ArcGIS shapefile of the Turnpike roads of England and Wales 1667-1892.

Turnpikes.shp

This shapefile of turnpike roads and their opening and closing dates from 1667 to 1892. This was funded by grants from the NSF grant (SES-1260699), Modelling the Transport Revolution and the Industrial Revolution in England, the Leverhulme Trust grant (RPG-2013-093) Transport and Urbanization c.1670-1911 and a British Academy Small Grant SG121870 on Riots and the Great Reform Act of 1832.[1] The majority of the work was executed by Max Satchell and Alan Rosevear with assistance from Dan Bogart.

A turnpike trust was an organization authorized by acts of parliament to build, maintain and operate toll roads. Trusts were most prominent in the 18th and early 19th century prior to railways. They maintained individual roads previously maintained by local governments, specifically parishes. The finances of turnpike trusts were distinctive because they levied tolls on road users and issued bonds mortgaged on the tolls. Also they were locally managed and financed.

Our goal in this was to identify the specific roads managed by each and every turnpike trust and the date that each road segment came under the authority of the Trust and the date it left the authority of the trust. The general pattern was that the road was improved shortly after it was adopted, but this could vary from one trust to another. Each trust consisted of one or more road segments which could be adopted over different years.

Method

Max Satchell identified Cary's 'New Map of England and Wales and part of Scotland' as the primary source for an initial digitisation of the network. Cary's sheets were published between 1820 and 1828. Cary's line work distinguishes turnpikes and post roads. It also maps "other main roads" but these were not digitised. However, Cary's map does not identify the individual trusts and the road segments they managed. Scans of the Cary mapping were geo-rectified by Ziyue Chen. The turnpike network was then digitised by Max Satchell using the Cary scans laid over geo-rectifed tiles of the Ordnance Survey 1:10560 first edition map series (1840-1890) . For some counties some road polylines were recycled from earlier turnpike digitisation by Bogart and Satchell (8 counties), Satchell (4 counties) and by Keith Sugden (2 counties). In each instance the recycled road data was carefully checked against the Cary mapping. We are very grateful to Sugden for letting us use his road data. At the end of this phase the shapefile consisted 12553 polyline segments which represented 22171.4 miles of road.

For England the next step Satchell used two online resources that identify the limits of turnpikes trusts. These had been created by Alan Rosevear, prior to his joining the project, from surviving wayside features, parliamentary records, acts of parliament and historic county maps. The first of these was a digital dataset of known milestones and tollhouses created by the Milestone Society available in kml format in Google Earth.[2][3] Rosevear had digitised these records and added the turnpike trust authority name. The second was a series

[1] The BA small grant was held by Toke Aidt and Gabriel Leon of the Faculty of Economics, University of Cambridge

[2] http://www.msocrepository.co.uk/google-earth-maps (consulted 04.12.2014)

[3] The database manager is Alan Rosevear.

of marked up county maps (generally Thomas Moule's County series ca 1830). with the roads under the jurisdiction of each trust and its opening date clearly identified. Satchell took the milestones digital data converted it from kml format to an ArcMap points shapefile and using the spatial join tool from the Analysis tools link the trust names and dates attributes to the turnpike polylines he had previously digitised from Cary. From that we acquired the provisional road segments of each trust. Rosevear's marked up county maps were then geo-rectified by Max Satchell and Rachel Taylor and used to correct and upgrade the trust data acquired from the milestones. The output of this step was a provisional dynamic turnpike network for England.
In the final step, Alan Rosevear undertook the time consuming and difficult task of checking the trust name and dating was correct and the inter-trust boundaries were clear for each road segment and added the date of closure using parliamentary records and acts of parliament. The acts of parliament are drawn from the Portcullis database of all acts at the Parliamentary Archives in London. These data were extracted, processed and supplied in a digtal database by Bogart.[4] The main parliamentary record used in this exercise is the 'Appendix to the eport of the commissioners for inquiring into the state of the roads in England and Wales,' British Parliamentary Papers (BPP 1840 XXVII). The appendix of this report records the mileage of individual trusts in each parish in 1838. This task was made easier by access to Bogart's digitized transcript to the appendix which was linked by Satchell to the CAMPOP parishes and places GIS. Rosevear used tollhouse locations he had found during mapping to confirm the allocation of sections to trusts and better specify trust boundaries. Local history studies of individual trusts were used to date and plot diversions made by the trusts where possible and the recorded trust mileage in 1820, 1838 and 1847 used to interpolate a date for improvements seen on maps where no records were found. This added c.5% more miles to the the dataset in terms of length but far more in terms of functionality. Unless specified in the Act, it was assumed that the older section of road lapsed at the date the improvement was made. To ensure accuracy of the roads pertaining to each trust for the entire dataset, Rosevear did extensive checking of the GIS mileage derived from each trust's polylines against the published trust mileages as given in the 1838 report.

Bogart and Rosevear established that the wording of the acts of parliament also provide an indication of whether the road was pre-existing or newly constructed. Wording mentioned repairing of roads implied the road was old. Wording mentioning the diversion of the road suggested there was some improvement. Wording mention the making of the road suggested that it was new.

For Wales there was no comprehensive milestone record or marked up county maps with which to work. Alan Rosevear took the raw Cary turnpike data and added the trust name and date of opening and closure using parliamentary records and acts of parliament described above. The network for South Wales was refined using the maps and commentary in The Report from the Royal Commission on Turnpike Roads and Outrages in South Wales (BPP 1844 XVI) made after the Rebecca Riots.

Attribute data

Field	*Data type*	*Description*
FID	Object ID	Unique ID for each row in the table

[4] http://www.portcullis.parliament.uk/calmview/

Shape	Polyline	Polyline of road
Trust_name	String	Name of Trust in standardised format (note that the names are normalised to 1838 so names in curled brackets {} had lapsed and were toll free by this date, those in {{} brackets were manged but toll free (usually Improvement Commissions) and those in square brackets [] were turnpiked after 1838.
Dateofact	Numeric	Date road section came under the authority of the trust
Datelapsed	Numeric	Date section of road ceased to be a turnpike when this occurred before closure of trust (normally when a Diversion/Improvement was built)
DateExstinguished	Numeric	Date when the trust expired and a section of road ceased to be under the authority of the trust
Old_or_new	text	Identifies where road was already in use before turnpiking (A) or was newly built by the trust (N) or was an improvement made when the trust built a diversion (I) or a long diversion (IX). Allocation generally based on wording of the act or local study papers on the trust. This field is left blank where it is unclear from wording of the Act is ambiguous
Shape_leng	Numeric	Polyline length in miles
wasTP	Text	Sections of road or bridge that were subject to toll during the period (T & TB), those maintained by Improvement Commission (I), those shown as Turnpike by Cary but no evidence of a trust (UNK) or not a turnpike (X) (generally urban link roads connecting turnpikes or bridges)
TP1725	Numeric	Section of road that was a turnpike in 1725
TP1750	Numeric	Section of road that was a turnpike in 1750
TP1775	Numeric	Section of road that was a turnpike in 1775
TP1800	Numeric	Section of road that was a turnpike in 1800
TP1838	Numeric	Section of road that was a turnpike in 1838 – the year for which there is comprehensive data on turnpike mileage by parish
County_1	Text	The county of the road section
ISE_ID	Numeric	Internal ID for cross referencing in databases

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

Rosevear, A., Satchell, A.E.M., Bogart, D., Shaw Taylor, L., 'Turnpike roads of England and Wales,' 2017.

The citations in this document should be used to reference any maps and/ or data when they have been included in any essays, dissertations or other academic works. You should cite the data even if it does not appear as an image or map in your work, if it has been used to generate findings or a new dataset that is used.

Sources

Report of the Commissioners for enquiring into the State of the Roads in England and Wales (BPP 1840)

Report from the Royal Commission on Turnpike Roads and Outrages in South Wales (BPP 1844)