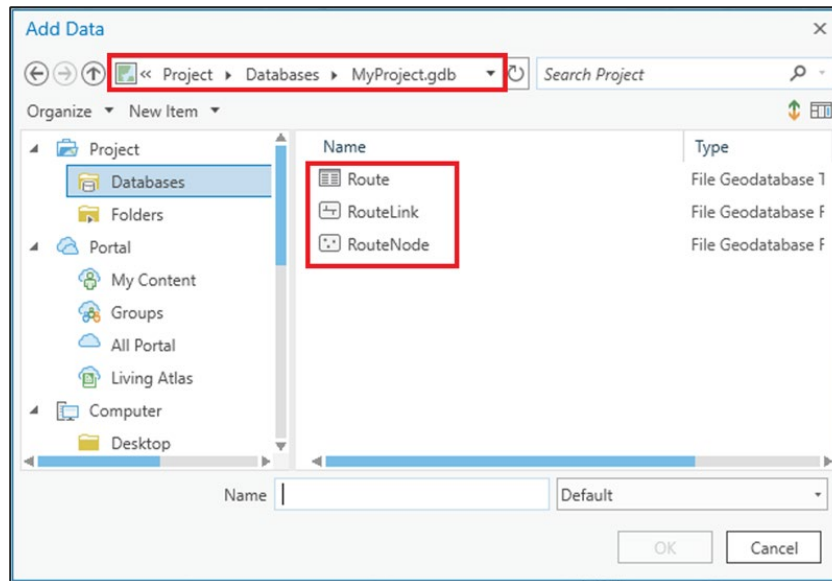


Note: You may wish to keep these conversion settings for future use by clicking the Save button.

11. The features have now been written to the file geodatabase. Close the Interoperability workbench window.
12. Next, load your translated data in the file geodatabase by selecting the *Map* tab at the top of the main window, followed by *Add Data*.

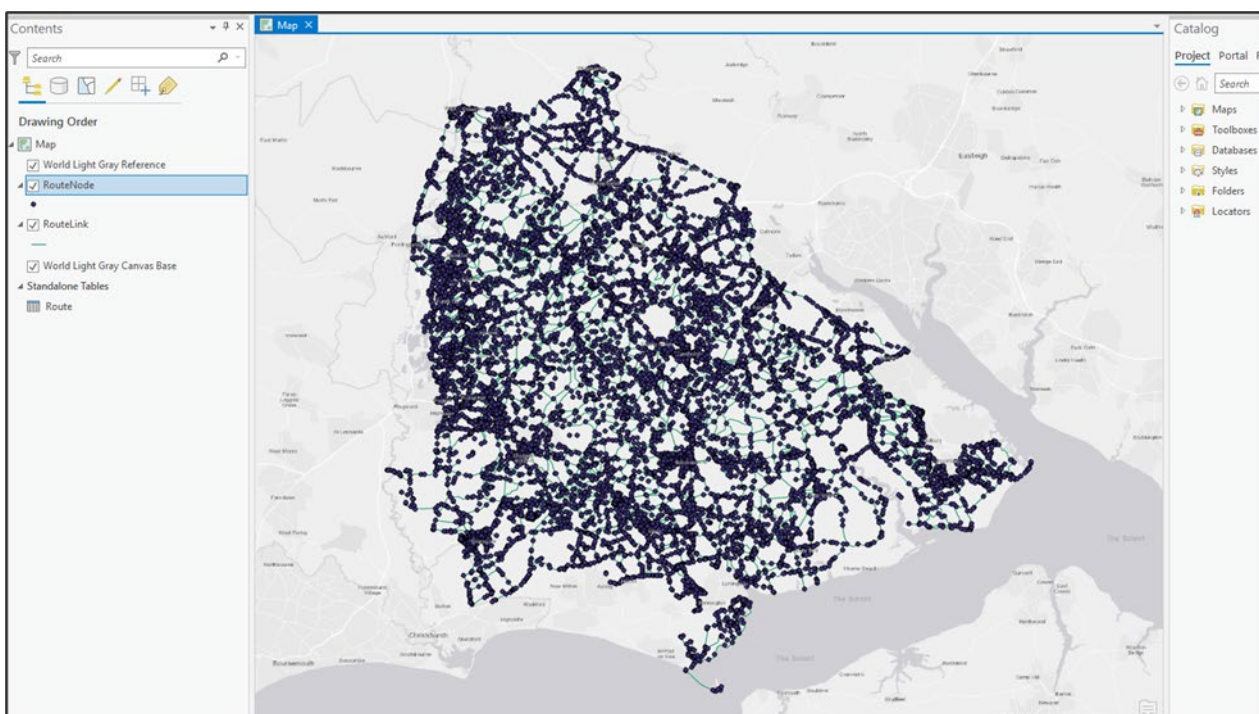


13. Navigate to where the file geodatabase (.gdb) is stored and select it.



14. Select the features you require from Route, RouteLink and / or RouteNode, then click OK.

15. You should see your selected features with geometry appear in the main map window. You can style or annotate this using the various ArcGIS Pro tools and options available.



Note: The file geodatabase created using the Interoperability Extension can also be opened in older versions of ArcMap. This is described in the following section.

3.3 ArcMap

These instructions are based on ArcMap version 10.5.

Note: Section 3.3.1 requires users to have access to a licence for ArcGIS Pro and knowledge of converting files with the appropriate Interoperability Extension. The following steps show how to load a file geodatabase that has been created using the steps outlined in the prior ArcGIS Pro section.

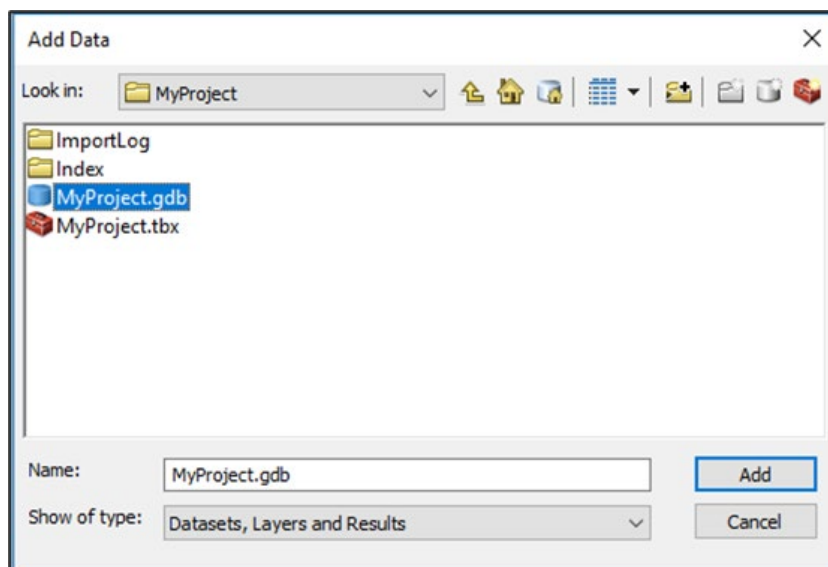
Note: If you do not have a licence for ArcGIS Pro and / or the Full Data Interoperability Extension, [Section 3.3.2](#) steps through how to create a file geodatabase using the free ArcMap version of the Data Interoperability tool.

3.3.1 Loading a file geodatabase in ArcMap

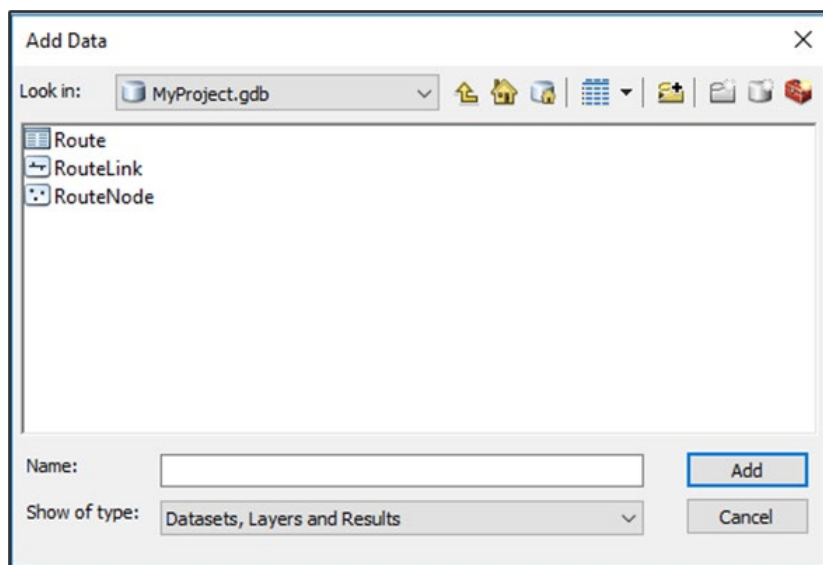
1. Launch ArcMap.
2. Click the *Add Data* button in the top menu.



3. Navigate to the file geodatabase (.gdb) created using ArcGIS Pro's Interoperability Extension (see the notes above and the instructions in the previous section).

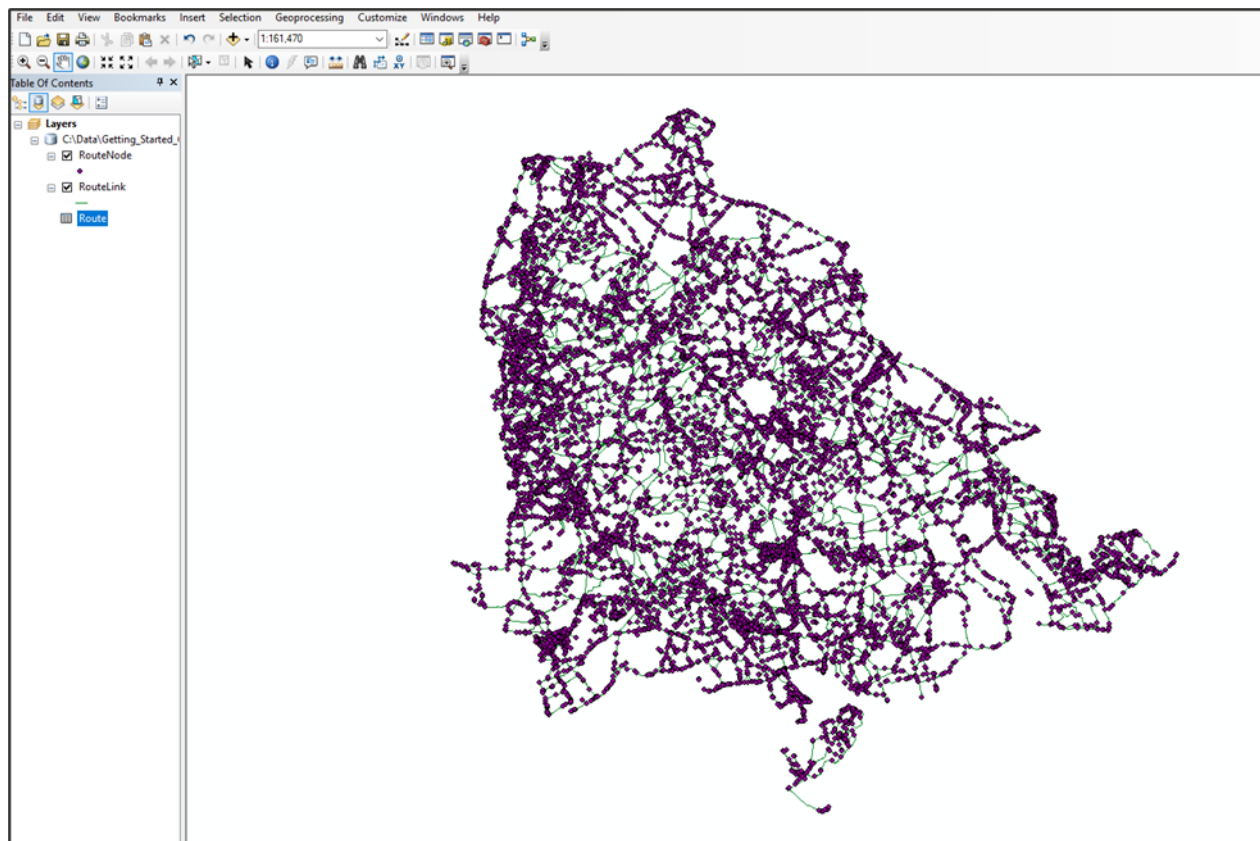


4. Select the file geodatabase (.gdb) and click *Add*.
5. You'll see three Feature Types listed:
 - a. **Route** – A lookup table that records collections of links representing a named entity which forms a recognised and signed route that the public can use.
 - b. **RouteLink** – Line geometry representing the general alignment of roads, tracks, paths and rights of way.
 - c. **RouteNode** – Point geometry at the start or end of a RouteLink feature which is used to record the connectivity between links.



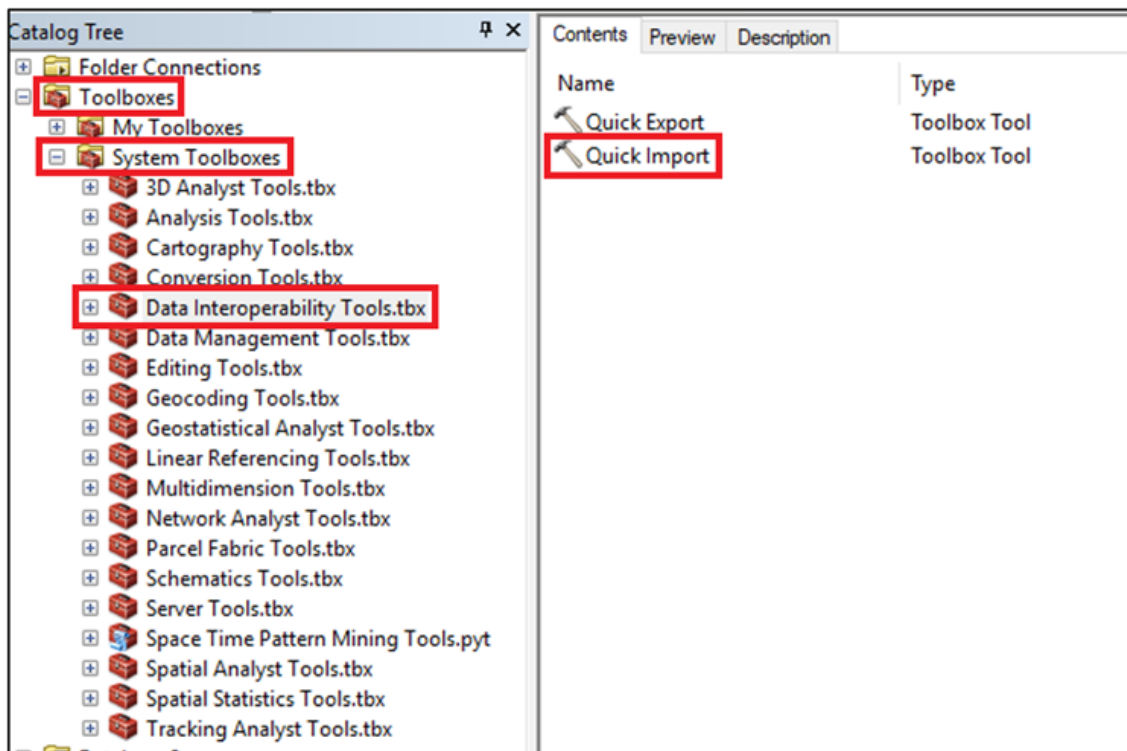
For further details on the product structure and attribution of each of the feature types, please refer to the OS Detailed Path Network – Technical Specification document, which is available on the [OS Detailed Path Network Product Support page of the OS website](https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support) (<https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support>).

6. Select the features required and click *Add*.
7. The selected features with geometry will load into the main map window. You can now select a suitable mapping backdrop and style the map using the symbology tools available within ArcMap.

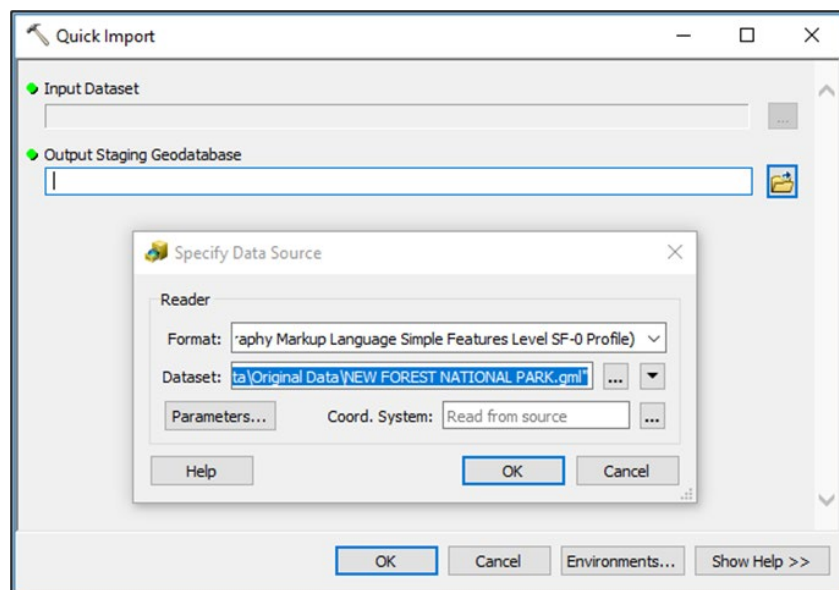


3.3.2 Converting GML to a file geodatabase and loading with ArcMap

1. Open ArcCatalog and open the *Arc Toolbox* window.
2. Select *System Toolboxes*, then *Data Interoperability Tools* and click *Quick Import*.

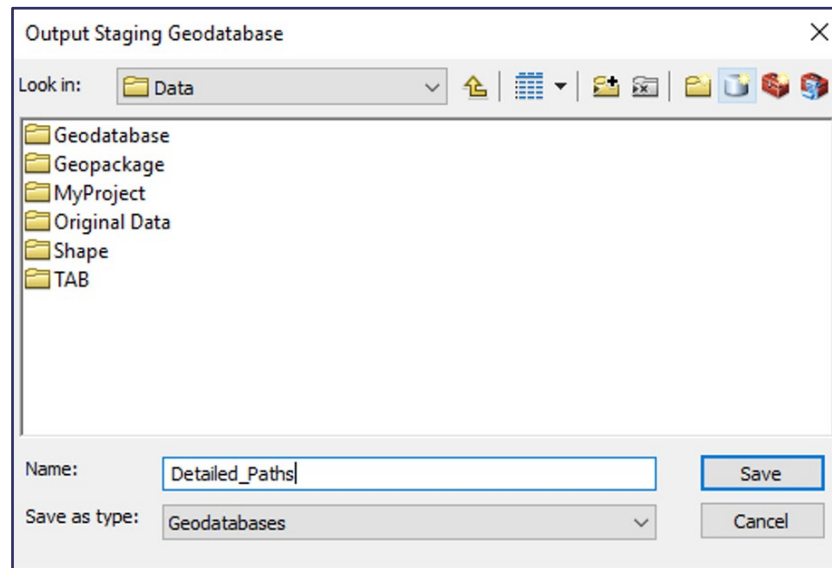


3. Click on the [...] button next to the Input Dataset box, then navigate to the location of your OS Detailed Path Network GML data and select it.



4. Click OK.

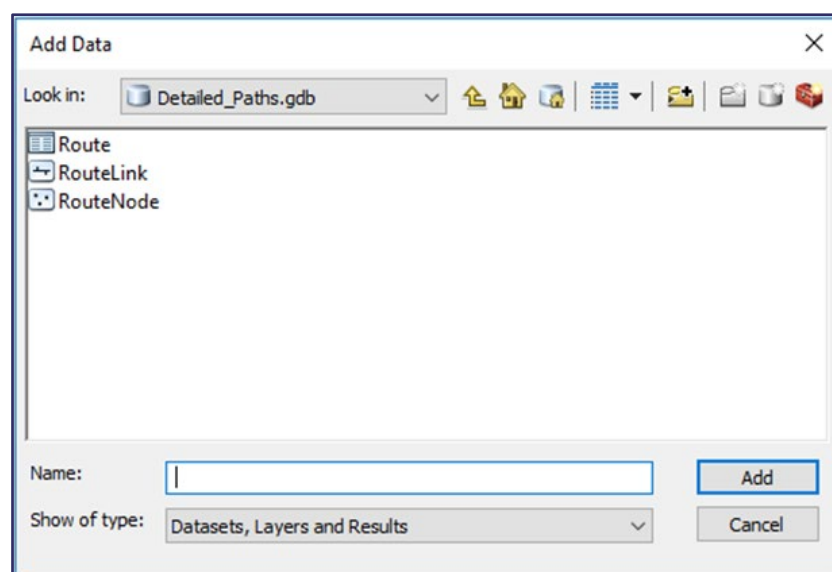
5. In the *Output Staging Geodatabase* option, give the new file geodatabase a suitable name in the Name section, then click **Save**.



6. Click **OK** to start the Quick Import.
7. A message will appear in ArcCatalog when the process is complete. Once the process has finished, start ArcMap or select it if it is already running.
8. Click *Add Data* from the top menu.

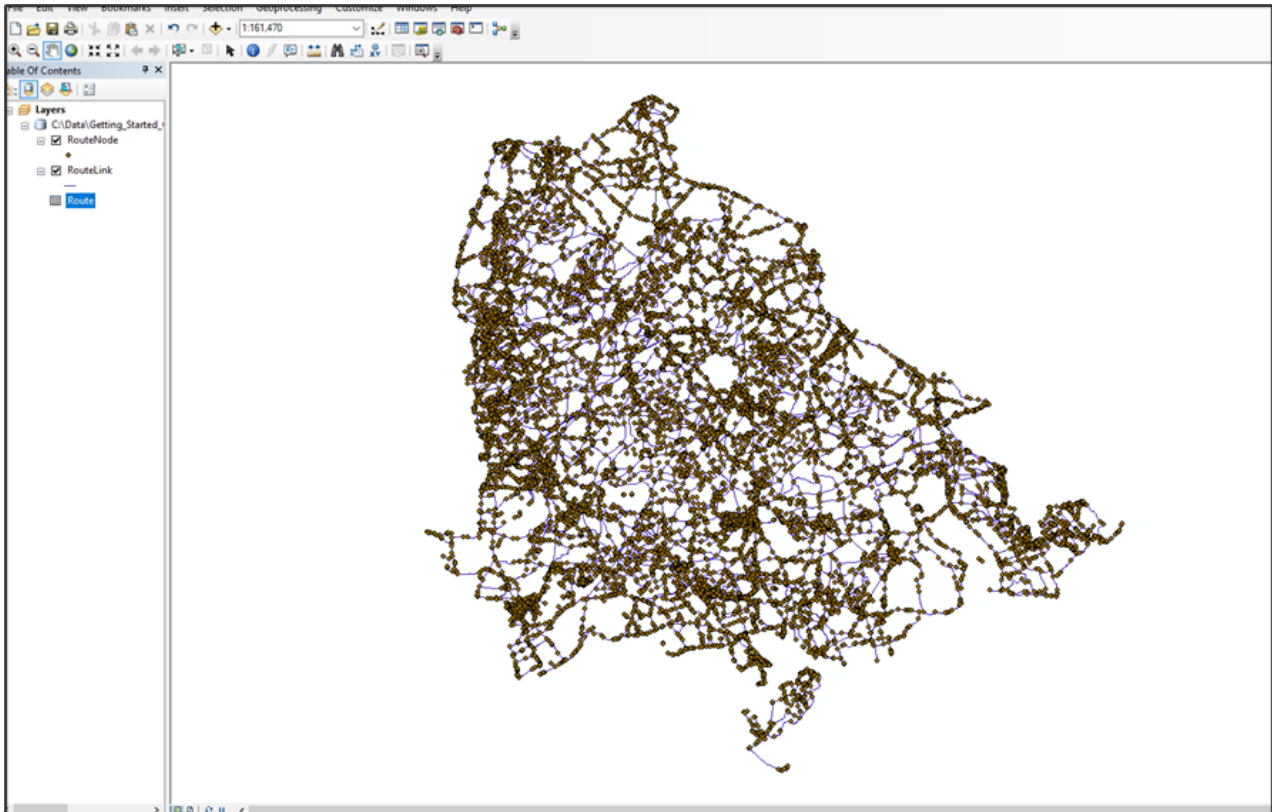


9. Navigate to the new file geodatabase that you just created in Step 5.



10. You'll see the features of OS Detailed Path Network available for loading (Route, RouteLink and RouteNode). Select the features you require, then click **Add**.

11. The OS Detailed Path Network data will now load into the map window of ArcMap. You can now select a suitable mapping backdrop and style the map using the symbology tools available within ArcMap.

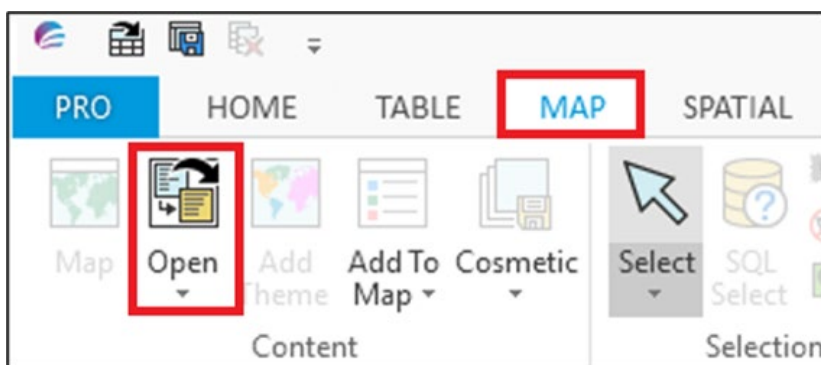


12. When you're finished styling your map, save the project as a .MXD file.

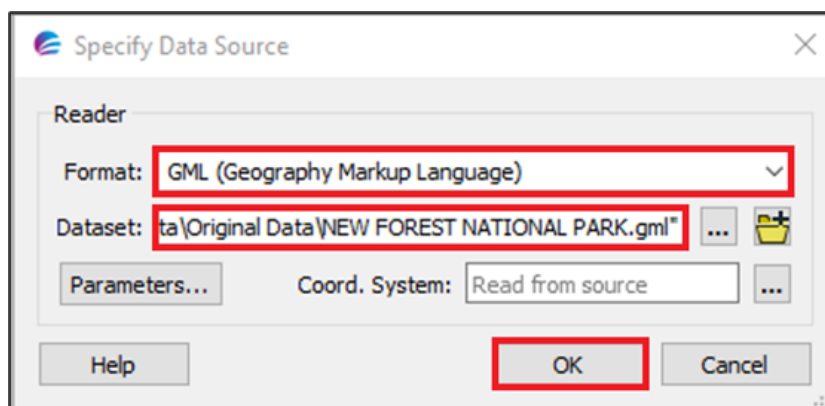
3.4 MapInfo Professional

The following instructions are based on MapInfo Professional version 16.0.4.

1. Open MapInfo Professional.
2. Select the **MAP** tab at the top of the ribbon menu. Click *Open > Universal Data*.



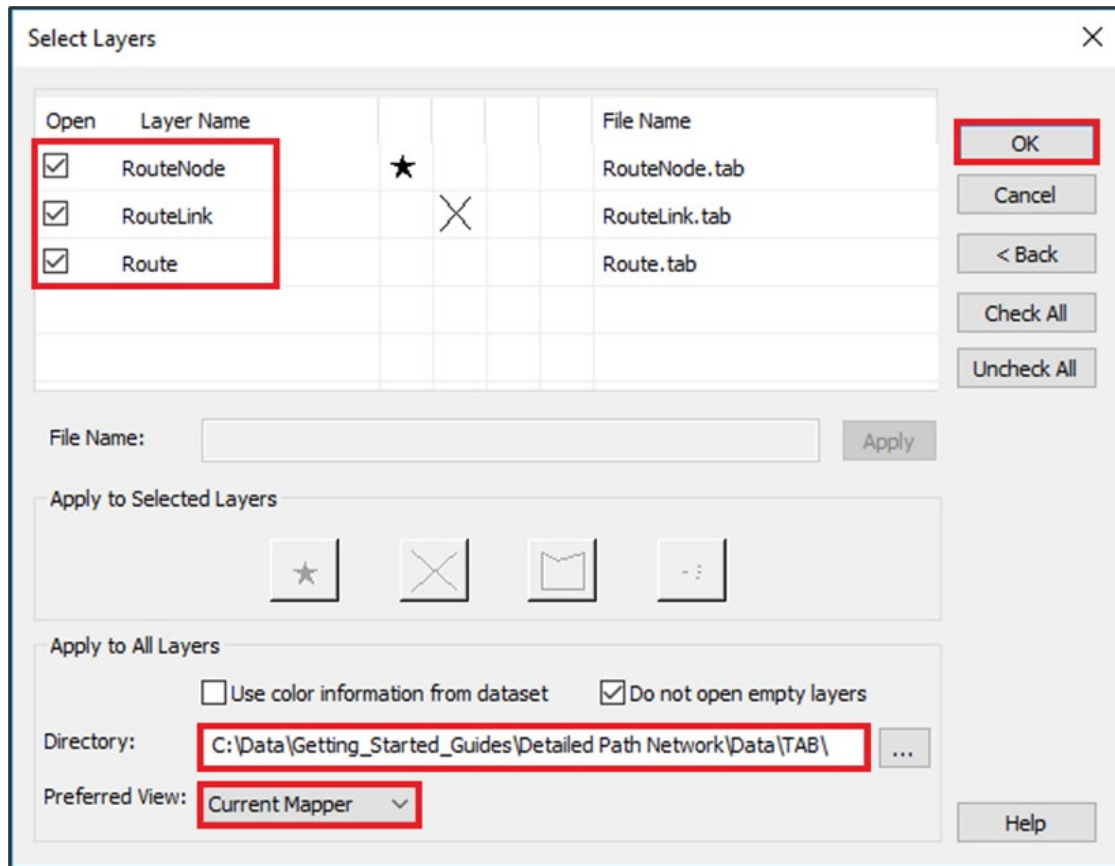
3. In the Specify Data Source dialog box that opens, select **GML** as the Format to be converted, then click the [...] button at the end of Dataset field and navigate to the OS Detailed Path Network GML file. Select that file and click **OK**.



4. You'll see three layers listed in the Select Layers dialog box that opens:
 - a. **Route** – A lookup table that records collections of links representing a named entity which forms a recognised and signed route that the public can use.
 - b. **RouteLink** – Line geometry representing the general alignment of roads, tracks, paths and rights of way.
 - c. **RouteNode** – Point geometry at the start or end of a RouteLink feature which is used to record the connectivity between links.

For further details on the product structure and attribution of each of the features, please refer to the OS Detailed Path Network – Technical Specification document, which is available on the [OS Detailed Path Network Product Support page of the OS website](https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support) (<https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support>).

5. Tick the layers you require.

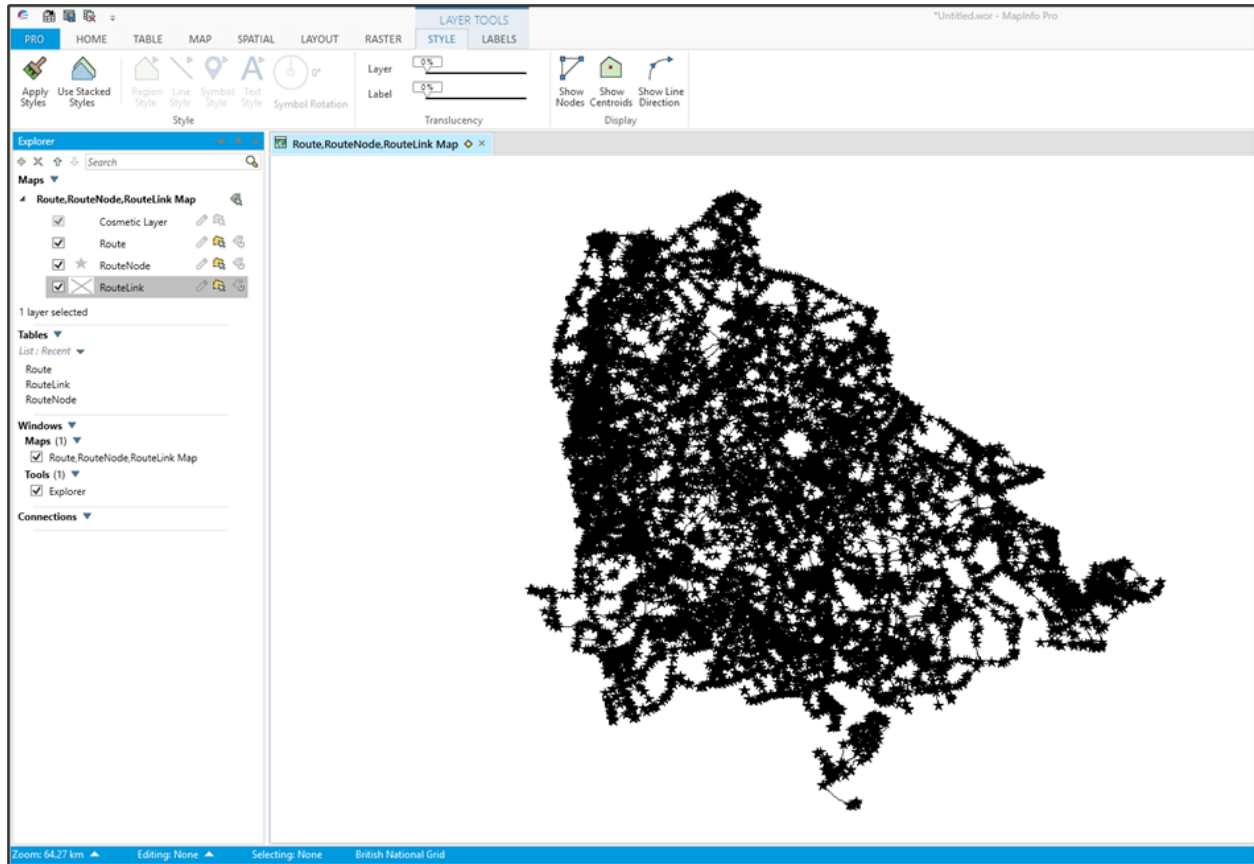


6. The Import process converts these layers from GML to TAB format. In the Directory box, navigate with the [...] button to the location you wish to import the TAB files.

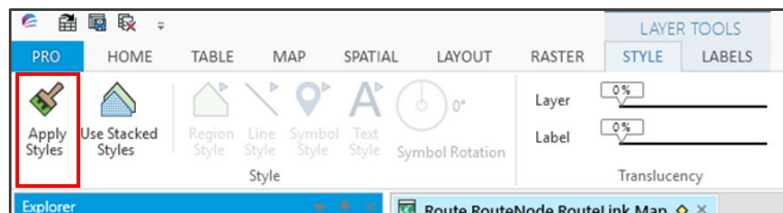
Note: Optionally, you'll see you can apply styling at this point, though this can also be applied after the import. Additionally, in the Preferred View box, you can either add each layer to the Current Mapper or create a New Mapper. In this example, we'll add to the Current Mapper to automatically load the converted layers.

7. Click OK to begin the translation from GML to TAB.

8. MapInfo Professional will automatically load the converted layers into the map window.

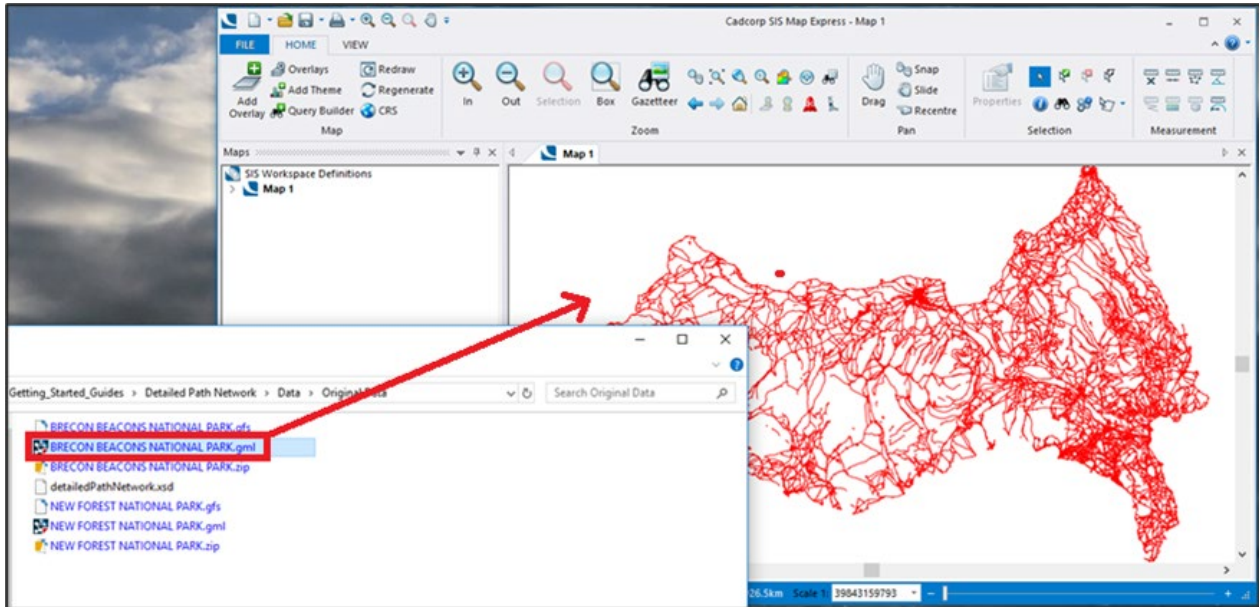


Note: Styling can be added using the Apply Styles button which can be found under the Layer Tools tab on the top menu.



3.5 Cadcorp SIS Map Express

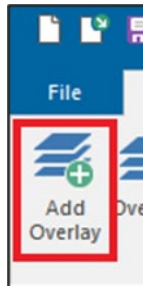
Cadcorp SIS Map Express is a free viewer that automatically loads OS Detailed Path Network GML data. Simply open the application and drag and drop the GML file into the map window, as shown in the following screenshot:



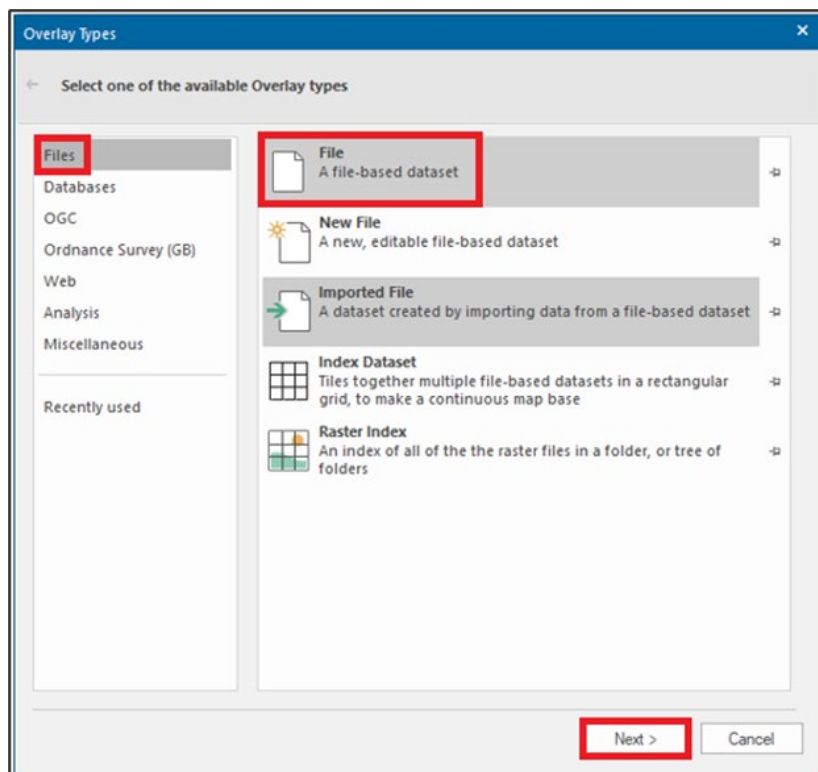
3.6 Cadcorp SIS Map Modeller

The following instructions are based on the full application of Cadcorp SIS Map Modeller version 9.

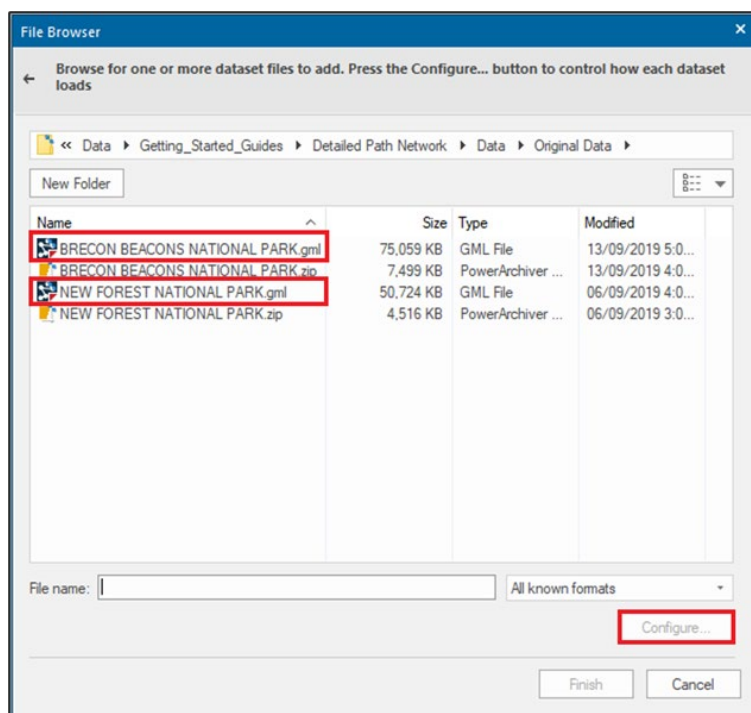
1. Launch Cadcorp Map Modeller.
2. In the main Cadcorp map application window, select *Add Overlay* from the top menu.



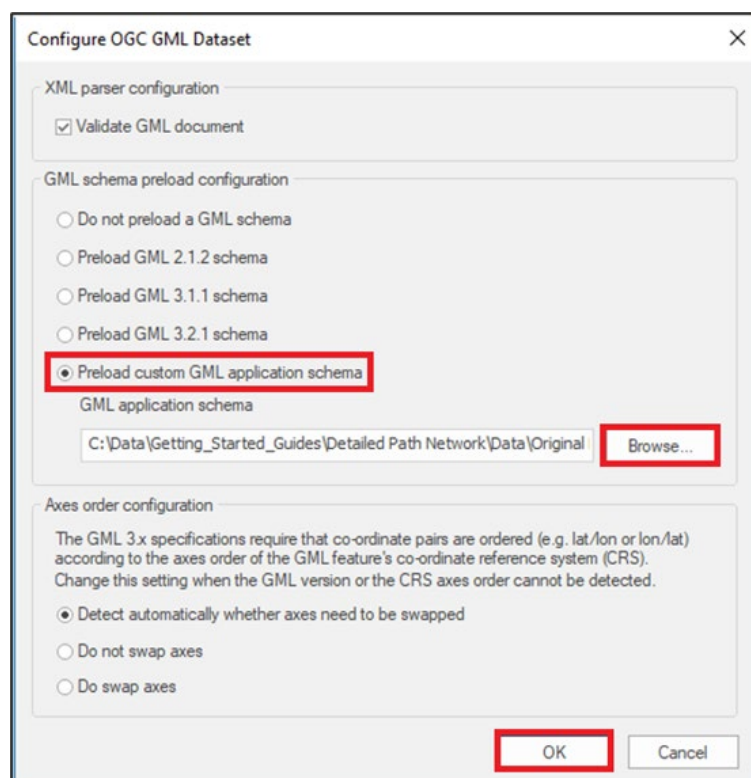
3. In the Overlay Types dialog box that opens, select *Files > File > Next*.



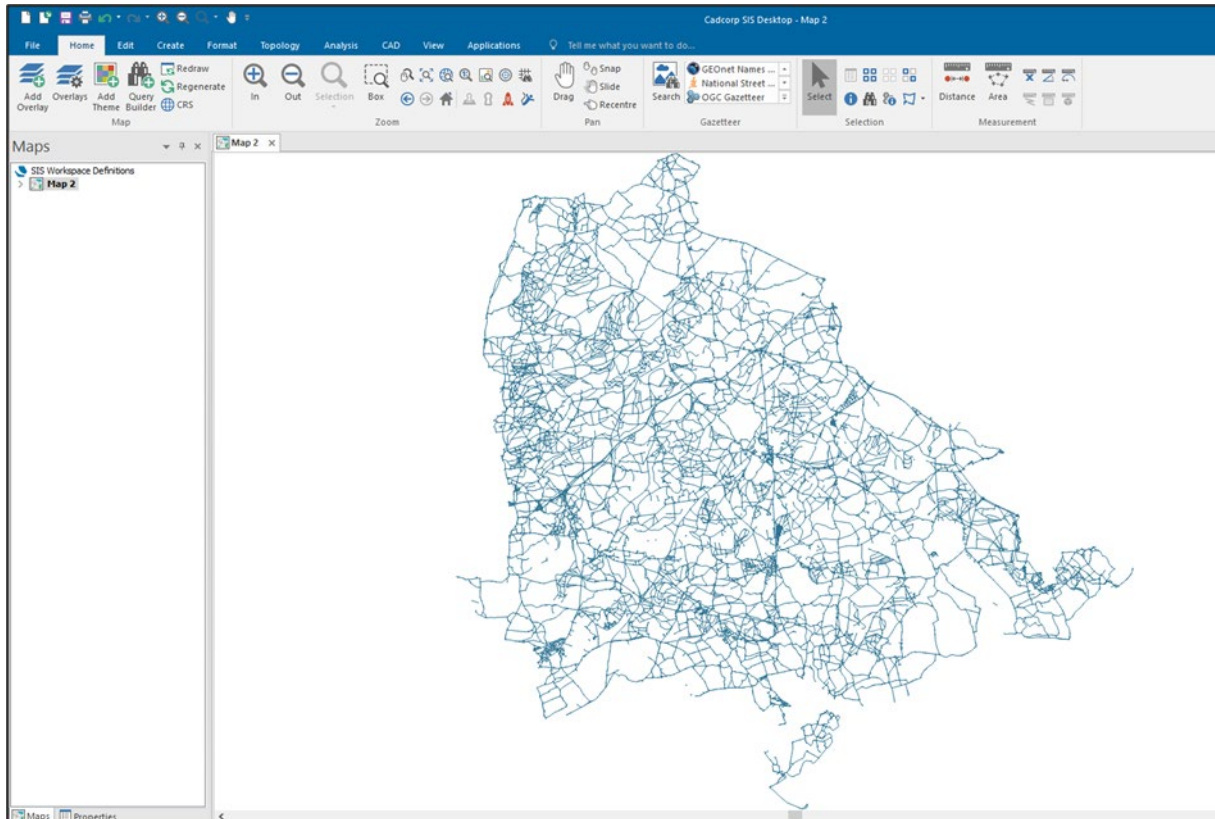
4. Navigate to where you've placed the OS Detailed Path Network data and click on the relevant GML file(s).



5. At this point, you can also apply the [OS XSD schema](https://www.ordnancesurvey.co.uk/xml/schema/detailedPathNetwork/v1/detailedPathNetwork.xsd) (<https://www.ordnancesurvey.co.uk/xml/schema/detailedPathNetwork/v1/detailedPathNetwork.xsd>; the schema is detailed in [Section 2.1](#) of the guide) by clicking *Configure > Preload custom GML application schema*. Click *Browse...* and navigate to the folder where you downloaded the schema file. Select it and click *OK*.



6. Click *Finish*. The data will now load into the main map window.



The full Cadcorp SIS Map Modeller application allows you to apply different styles to the data as required. If you wish, these styles can be saved as documents for future use, and they will also work in the free Cadcorp SIS Map Express application (see [Section 3.5](#) for more information on that application).

4. Loading the data (GeoPackage format)

This getting started guide focuses solely on using the product in GML format. For guidance on using the product in GeoPackage format, please see the [Getting Started with GeoPackage guide](https://www.ordnancesurvey.co.uk/documents/getting-started-with-geopackage.pdf) (<https://www.ordnancesurvey.co.uk/documents/getting-started-with-geopackage.pdf>) which is available on the OS website.

5. Loading the data (vector tiles format)

This getting started guide focuses solely on using the product in GML format. For guidance on using the product in vector tiles format, please see the [Getting Started with Vector Tiles guide](https://www.ordnancesurvey.co.uk/documents/user-guides/getting-started-with-vector-tiles-v1.0.pdf) (<https://www.ordnancesurvey.co.uk/documents/user-guides/getting-started-with-vector-tiles-v1.0.pdf>) which is available on the OS website.

Annex A: Product support links

- [OS Detailed Path Network Product Support page on the OS website](https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support)
(<https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support>)
- [OS Detailed Path Network Overview document](https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support) (<https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support>)
- [OS Detailed Path Network Technical Specification document](https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support)
(<https://www.ordnancesurvey.co.uk/business-government/tools-support/path-network-support>)
- [OS Detailed Path Network product schema](https://www.ordnancesurvey.co.uk/xml/schema/detailedPathNetwork/v1/detailedPathNetwork.xsd)
(<https://www.ordnancesurvey.co.uk/xml/schema/detailedPathNetwork/v1/detailedPathNetwork.xsd>)
- [Getting Started with GeoPackage guide on the OS website](https://www.ordnancesurvey.co.uk/documents/getting-started-with-geopackage.pdf)
(<https://www.ordnancesurvey.co.uk/documents/getting-started-with-geopackage.pdf>)
- [Getting Started with Vector Tiles guide on the OS website](https://www.ordnancesurvey.co.uk/documents/user-guides/getting-started-with-vector-tiles-v1.0.pdf)
(<https://www.ordnancesurvey.co.uk/documents/user-guides/getting-started-with-vector-tiles-v1.0.pdf>)