

'England, Wales and Scotland Rail Lines 1807-1994 GIS shapefile documentation'
by Max Satchell

filename: EngWalesScotRail_Lines.shp

Time dynamic ArcGIS shapefile of 10,596 polylines representing 20,427.8 miles of railway lines open for public carriage of passengers and/or freight for England, Wales and Scotland between 1807 and 1994. This dataset is structured so that it can generate a GIS of rail lines for any given year between these dates.

A number of individuals and organisation contributed funding, time and expertise to make the time dynamic rail line GIS possible, and it is important to document their various contributions. The late Michael Cobb spent 18 years of his retirement researching and mapping every line and station complete with opening and closing dates and company information for the entire public rail network of England, Wales and Scotland from 1807 to 1994. He completed this work in 1996 at the age of 80, which he published as a highly acclaimed two volume atlas in 2003.¹

In 2006 Leigh Shaw-Taylor and Tony Wrigley were awarded a grant by the ESRC for the project 'The Occupational Structure of 19th Century Britain'.² This project included GIS snapshots of the rail lines and stations of England, Wales and Scotland at three dates: 1851, 1861 and 1881. Max Satchell identified the potential of the Cobb atlas for the creation of both the ESRC snapshots and a much more ambitious time dynamic historical rail GIS dataset. He made the initial contact with Cobb, and then with Tony Wrigley, Leigh Shaw-Taylor and Jordi Martí-Henneberg of the Departament de Geografia i Sociologia, Universitat de Lleida, sought and obtained permission from Cobb for a GIS digitisation from the revised 2005 reprint of his Atlas.

The digitisation work was restricted to overland rail lines, stations with their opening and closing dates and the London Underground was entirely omitted. This work was done by the team led by Martí-Henneberg in Lledia thanks to generous funding from a variety of sources including the Spanish Ministry of Science and Education (2007-2010), and the Anglo-Catalan Society (2008-9).³ For reasons of copyright, use of this GIS has to be limited to the Cambridge and Lledia teams and their collaborators, though permission was granted for the release to the general academic community of snapshots of the stations and lines extant at 3 dates: 1851, 1861 and 1881.⁴

¹ M.H. Cobb, *The Railways of Great Britain, a Historical Atlas at the scale of 1 inch to 1 mile*, 2 vols., (Shepperton, Ian Allan Publishing, 2003). In 2007 Cobb aged 91 was awarded a PhD for his Atlas, and in so doing became the oldest person ever to receive a PhD from the University of Cambridge.

² LCAG/080 RG43990

³ SEJ2007-64812

⁴ Jordi Martí Henneberg is the corresponding author for the time dynamic rail GIS: Martí.henneberg@geosoc.udl.cat

In 2014-2016 the London underground was added along with further upgrades including systematic check of the entire station GIS against the Cobb Atlas. These improvements were made possible by the Leverhulme funded project 'Transport, urbanisation and economic development in England, c.1670-1911'.¹ The Underground work was done by Satchell, Xuesheng You and Beyza Kılıç, an Erasmus funded intern from Faith University, Istanbul, under the supervision of Satchell. The checking exercise added over 300 previously omitted stations and a few omitted lines, and corrected a significant number of digitisation errors in the attribute data. This work was initially done by Kılıç under the supervision of Satchell but the majority of it was executed by You and Annette McKenzie, whose work You also supervised.

Our thanks go to Michael Cobb for permission to create a GIS from his wonderful Atlas, to his cartographer Colin McCarthy for advice and help, and to the ESRC, the Leverhulme Trust, the Spanish Ministry of Science and Education and the Anglo-Catalan Society for their generous funding. The shapefile comprises the standard ArcGIS .shx, .shp, .sbx, .sbn, .prj and .dbf files. The dbf file is described below.

Attribute data

EngWalesScotRail_lines.dbf

The dbf table contains the following fields.

| <i>Field</i> | <i>Data type</i> | <i>Description</i> |
|------------------|------------------|-------------------------------------|
| FID | Object ID | Unique ID for each row in the table |
| Shape | Polyline | Polyline/s for each rail line |
| ID | Long | Fixed unique identifier |
| TUNNEL | Short | Tunnel "0" = no, "1" = yes |
| RW_OPEN | Short | Date open |
| RW_CLOSED | Short | Date closed |
| Length | Long | Miles |

Co-ordinate system

British_National_Grid

Projection: Transverse_Mercator

False_Easting: 400000.000000

False_Northing: -100000.000000

Central_Meridian: -2.000000

Scale_Factor: 0.999601

Latitude_Of_Origin: 49.000000

Linear Unit: Meter

GCS_OSGB_1936

Datum: D_OSGB_1936

Citation guidelines

Minimum citation

Martí-Henneberg, J., Satchell, M., You, X., Shaw-Taylor, L., Wrigley E.A., 'England Wales and Scotland rail lines shapefile' (2017).

This dataset was created thanks to generous funding from the ESRC (LCAG/080 RG43990), the Spanish Ministry of Science and Education (SEJ2007-64812), the Anglo-Catalan Society and the Leverhulme Trust (RPG-2013-093). A description of the dataset can be found in Satchell, M, 'England, Wales and Scotland Rail Lines GIS shapefile documentation' (2017, 2010) available at: <http://www.geog.cam.ac.uk/research/projects/occupations/datasets/documentation.html>

Optional extra

Martí-Henneberg, J., Satchell, M., You, X., Shaw-Taylor, L., 'Railway Lines of England and Wales 1807-1994 dynamic GIS shapefile (2017)' This is an enhanced version of Martí-Henneberg, J., Tapiador, F., Satchell, M., Shaw-Taylor, L., and Wrigley, E.A., 'Railway Lines of England and Wales 1807-1994 dynamic GIS shapefile' (2008). The Martí-Henneberg *et al* dataset is a GIS digitisation of the rail lines in M.H. Cobb, *The Railways of Great Britain, a Historical Atlas at the scale of 1 inch to 1 mile*, 2 vols., (Shepperton, Ian Allan Publishing, 2005).

Citation notes

Notes

1 The minimum citation text is the minimum citation necessary to meet our obligations to UKDA and normal scholarly standards. The optional extra goes beyond this but we recommend adding this to the minimum citation text to make clear we did not create the dataset from scratch.

2 If on a second reference to the dataset you need an abbreviated reference, our suggestion is Martí-Henneberg *et al*, EWSR_L1807-1994.shp. EWSR_L1807-1994.shp stands for 1807-1994 England Wales and Scotland Rail Lines shapefile.

Errors and further corrections

Collectively Michael Cobb, and the research teams led by Jordi Martí-Henneberg and Leigh Shaw-Taylor have directly and indirectly contributed many thousands of hours to create this GIS and have struggled to make it as accurate as possible. However, we remain interested in refining it still further. If you spot something that is wrong with the railway GIS, please email details to campop@geog.cam.ac.uk.

¹ RPG-2013-093