The Gough Map and Medieval Roads

Ever since its first known public display in 1768, the Gough Map has been something of a mystery. It is the earliest sheet map of Britain, created c. 1390-1410, but little is known about its purpose or who commissioned it. The map shows topographical features such as rivers, mountains and islands, as well as approximately 600 settlements. Many of these appear to be located on important roads, but how significant were medieval highways in the construction of the map? As the English road system was largely stable between 1300 and 1750, a comparison of English settlements on the Gough Map with those on roads on Early Modern maps might shed light on this aspect of the map.

About the map

The Gough Map is the earliest known sheet map of Britain, noted for its remarkable accuracy, particularly in south east England, and its abundance of cartographical detail. It shows the major rivers and numerous settlements in the form of icons, ranging in status from a single building to complex arrangements of castle towers, church spires, buildings and walls. These icons are accompanied by written place names, although many are now illegible due to fading. Attention is often drawn to a network of red lines, with distance markers, which link some settlements.

Figure 1. Section of the Gough Map showing part of Lincolnshire. Lincoln is at the bottom centre and Boston is at the top centre.

The Gough Map remains a mystery. It had no immediate precedent, and the sophistication of its cartography was not matched for at least another 180 years. And for all its detail, key questions remain unanswered:

- Who made it?
- What was its purpose?
- How was it used?

A medieval road network?

Early attempts to understand the map focused on the red lines and settlements. Commentators such as Richard Gough, an early owner of the map, concluded that the red lines indicated a road network.[1] F. M. Stenton took this further in 1970 by suggesting that, regardless of the red lines, most, if not all, of the settlements were located on important roads[2], although he provided no supporting evidence.

In the twenty-first century, research has moved on from investigating roads to a more detailed examination of other aspects of the map. In 2006, Nick Millea, commenting on the red lines, suggested that they were "graphic devices to indicate distances, rather than representations of

[1] Richard Gough, *A British Topography: Or, An Historical Account of What Has Been Done for Illustrating the Topographical Antiquities of Great Britain and Ireland* (London: Printed for T. Payne and Son, and J. Nichols, 1780), p. 84.
[2] E. J. S. Parsons and F. M. Stenton, *The Map of Great Britain circa A.D. 1360 known as The Gough Map: An Introduction to the Facsimile* (Oxford: Oxford University Press, 1970), p. 16, footnote 1.

existing highways".[3] But other research avenues do not necessarily diminish the relevance of a road network and, in some contexts, could underpin them. If there was an administrative motivation for the map, roads with well-known stopping places for the shoeing of horses or overnight stays, would be important for messengers of the political and religious elites. Likewise, if the purpose of the map was commercial, then roads that could sustain the transport of wagons or carts laden with goods would be significant. The key reason for thinking that a network of roads can be inferred from the Gough Map is the existence of a system of important roads which had already been established in Britain by the thirteenth century. The structures that held that system in place and determined its persistence into the early eighteenth century were medieval bridges.

Map Facts

Significance:	Earliest sheet map of Britain
Outline:	England, Scotland and Wales
Content:	Islands, rivers, lakes, settlements marked by names and/or icons, some region names, some historical and economic information, maritime images
Orientation:	East is at the top
Size:	*c.* 55 x 116cm
Scale:	*c.* 1:1,000,000
Date:	*c.* 1390-1410, with later amendments
Material:	Sheepskin
Location:	Bodleian Library, Oxford
Title:	Named after the antiquarian, and former owner of the map, Richard Gough (1735-1809)
Introductory reading:	*The Gough Map: The Earliest Road Map of Great Britain?* by Nick Millea

Table 1.

[3] Nick Millea, *The Gough Map: The Earliest Road Map of Great Britain?* (Oxford: Bodleian Library, 2007), p. 32.

Medieval bridges and roads

In 2004, David Harrison published *The Bridges of Medieval England: Transport and Society 400-1800*, which showed that the records of bridges provided a thorough and unique way to determine the transport infrastructure of roads over many centuries. In essence, he found that the road network of the early eighteenth century was in place by the Middle Ages or earlier.

Initially, the Anglo-Saxon bridges had been built of wood, but between the twelfth and fifteenth centuries, most bridges were rebuilt in stone, many with impressive vaulting. The construction, maintenance and repair of bridges was an expensive and technically challenging undertaking. They were built using the same architectural techniques as cathedrals, and often had the same initial patrons. The contemporary laws and charters of the Anglo-Saxon period reflected the accepted understanding that it was a public duty to repair and maintain bridges. And such maintenance could come at a high price - in the late fourteenth century, repairs to Tyne Bridge in Newcastle amounted to £1500.[4]

How do bridges affect the road network?

Harrison's view is that bridges and roads go hand-in-hand. After the Romans left Britain early in the fifth century, most of their bridges were left to collapse, and many of their roads fell into disuse. But, by the late Anglo-Saxon era, a new road system had emerged, featuring new bridges. The enduring stability of this road system is reflected in the main roads of today which often follow their medieval trajectory. The main river crossings of medieval England still influence the road system:

> *"Between Northampton and Yorkshire, the A1 follows the same broad line as the Old North Road did in the middle ages, crossing major rivers in the immediate vicinity of former medieval bridges at Wansford, Stamford, Newark, Ferrybridge, and at Wetherby where, although now bypassed, the medieval bridge is still visible sandwiched between later widenings."*[5]

Table 2 shows how few new bridges were constructed between c. 1540 and 1775. Counting bridges accurately before 1540 is difficult, but thirteenth and fourteenth century sources refer to many of them, and the evidence suggests that many bridges first mentioned after 1350 had been built earlier.[6]

Bridge statistics

This table shows how far the network of bridges was already in place before 1540.

River	**Number of bridges**			**Number of bridges**	
	***c.* 1540**	**1775**		***c.* 1540**	**1775**
Avon (Midlands)	17	18	Wharfe	11	13
Great Ouse	17	24	Swale	7	8
Severn	10	10	Tees	5	7
Thames	17	23	Avon (Bristol)	13	18
Trent	16	23	Avon (Hants)	7	10

[4] David Harrison, *The Bridges of Medieval England: Transport and Society, 400-1800* (Oxford: Oxford University Press, 2004), pp. 8-9.
[5] Ibid., p. 4.
[6] Ibid., pp. 21-23.

Ure & Ouse	10	12	Medway	8	10
Aire	16	20	Stour (Dorset)	6	7
Calder	7	11	Tame (Staffs)	6	9
Derwent	9	9	Wear	9	12
Nidd	13	17			

Table 2. Data taken from Harrison, The Bridges of Medieval England, pp. 13-14.

Roads and lines of travel

Medieval people used a variety of terms when referring to a road, reflecting the diversity of road conditions and destinations, and of linguistic heritage. The principal roads were known as 'highways', with the term 'way' deriving from the Latin 'via'. 'Portways' were roads leading into ports or market towns, and 'byways' were secondary roads, often turnings off highways, and described as such by the Post system, which developed formally in later centuries. The medieval word for travelling on highways and byways was 'journeying', found in written sources from 1290, and defined as 'an ordinary day's travel, the distance usually travelled in a day. As a measure of distance, varying with the mode of travel, etc.; usually estimated in the Middle Ages at 20 miles.' Journeying was only linked to 'road' linguistically from the 1590s when it had come to mean a 'ridden journey'.[7]

Types of medieval roads

Harrison's categories of roads	
National highways	More or less direct, and did not have to divert to find a bridge. Generally straight, except where they have to avoid marshland. For example, the Old North Road takes a detour to avoid Hatfield Chase and the Fens.
Secondary roads	Linked market towns to each other, and to the county town.
Minor roads	Many minor roads, but few with bridges. Ferries were used instead.

Table 3. Medieval road categories taken from Harrison, The Bridges of medieval England, pp. 64-70.

Harrison thought roads fell into three categories - national highways, secondary roads and minor roads (Table 3). While this is broadly true, the nature of roads in medieval times was more fluid than this simple grouping suggests. Not only did roads vary depending on weather conditions and types of traffic, but the importance of roads also changed with economic conditions.

[7] Philip Beale, *England's Mail: Two Millennia of Letter Writing* (Stroud: Tempus, 2005), pp. 66-67.

Case study - the decline of the road from Gloucester to Oxford

The road from Gloucester to Oxford is an example of a shift in the status of a road from 'national highway' to 'secondary road' due to economic factors. It appears on the Gough Map as a red line with distance markers, suggesting that in the late fourteenth century it was a route of some importance (Figure 2). In 1394, Richard II used this road, travelling from Oxford to Gloucester via Witney and Northleach, and again in 1396 when the stops included Burford and Northleach.[8] But by the late seventeenth and early eighteenth century it was no longer significant enough to appear on published road maps.

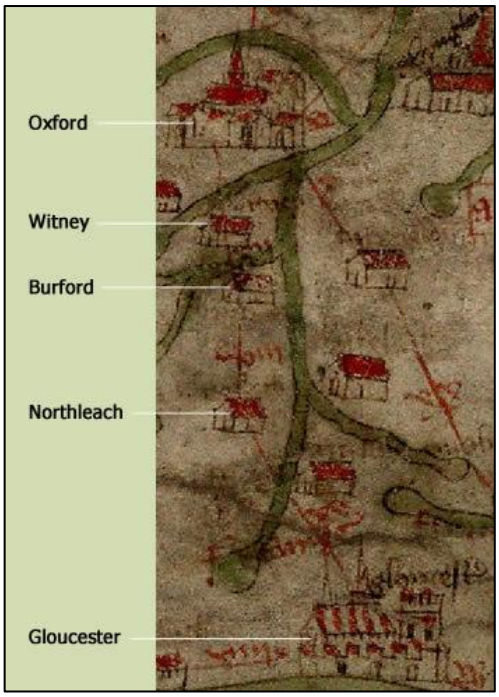

Figure 2. The road from Gloucester to Oxford.

The road's later reduced importance centred on the fortunes of the Cotswolds economy. In the tenth century, Oxford was an important trade centre and had a mint. By the thirteenth century, its wealth derived from its position in the middle of a corn growing area and its proximity to Cotswold wool production. It lay on "trade routes from the Midlands to Southampton, and from London through Gloucester to the Welsh border."[9] A number of factors affected its importance in the fifteenth century, including a change in the use of roads. A new set of bridges and causeways were built in and around Abingdon between 1416 and 1422 which meant that the transport of goods from Gloucester to London started to move further south following roads via Faringdon, Abingdon and Henley.9[10]

These developments were echoed in the history of Northleach. By the late fourteenth century it had become a principal market for Cotswold wool, important enough to hold direct negotiations with London merchants associated with the Calais staple, and with Italian merchants. But the decline of its clothmaking industry was evident in the decreasing number of weavers accepted into the trade, from seven between 1548 and 1567 to three between 1601 and 1620. Petitions to Charles I failed to revive the industry and by 1710 it was described as 'formerly a noted town for cloth manufacture'. Northleach lost its significance to such an extent that "much traffic travelling from the Gloucester and Cheltenham direction towards Burford and Oxford evidently bypassed the town by a road following the high ground to the north, recorded as the ridgeway in 1600".[11]

[8] Nigel Saul, *Richard II*, Yale English Monarchs (London: Yale University Press, 1997), pp. 472-473.
[9] 'Medieval Oxford', *British History Online* <https://www.british-history.ac.uk/vch/oxon/vol4/pp3-73> [accessed 28 May 2019].
[10] Harrison, *The Bridges of Medieval England*, pp. 63-64.
[11] 'Parishes: Northleach with Eastington', *British History Online* <https://www.british-history.ac.uk/vch/glos/vol9/pp106-145> [accessed 28 May 2019].

The adaptability of medieval highways

When discussing medieval roads, it is more helpful to think in terms of adaptable highways rather than roads. A modern definition of a 'road' implies an asphalted surface, fixed in space, that can bear all types of vehicle. By contrast, medieval highways were not all surfaced, and the conditions of the road could vary with the weather. Road surfaces could become rutted and waterlogged, and impassable for some types of traffic, forcing those travellers to seek an alternative route. Even in normal conditions, it was possible for a road to temporarily fork into two alternative routes – one for heavier forms of transport such as wagons, and another for other types of travellers. While this was a different section of 'road', the line of travel was nonetheless the same. This is illustrated in the late seventeenth century by John Ogilby in *Britannia*, the first set of road maps of England and Wales, published in 1675 (Figure 3).[12]

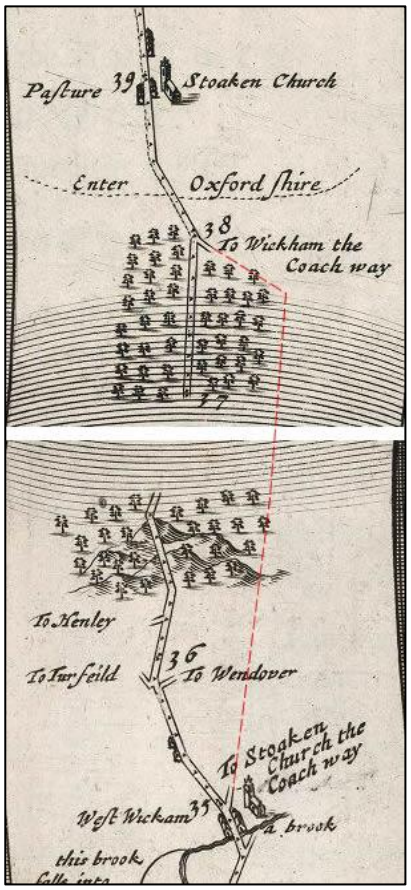

Figure 3. Plate 1 of Britannia showed the road between Wickham (High Wycombe) and Stoaken Church (Stokenchurch). Ogilby showed the road going through the woods but just after West Wickham, he indicated a turning north 'To Stoaken Church the Coach way'. A mile south of Stoaken Church, he showed the same road re-joining from the south marked 'To Wickham the Coach way'. The unmarked route has been added as a red dotted line and does not appear on the original map. Both roads reflected the same line of travel from Wickham to Stoaken Church.

But Harrison's point about the directness of the main routes suggests something fundamental about travel. The desire to travel efficiently between two places is unlikely to be just a modern phenomenon. Once a direct route (or as direct as possible given the terrain) had formed, it would have become self-perpetuating, with travellers attracted to a line of travel that others used. Inns that provided food, shelter and equine services would have grown up along the route, reinforcing its popularity. It would have had to sustain the passage of carts carrying heavy goods, such as wine or timber. Other travellers, either on horseback or foot, could ride or walk across fields when it suited them, but this type of route would have excluded heavily laden wagons, or the passage of large groups of people such as the King and his entourage.

The Gough Map is at too small a scale to reflect the subtleties of road options as described by Ogilby. But the red lines and their distance markers, as well as lines of settlements, appear to mirror the broader lines of travel, based on highways, and perhaps some byways.

Roads and economic development

Harrison concluded that "a major part of the transport infrastructure had come into being at an early date and was adequate to serve the needs of the English economy on the eve of the industrial revolution."[13] He suggested that a key reason for this was that "the transport needs of the pre-industrial English economy and society did not change fundamentally between the Middle Ages and the seventeenth and early eighteenth centuries."[14] This may be because the English population did not reach its medieval levels until the eighteenth century, and that for the intervening centuries, the nature and scope of the English economy did not

[12] John Ogilby, *Britannia. Volume the first, or, An illustration of the kingdom of England and dominion of Wales* (London: Printed by the author, 1675), Plate 1.
[13] Harrison, *The Bridges of Medieval England*, p. 7.
[14] Ibid., p. 7.

change substantially. By the late eighteenth century, there was rapid and significant change in both society and the economy, which provided the spur for the development of the transport infrastructure beyond the achievements of the Middle Ages.

Early Modern roads

The network of principal roads, already in place by the end of the thirteenth century, remained largely unchanged until the second half of the eighteenth century.[15]

Evidence for the stability of the road network c. 1300 to c. 1750

The stability of the road network between *c.* 1300 and 1750 assumes that no major new roads were constructed, that principal roads did not disappear, and that a substantial number of major roads that were important in 1300 retained that importance until 1750. There is good geographical and economic evidence confirming that the road network was largely static. Two commentators on the Gough Map – Millea and Harrison – both assert this. Millea stated that "no major highways were constructed between the time of the Roman occupation and the turnpike era".[16] Harrison believed that "once constructed, [bridges] played a key part in fossilizing a route" and that, for the road network, "all we have done since [before the fourteenth century] is to modify it slightly to meet with changing circumstances."[17]

New and changing roads

These slight modifications include what Herman Moll, an Early Modern mapmaker, referred to as the 'turning' of the road. One example was the network of bridges built in and around Abingdon from 1416, which caused traffic to flow through Abingdon rather than Wallingford, and led to the decline of that town. Moll's A New Description of England and Wales, published in 1724, guided the reader through each county via the rivers, but he was interested in the roads, and particularly their history. He identified four towns which suffered decline due to the 'turning' of the road - Wilton, Wallingford, Dorchester and Hertford.[18]

Wilton was eclipsed by the building of a new cathedral and city in Salisbury from 1220 onwards[19], but it was the building of the bridge at Harnham in 1244 which effectively turned the trading route away from Wilton to Salisbury.[20] Similarly, Hertford lost its battle to make road traffic cross the River Lea at Hertford, instead of Ware, in the thirteenth century.[21] Although Dorchester was on William the Conqueror's route to Oxford, the see of the bishopric was soon moved to Lincoln, and the town had rapidly decayed by 1140.[22] Apart from Wallingford, all the road changes Moll referred to took place before 1400, and Wallingford was soon after 1422. Moll's interest in the history of roads suggests that the absence of any comments about later road turnings indicates that either he did not know about them, or that there were none worth mentioning in relation to the rise or decline of particular towns.

A similar absence is notable when doing a search of the British History Online database.[23] It holds a wide variety of sources across the medieval and Early Modern timeline and thus provides a good sub-set of data for which to search for references to new roads. Looking up phrases such as 'new highway' and 'new road' (including using spelling variants such as 'highwayes' and 'high-ways'),

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[15] Harrison, *The Bridges of Medieval England*, p. 3.
[16] Millea, *The Gough Map*, p. 23.
[17] Harrison, *The Bridges of Medieval England*, p. 50.
[18] Herman Moll, *A New Description of England and Wales: with the Adjacent Islands* (London: Printed for H. Moll, T. Bowles, and C. Rivington, and J. Bowles, 1724), pp. 48, 59, 99-100 and 111.
[19] 'Wiltshire Community History', *Wiltshire County Council* <https://history.wiltshire.gov.uk/community/> [accessed 28 May 2019].
[20] 'Ayleswade Bridge old Harnham Bridge', *British Listed Buildings* <https://britishlistedbuildings.co.uk/101273133-ayleswade-bridgeold-harnham-bridge-salisbury> [accessed 28 May 2019].
[21] 'Parishes: Ware', *British History Online* <https://www.british-history.ac.uk/vch/herts/vol3/pp380-397> [accessed 28 May 2019].
[22] 'Dorchester', *British History Online* <https://www.british-history.ac.uk/vch/oxon/vol7/pp39-64> [accessed 28 May 2019].
[23] 'Browse Catalogue', *British History Online* <https://www.british-history.ac.uk/catalogue> [accessed 28 May 2019].

reveals only one mention of a new road before 1724 within the first 100 results. It refers to a minor street in London - King Street, between Guildhall and Cheapside, in 1667.[24] By contrast, there are countless references to the 'repairing' or 'mending' of existing highways throughout the period 1400 to 1724.

The picture is similar in relation to the work on roads financed by turnpike trusts. The bulk of this work was done after 1724. Those which had an earlier date represent 5.4 percent of all road mileage improved or created by turnpike trusts. These all refer to the repair and maintenance of the existing road. There are only five references to 'making' a road, and they are minor roads to be connected to the principal roads.[25] In other words, no principal road was created by turnpike trusts before 1724.

Urban growth

Other possible scenarios for the creation of new roads include urban growth, drainage and land reclamation, and land enclosures. Whilst the growth of towns would have led to the expansion of streets within a town to accommodate a rising population, there is no evidence to suggest that it also resulted in the construction or diversion of major roads. There are, however, hints that some roads may have acquired a greater significance. Table 4 shows the statistics for urban growth for a range of English cities and towns from 1520 to 1750.[26]

City/Town	1520	1600	1670	1700	1750
	The numbers below are in 000s.				
London	55	200	475	575	675
Norwich	12	15	20	30	36
Bristol	10	12	20	21	50
York	8	12	12	12	11
Exeter	8	9	9	14	16
Newcastle	5	10	12	16	29
Canterbury	5	5	6	5-7	-
Manchester	-	-	6	8-9	18
Birmingham	-	-	6	8-9	24

Table 4. Population growth in English cities and towns from 1520 to 1750. Data taken from Wrigley, 'Urban Growth and Agricultural Change', p. 686.

The figures show that the majority of the growth was in London. Herman Moll's 1724 county maps show more roads around London than John Ogilby's 1675 Britannia, stretching out into the surrounding counties, and this probably reflected the increasing movement in and out of the capital. Other towns had markedly slower growth, starting from a much lower base. Their greatest growth also came from the late seventeenth century onwards. Moll showed more roads in and out of some of these towns than Ogilby, and this may have reflected the growing importance of towns such as Birmingham and Manchester. In 1710, he added routes from Manchester to Preston and Clitheroe, neither of which appeared in Britannia. And in his 1724 county map, he added an extra route from Manchester to Rochdale. Likewise, in Birmingham, he inserted a road north to Walsall in his 1710 map, and a further road to Wolverhampton in 1724.

Do these additions imply a greater importance in the roads due to rapid urban growth? York's population remained more or less static, with a slight decline by 1750. Yet, Moll had also added more roads here than Ogilby, with two roads south to Howden and Thorne and a road north to

[24] 'King Street, Cheapside', *British History Online* <https://www.british-history.ac.uk/no-series/dictionary-of-london/king-street-passage-kings-arms-inn-snow-hill#h2-0002> [accessed 28 May 2019].
[25] 'Turnpike Trusts in England', *Turnpike Roads in England and Wales* <http://www.turnpikes.org.uk/English%20turnpike%20table.htm> [accessed 28 May 2019]. The statistics quoted here have been extrapolated from the data.
[26] E. A. Wrigley, 'Urban Growth and Agricultural Change: England the Continent in the Early Modern Period', in *People, Cities and Wealth: The Transformation of a Traditional Society* (Oxford: Basil Blackwell, 1987), p. 686.

Kirbymoorside on his 1710 map, and a further three roads appear on his county map. So, it is difficult to know whether Ogilby is limited or erratic in his choice of roads, or Moll is more thorough, or he does indeed reflect the changing importance of some towns, and hence, the roads that run through them. Just as some medieval towns declined and this affected traffic on some routes so the converse is also highly likely – some roads through growing towns probably did assume a greater importance towards the early eighteenth century. For the purposes of a comparison with the Gough Map, this does not matter as long as the roads are not new. Birmingham and Manchester are on the Gough Map, and their single building icon reflects their relative lack of significance in the Middle Ages. Early Modern roads that went through towns not on the Gough Map, such as Huddersfield, lie outside the purview of this study because the key interest lies in finding medieval towns on Early Modern roads, rather than Early Modern towns on medieval maps.

Economic developments

Wrigley has made a strong case for explaining why investment in road improvements generally depended on particular economic conditions which only began to prevail from the late seventeenth century.[27] Population growth in towns was held back until new agricultural techniques, such as crop rotation, were introduced, and relatively inexpensive coal was used for fuel instead of wood. These developments led to a greater capacity to feed a town without extending the agriculturally productive hinterland which drove up the costs of transporting goods to market. A doubling of crop yields by 1700 fed a rapidly growing population and increased road traffic to the extent that the turnpike system to fund improvements could be effective. These economic factors account for the disincentive to invest profitably in new roads over much of the period between 1400 and 1724.

Drainage projects

Marshland was "one of the great original barriers to movement"[28], and two of the largest areas of marshland in England were the East Anglian Fens and the Somerset Levels. Two major drainage projects to bring some Fenland to a more agriculturally productive state took place in the Hatfield Level (1625) and the Great Level (1650s).[29] The draining involved making straight cuts in the land to direct and control the flow of water. There is little evidence in the Early Modern maps to suggest that these physical changes in the landscape affected major roads in the region, since they already skirted around the outside of the area. Figure 6 shows Early Modern roads in this area. Only Moll's 1710 map shows two roads across the area – one to Wisbech (not on the Gough Map) from Downham Market, and one further south between Ely and Yaxley (also missing from the Gough Map), neither of which appear to have been affected by the drainage cuts.

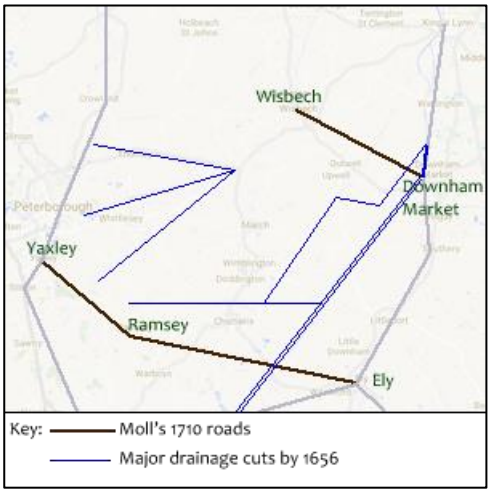

Figure 4. Early Modern roads in the Fens. Drainage data adapted from Eric Ash, The Draining of the Fens, p. 258. Map data ©2019 Google.

Wisbech had been less significant in the fourteenth century, but later became a central point for the area.[30] The fortunes of the town match well with its absence on the Gough Map, and its presence on

[27] E. A. Wrigley, 'Urban Growth in Early Modern England: Food, Fuel and Transport', in *Past & Present*, 225.1 (2014), pp. 79-112.
[28] H. C. Darby, *The Medieval Fenland* (Cambridge: The University Press, 1940), p. 93.
[29] Eric Ash, *The Draining of the Fens: Projectors, Popular Politics, and State Building in Early Modern England* (Baltimore, Maryland: Johns Hopkins University Press, 2017), pp. 141-178 and 249-297.
[30] 'Wisbech', *British History Online* <https://www.british-history.ac.uk/vch/cambs/vol4/pp238-243> [accessed 28 May 2019].

at least one Early Modern road, although it is unlikely that Moll's road was new. In Ash's book The Draining of the Fens, he makes no mention of roads at all, implying that the drainage work had no significant effect on the principal roads.

Unlike the Fens, drainage and land reclamation in the Somerset Levels was more of an ongoing process between 1400 and 1700.[31] In the south, land reclamation took place to the east of Taunton, the south of Langport, and around Meare, Glastonbury and Wedmore.[32] The main roads in the area kept to the ridges which crossed the area from east to west, with the north-south road running close to the coast, effectively bypassing the areas of drainage. There is no indication that the Glastonbury to Wells road was affected, and nothing to suggest that any other major roads were new or diverted as a result of the work.

Land enclosures

There is similarly no evidence that assarting – the appropriation of forest land for agricultural use - in medieval times and pre-1724 land enclosures affected principal roads. Even before the Parliamentary Enclosure Acts of the eighteenth century onwards, as much as forty-five percent of English agricultural land had been enclosed by 1500, and *c.* seventy-one percent by 1700.[33] This piecemeal approach suggests gradual changes rather than sudden transformation. Whilst the expansion into forests and the enclosing of fields must have altered minor paths and tracks around the field system, there is no mention in the literature of any effect on major roads.

Conclusion

All the evidence suggests that there were no new principal roads, and only a single mention by Moll of the 'turning' of a major road in the period 1400 to 1724. There is a possibility that towards the end of the period, rapid population growth raised places like Birmingham and Manchester to the status of significant towns but there is no evidence that it led to the construction of new roads.

Applying the persistence of the road network to the Gough Map

Harrison proposed that the persistence of the road network could be perceived in the red lines on the Gough Map, and possibly in other lines of settlements. Is there a way of testing whether all the settlements are on major roads? With the continuity of the road network across the medieval and Early Modern timeline, any road maps before c. 1750 should reveal the same prominent lines of travel as medieval times.

The focus of this comparison is maps of England produced by two Early Modern mapmakers – John Ogilby and Herman Moll. In 1675, Ogilby published *Britannia. Volume the First*, which recorded the most significant roads in a strip map format. He was the first mapmaker to attempt an accurate description of the road network. Moll produced a sheet map of England in 1710, followed by individual county maps in 1724. He re-used Ogilby's data, but also added roads that Ogilby had omitted.

The maps of John Ogilby and Herman Moll

John Ogilby is best known for his book *Britannia. Volume the First*, published in 1675, in which he mapped *c.* 7500 miles of road using a strip map format.[34] This was the first time that individual roads had been mapped, based on survey and measurement. A generation later, Herman Moll, a London-

[31] Michael Williams, *The Draining of the Somerset Levels* (Cambridge: At The University Press, 1970), pp. 82-122.
[32] Ibid., p. 84, Figure 12.
[33] J. R. Wordie, 'The Chronology of English Enclosure, 1500-1914', in *The Economic History Review*, 2, 36.4 (1983), 483-505 (p. 502).
[34] Alan Ereira, *The Nine Lives of John Ogilby: Britain's Master Map Maker and his Secrets* (London: Duckworth Overlook, 2016), p. 256.

based geographer and cartographer, produced a map of England in 1710, entitled *The South Part of Great Britain Called England & Wales*, which incorporated Ogilby's roads and added other ones. In 1724, he published *A New Description of England and Wales*, which comprised a textual description of the country along with a set of county maps showing the roads.[35] Most of these county maps reflect the same roads as the 1710 map, with the important exceptions of London and Yorkshire which offer a more detailed picture of the road network.

An important question is whether there are any flaws in these Early Modern road maps that undermine a comparison with Gough Map settlements. For example, what types of roads were mapped between 1675 and 1724, how comprehensive was the coverage, and did any biases affect the road selection? In the Preface of *Britannia*, Ogilby claimed to map "the Principal Modern Roads… such as lead Directly from the City of LONDON … or Cross, from Great Town to Great Town, among which the Post Roads for conveying Letters missive to and from this Great Center, taking up a considerable Part".[36] Ereira has argued that Ogilby did not fulfill this claim because he deviated from some post roads and main routes.[37] He cites the examples of the omission of the important port of Liverpool[38] , and the addition of the insignificant Aberystwyth.[39] It seems clear that Ogilby mapped many of the principal and post roads, but that *Britannia* does not, on its own, provide a comprehensive picture of the main road network in the late seventeenth century.

This incomplete picture was improved upon by the work of Herman Moll. He had gained a reputation as an engraver of maps and his interest in road maps only developed towards the end of his life. The 1710 map showed the principal road network of the England and Wales. Its debt to the work of Ogilby is acknowledged in the 'Explanation' Moll provided (Figure 5), in the bottom left-hand quarter of the map.

His key shows that he used a solid double line for Ogilby's 'Great or Direct' roads, and a slightly thinner equivalent for the 'Principal Cross Roads'. But he has also used a single line to indicate 'Roads not to be found in Mr. Ogilby's Book'. It is not known exactly to what extent he has filled in Ogilby's omissions, nor is there any indication of the status of these roads. Were they as important, or as frequently used, as Ogilby's roads or do they represent a set of less important roads? He indicated them as a single thin line, which, pictorially, might suggest a lesser road. But he also needed a way to distinguish his own contribution from Ogilby's. Given that Ogilby omitted many routes that he had surveyed[40], Moll's additions may have been equally important. This is not an issue that can be fully resolved without further research, but the assumption has been made that as the additions mattered enough to be included, and were a selling point to a public that was increasingly interested in travel[41], they were most likely well-used, and therefore, important roads.

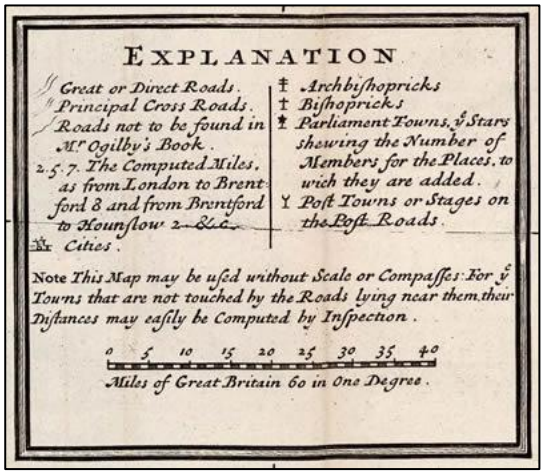

Figure 5. Key on Herman Moll's 1710 map of England and Wales.

[35] The print versions of these maps are cited in the Bibliography, but they can also be viewed online at http://www.davidrumsey.com. Search for 'Ogilby Britannia Volume the First', 'Moll 1710' and 'Moll 1724'.
[36] John Ogilby, *Britannia. Volume the first, or, An illustration of the kingdom of England and dominion of Wales*, 'Preface'.
[37] Ereira, *The Nine Lives of John Ogilby*, p. 207.
[38] Ibid., pp. 195-196.
[39] Ibid., pp. 193-195 and 259-260.
[40] Ereira, *The Nine Lives of John Ogilby*, p. 195.
[41] Dennis Reinhartz, *The Cartographer and the Literati: Herman Moll and his Intellectual Circle* (Lewiston, N.Y.: E. Mellen Press, 1997), p. 27.

Moll's county maps often mirror the 1710 map, but in places provide extra roads. For example, there are highly articulated road networks around London and in Yorkshire, with many more roads than the 1710 map of England. But, in other counties, such as Norfolk, Suffolk, and in the Midlands, there are no additional roads at all, and in some places, such as Dorset, there are fewer roads. The reason for this inconsistency is unknown but both London and Yorkshire were areas of high population and so may have had more well-travelled roads. It has been calculated that in 1700, Middlesex had a population of 522,405, while Yorkshire had 433,176, with the two counties together accounting for just under twenty percent of the English population.[42] And, in the case of Yorkshire, it may also be due to the division of the county into three separate maps, allowing a greater number of roads to be portrayed.

In summary, Moll used Ogilby's work as his starting point, and then supplemented it with roads that were well-used by 1724. The combined maps, therefore, offer the best representation currently available of what contemporary geographers believed to be the main, or at least, the most useful roads to travellers.

Neither Britannia nor Moll's maps of England and the English counties are perfect representations of roads. Ogilby's are remarkably accurate, but incomplete. Moll, working at a much smaller scale, does not reproduce the roads with the same cartographical precision as Ogilby. But, for the purposes of a comparison with the Gough Map, that matters less as the points of comparison lie in the settlements through which the roads passed.

The importance of settlements as indicators of lines of travel

In addition to the red lines on the Gough Map that show distances, and may indicate routes or roads, there are lines of settlements that appear to indicate the same. For example, the map shows the settlements on the well-trodden road from London to Canterbury - Dartford, Rochester, Sittingbourne and Faversham. There is no red line to suggest a route, but contemporary familiarity with the road probably meant that there was no need to mark the distances.

As well as major settlements such as London and Canterbury (illustrated on the Gough Map with church spires, castles, walls or multiple buildings), numerous minor settlements (identified as a single building) appear between the cities and towns. The only factor that seems to link them is that they lie on roads connecting the higher-status settlements.

Case study - the minor settlement of Cobham in Surrey

There is a sense in which all the settlements on the map are accessible and, therefore, on some kind of road network, whether that involves a highway, a byway, a track, or a lightly trodden path. It is also a truism that the most important settlements – major cities like Canterbury or York, or large towns with high populations such as Bristol - would have been on roads deemed to be important. It is, therefore, obvious that there would have been a well-travelled road between, say, Bristol and Gloucester, or York and Lincoln. If the Gough Map had simply shown the higher status places in late fourteenth-century England, such as cities, towns and ports, that would have been enough for route planning. Such a map would have shown that to get from London to York, you would have taken a road via Huntingdon and Doncaster. The actual road taken on all the various stages of the journey could have been done in consultation with previous travellers, looking at an itinerary or asking a local for guidance.[43]

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[42] E. A. Wrigley, 'Rickman Revisited: The Population Growth Rates of English Counties in the Early Modern Period', in *The Economic History Review*, 62.3 (2009), 711-735 (p. 721).

[43] Catherine Delano-Smith, 'Milieus of Mobility: Itineraries, Route Maps, and Road Maps', *in Cartographies of Travel and Navigation*, ed. by James R. Akerman (London: University of Chicago Press, 2006), 16-68 (pp. 34-35).

But it is clear that the Gough Map offers much more information, and that this information is purposeful. The outstanding feature, compared to any previous or contemporary maps, is that many locations of little apparent inherent status are included between the known higher value settlements. A good example is Cobham in Surrey which lies between the towns of Kingston upon Thames and Guildford. The meagreness of Cobham's history is instructive.[44] It is now a village with a single street of shops, and an old watermill. It has a hinterland of suburban housing built around the forty-minute train journey to London Waterloo from nearby Cobham and Stoke D'Abernon train station. There is nothing to suggest that in medieval times it had been larger, or enjoyed any more significance, than a small village. It has never had a market, been a borough or returned an MP to Parliament.

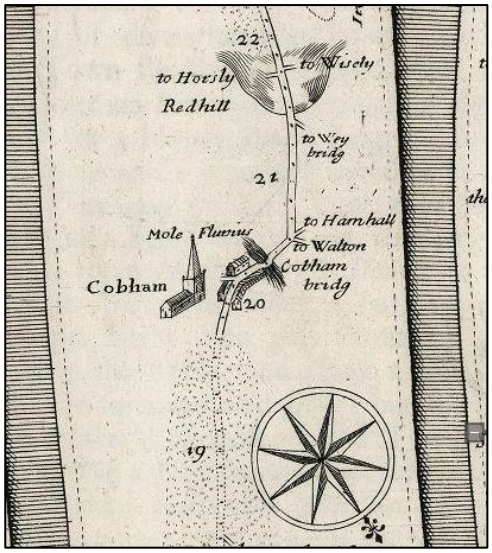


Figure 6. A section of Plate 30 of John Ogilby's Britannia showing Cobham in Surrey.

But its importance for medieval travellers came from the wooden bridge over the River Mole and, possibly, because it had a smithy for the shoeing of horses.[45] Was the bridge the key reason it was marked on the Gough map? Probably not. Four miles north west of Cobham is the small village of Weybridge, which as the name suggests, also had a bridge over the River Wey, a tributary of the Thames. Later, Henry VIII would build Oatlands Palace there, partly because it was navigable from London by river.[46] If ease of travel using both rivers and roads had been a priority, Weybridge would seem a likely candidate for the map. The most plausible reason for Cobham's presence over any other nearby settlement was that it lay on the principal road that ran from London to Portsmouth. Now labelled the A307, this road is still referred to by Cobham residents as 'the Portsmouth Road', despite the presence of its modern three-lane replacement – the A3 – which runs just to the north west.

Another feature of Cobham is its equidistance between Kingston and Guildford, suggesting that it was a well-established stage on the Portsmouth road. Three miles up the road from Cobham, and approximately four miles from Kingston, is the equally small village of Esher. Esher appears in the historical record, partly because William of Wykeham, the Bishop of Winchester, had a house there, and it is possible to track some of the journeys of his servants between their employer's two homes.[47] Esher would probably equally well have had a hostelry, so the choice of Cobham suggests that the mapmakers were interested in providing guidance on road journeys that would be done in daily or half-daily stages, depending on the distances and the mode of transport.

Cobham is one of 261 settlements marked in England on the Gough Map as a single building – the seemingly lowest status settlement-type depicted. This represents fifty-eight percent of all the settlements marked in England and they are, therefore, a highly significant aspect of the map. The

[44] 'Parishes: Cobham', *British History Online* <https://www.british-history.ac.uk/vch/surrey/vol3/pp442-447> [accessed June 18 2018].
[45] David C. Taylor, *The book of Cobham* (Buckingham: Barracuda Books Limited, 1982), p. 21. Taylor reports that, in 1345, John le Smyth had a smithy by Cobham bridge to shoe the horses of travellers, but he does not cite a source.
[46] 'Oatlands Palace History', *Weybridge Society website* <https://www.weybridgesociety.org.uk/local-info/history/oatlands-palace-history/> [accessed 28 May 2019].
[47] 'William of Wykeham's Household Account Roll, 1393', *Winchester College* <https://winchestercollegearchives.org/>. [accessed 28 May 2019]. This item was previously available as a download from the website. The current link shows a page with contact details for the College's Archivist.

example of Cobham begs the question of how far all settlements marked on the map are stages or destinations on principal highways.

Comparing Gough Map settlements with Early Modern road maps

The comparison between the Gough Map and the Early Modern maps lies in identifying how many of the Gough Map's settlements appear on Early Modern roads. A complete match-up is unlikely as there is evidence that over time some roads became economically less important while others increased in significance due to the rise in importance of particular towns. In addition, locations of medieval religious significance on the Gough Map, such as Mayfield in Sussex or Cockersand in Lancashire, carried less import in the Early Modern era, particularly after the destruction of many abbeys during the Reformation. But a high number of matches could corroborate Harrison's view that the Gough Map does show the principal lines of travel.

The comparison is based on 452 settlements, identified by icons, that are located in England on the Gough Map. The key source for the settlements is Parsons' *The Map of Great Britain circa A.D. 1360 known as The Gough Map*.

The Comparison

Parsons' Gough Map settlement data

The work of E. J. S. Parsons, first published in 1958, has been influential in framing perceptions of the Gough Map. He was the first observer to state that "its purpose was to serve as a map for travellers".[48] He asserted that the same distances could be found in the work of John Ogilby in the 1670s, and that the geographical accuracy of the settlements was due to the roads. "There was in existence at this time a network of roads which formed an ideal framework to which the towns could be related."[49]

The settlement information is taken from the 1970 version of his publication, in which he took the opportunity to make some corrections to his earlier version. For a long time, Parsons' work has been considered the major source of information on the Gough Map, largely because he was able to study the map before further deterioration obscured some details. Recently, historians with expertise in particular English counties and localities, have started to question his identification of some settlements.[50] For the purposes of this study, Parson's work has been accepted for all but two locations on the grounds that he was able to see information now denied to current researchers, and that the reasoning for alternative places has not yet been published. The two exceptions are 'stratford' between Dunstable and Towcester, and 'waltham' between London and Barkway.

There are two 'stratfords' approximately six miles apart on the old Roman Watling Street – Stony Stratford and Fenny Stratford – and the Gough Map settlement could be either of them. Parsons labelled it as Fenny Stratford but Stony Stratford is preferred here because of evidence of a causeway and bridge over the River Ouse, and its siting of one of the crosses of Queen Eleanor.[51]

Like 'stratford', there are two 'waltham's in close proximity - Waltham Cross and Waltham Abbey. Waltham Cross is preferred to Parsons' Waltham Abbey because on the Gough Map, the settlement is clearly on the west side of the river where Waltham Cross is located, as opposed to Waltham Abbey, which is on the east side. The icon is for a single building, rather than a church, which also suggests the town rather than the abbey (Figure 13).

For the purposes of providing a country-wide data set for comparison, this study has accepted all, bar one, of Parsons' suggestions for settlements that he was unable to identify with certainty. This includes thirteen settlements in Somerset, Devon and Cornwall so caution is required when interpreting statistics in the south west of England. Leeds Castle in Kent has been rejected on the grounds that evidence for its existence is too slim.[52]

For a list of all settlements considered in the comparison, refer to Appendix A.

The results

The Early Modern maps show a high degree of correspondence in their portrayal of the road network. However, some maps contain roads that the others have omitted, and for the purposes of analysis, the roads on all the maps have been combined to form a single, aggregated map.

[48] Parsons and Stenton, *The Map of Great Britian circa A.D. 1360 known as The Gough Map*, p. 15.
[49] Ibid., p. 10.
[50] Catherine Delano-Smith and others, 'New Light on the Medieval Gough Map of Britain', in *Imago Mundi*, 69.1 (2017), p. 10.
[51] 'Parishes: Stony Stratford', *British History Online* <https://www.british-history.ac.uk/vch/bucks/vol4/pp476-482> [accessed 28 May 2019].
[52] Parsons and Stenton, *The Map of Great Britain circa A.D. 1360 known as The Gough Map*, p. 24.

Gough Map settlements on a road on ANY of the 3 maps		
Number of settlements considered	Number of settlements on an Early Modern road	% of settlements on a road
452	355	**79%**

Table 5. The results of the comparison.

The figure of seventy-nine percent for the aggregated map reveals the extent to which the road network formed an integral part of the Gough Map. And it is not just the percentage that matters. The settlements are not randomly dotted around the road network, as if by chance. It is the evenness of their distribution along the roads that is so telling, with the distances reflecting a day or half day's travel, depending on the mode of transport (Figure 8). This confirms the idea that the Gough Map had a focus on journeying, and on travelling on specific roads.

Case study - settlement distribution in Surrey

Figure 7 shows Surrey with the Gough Map settlements plotted on Moll's 1710 roads. It clearly reveals the importance of roads in the selection of settlements. The image was produced by plotting the Gough Map locations onto a Google map, and adding lines to represent the roads on the Early Modern maps. The Gough Map settlements have been divided into 'low status', indicating a single building icon, and 'high status' which refers to anything larger, such as a settlement with a church, castle or wall.

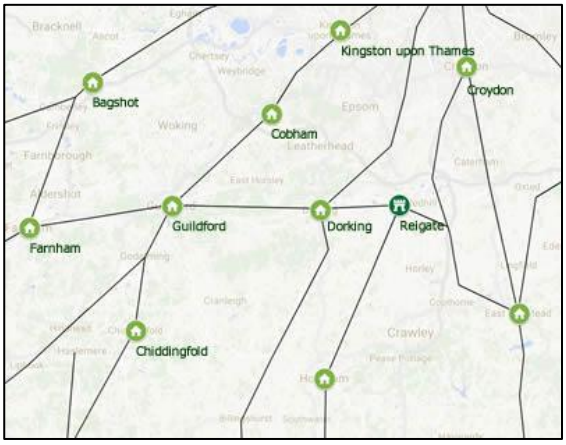


Figure 7. Map data ©2019 Google.

The plotting on Early Modern roads reveals the extent to which the lower status settlements are stages on particular roads that lead to higher status settlements. For example, Figure 8 shows that the road from London to Winchester runs through Kingston, Cobham, Guildford, Farnham, Alton and Alresford, all of which are settlements with single building icons.

Figure 8. Map data ©2019 Google.

All the Gough Map settlements in Surrey – Bagshot, Chiddingfold, Cobham, Croydon, Dorking, Farnham, Guildford, Kingston upon Thames and Reigate – are located on Early Modern roads. To put this in context, it is worth understanding what other Surrey settlements the Gough Map makers could have chosen to include on the map. John Speed mapped the counties in *The Theatre of the Empire of Great Britain*, published in 1612. He did not include roads, but he did map all the settlements. Prominent places were shown with a small icon and partly coloured red. Minor settlements were shown as a circle with a dot in the centre. Counting just the more important red settlements, there are 110 in Surrey (Figure 9). Of the nine Surrey settlements that the Gough Map makers did include, seven were Speed's red settlements and two (Cobham Street and Chiddingfold) were his minor settlements, but all appear on roads of at least two of the Early Modern maps.

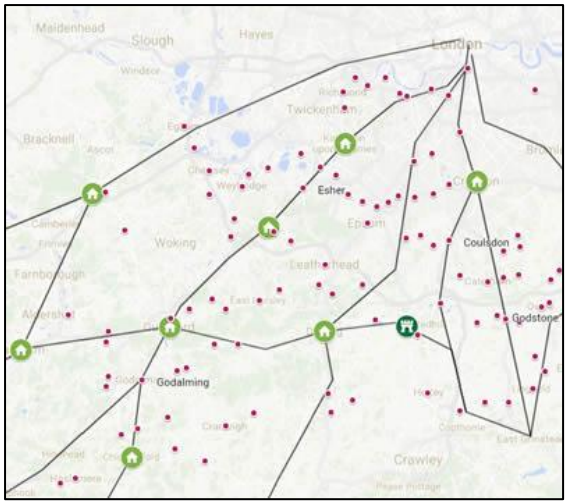


Figure 9. Map data ©2019 Google.

For images of the settlement data and Early Modern roads plotted on Google maps, refer to Appendix B.

Conclusion

The comparison findings support the suggestion that the majority of Gough Map settlements reflected the principal lines of medieval English travel. Besides the percentage of matches and the even staging of settlements along those highways, there is another factor that confirms their importance. Many of the lines of low status settlements (the single building icons) reveal a geographically direct route between two or more high status settlements, which coincides with Harrison's observation that the national highways were generally straight.

Not all the settlements were on Early Modern major roads. Some inland settlements, such as Northleach and Burford, lay on roads that had been significant in the Middle Ages, and research into other non-matching settlements might discover similar circumstances. But there were also coastal settlements, such as Bamburgh, Warkworth, Newbiggin-by-the-Sea, Cockersand, Blakeney, Broomholm, Dunwich, St Osyth, Exmouth and Pevensey, which were outside the main road network. Overall, the emphasis on the map is for well-distributed settlements that cover all areas of England with, inevitably, some of these falling in areas of lower population and, therefore, less travelled roads.

So what role did highways play in the map? Were they an integral part of the map's purpose, or just a useful tool for illustrating the scope and range of Britain's settlements? The example of Surrey suggests a purposefulness in indicating the principal highways, but until we understand why it was created, the Gough Map will remain an enigma.

Appendix A: Parsons' settlement data used in the comparison

Key to Parsons' data

	The settlement is on the road. Most of these settlements are explicitly named on the Early Modern maps. A few are unnamed but it is clear that the road must have run through them.
	The settlement is either adjacent to, or close to, the road (within approximately half a mile), or the road can reasonably be said to have passed through the settlement where it is not named on the map. Settlements marked with only yellows, or yellows and reds but no greens, are discussed in more detail below.
	The settlement is not on the road, or the evidence for its placement on a road is too slim.
*	Settlements that cannot be identified with certainty on the Gough Map.

Parsons' data

Gough Map settlements - modern name	**Name on Gough Map noted by Parsons**	**Ogilby's *Britannia***	**Name on *Britannia***	**Moll's 1710 map**	**Moll's 1724 map**	**Name on Moll's maps**
Bedfordshire						
Bedford	bedford					
Dunstable	dunstaple					
Shefford	sheford					
Turvey	tortey					
Woburn	wobornchapel					
Berkshire						
Abingdon	abyngton		Abington			
Faringdon	faryngdon					
Hungerford	hongreford					
Lambourn	lamborn					
Maidenhead	maydehed					
Newbury	neube					Newb
Reading	redyng					Reding
Wallingford	walynford					
Windsor	wynsor					
Buckinghamshire						
Aylesbury	alesbury		Alesbury			Alesbury
Buckingham	bokyngham					
Colnbrook	colbrok		Colbrook			
High Wycombe	wycombe		High Wickham			G. Wicomb
Stony Stratford*	stratford					Stony Stretford
Cambridgeshire						
Babraham	babreham		Badburnham			
Cambridge	Cantebrege		Cambridg			Cambridg
Caxton	caxton					
Ely	Elye					

Cheshire						
Chester	chestre		West Chester			
Macclesfield	maxfeld					Macklesfield
Nantwich	wych		Namptwich			Namptwich
Northwich	northw...					
Cornwall						
Bodmin	m					
Boscastle	boscast					
Camelford	camelford		Cambleford			
Fowey	fowy		Foy			Fowy
Launceston*			Launcesto			
Liskeard	lisk		Liscard			Leskard
Looe	looe					W. Low and E. Low
Lostwithiel	lw		Listithiell			Lestwithiel
Padstow	padstow					
Penzance	pens		Pensance			Pensance
Redruth	ruth					
St Buryan	seint b		St Burion			
St Colomb	sncmb		St Colombe			
St Germans	man					
St Ives	Iwes					
St Michael's Mount	mons mich		St Michaels Mount			M. St Michael
Stratton*						
Tintagel*						Bossiney[53]
Tregony	ony		Tregoney			
Truro	ew		Truroe			
Cumberland						
Alston	aldeston in Mora					Alstonmore
Bowness	bownes					
Brampton	bramton					
Burgh-by-Sands	burgh juxta sablones					
Carlisle	karlil					Carlile
Cockermouth	cokermouth					
Greystoke	Greystok					
Holme Abbey	holme coltram					
Keswick	keswike					
Kirkbride	kirkebee					
Naworth	naward					
Penrith	penrith					Penreth
Ravenglass	renglas					Ravenglas
Whitehaven	withaven					White Haven
Workington	Workyngton					
Derbyshire						

[53] Bossiney was also known as Tintagel. Eveline Cruickshanks and Stuart Handley, 'Bossiney', in *The History of Parliament: British Political, Social &Local History* <http://www.historyofparliamentonline.org/volume/1690-1715/constituencies/bossiney> [accessed 28 May 2019].

Ashbourne	asshbone					
Bakewell	Bankwell					
Castleton	Castrum					
Charlesworth	clapworth					
Chesterfield	chesterfeld					
Derby	derbi		Darby			Darby
Melbourne	melbourne					
Devonshire						
Ashburton	aschperton					
Barnstaple	ba...stab		Barstaple			
Bideford	bford		Bediford			Beddiford
Chulmleigh	chim		Chimleigh			Chimligh
Colyford	coliford		Cullyford			
Combe Martin*						Combmartin
Dartmouth	dertemouth					
Exeter	exceter					
Exmouth	exm					
Hartland	h					
Honiton	honyton					
Ilfracombe	combe		Ilfarcomb			Ilfracomb
Lynton*						
Molton*			Southmoulton			S. Moulton
Okehampton	okinton					Okehamton
Plymouth	plymouth		Plimouth			Plimouth
Tavistock	tok		Tavistoke			
Tiverton	teverton		Teverton			
Totnes	totnes					
Dorset						
Blandford*						Blanford
Bridport	bridport					
Corfe	corffe					
Dorchester	dorcest					
Lyme Regis	lyme		Lime			Lime Regis
Poole	pole		Pool			Pool
Shaftesbury	schaftisbry		Shaftsbury			Shaftsbury
Sherborne	sherbourn		Sherborn			Shirborn
Weymouth	weymothe					
Wimborne Minster	wimb		Winborn			Winborn
Durham						
Barnard Castle	Castrum barnard					
Bishop Auckland	aukeland					Aukland
Chester-le-Street	chestre		Chester ... Street			Chester Str.
Darlington	derlyngton					
Durham	dunelm					
Easington	esyngton					
Hartlepool	herthepoll					Hartpool
Piercebridge	persbrig					
Staindrop	stadrop					

Stanhope	stanhope					
Wearmouth	Wermouth		Munkwermouth			Were Mouth
Essex						
Braintree	brantr...		Braintry			Braintre
Brentwood	brendwod		Burntwood			
Chelmsford	Chelmesford		Chelmesford			
Coggeshall	coksale					
Colchester	colchestre					
Great Dunmow	donemowe		Dunmow			Dunmow
Hadleigh	hadle					
Harwich	wich					
Maldon	maldon					Malden
Saffron Walden	walden		Walden			Saff. Walden
St Osyth	s . osye					
Tilbury	Tilberi		West Tilbury or East Tilbury			
Waltham	waltham					
Witham	witham					
Gloucestershire						
Bristol	Bristowe		Bristoll			Bristoll
Cheltenham	lteham					
Chipping Camden	camden		Campden			Campde
Cirencester	cicestre					
Gloucester	gloucestre		Glocester			Glocester
Hailes	hles		Hales			
Newent	newent					
Newport	newport					
Northleach	norlech					
Tewkesbury	teukesbr		Tewksbury			Tewksbury
Hampshire						
Alresford	alford		Aleresford			Alesford
Alton	alton					
Basingstoke	Basyngstok		Basinstoke			
Beaulieu	bewley					
Bishop's Waltham	waltham					Waltham
Botley	botley					
Christchurch	crist		Ch Church			Christ Church
Fordingbridge	forngbrigg					Fordingbridg
Havant	haventre					Havent
Lymington	limton		Limington			Lemington
Petersfield	petrefeld					
Portchester	porchestre					
Portsmouth	portismouth					
Romsey	rusey		Rumsey			Rumsey
Southampton	hampton					
Whitchurch	witchirch					Whi church
Winchester	wynchestre					
Herefordshire						

Clifford	Clifford					
Hereford	hereford					
Wigmore	Wigmore					
Hertfordshire						
Baldock	Baldok					
Barkway	berkwey					
Barnet	barnet		High Barnet			
Bishop's Stortford	stortford					Stortford
Hertford	hertford					
Royston	Royston					
St Albans	S. albon		St Allbans			
Ware	ware					
Watford	boreford					
Huntingdonshire						
Huntingdon	huntyngton					
Ogerston	ogerston					
Ramsey	Ramsey					
St Neots	seint nede		St Neotts			
Stilton	Stelton					
Kent						
Appledore	appeldre					
Ashford	ashford					
Canterbury	Cantuar					
Charing	cheryng					
Dartford	dertford					
Dover	dovor					
Faversham	fevarsham		Feversham			Feversham
Gravesend	graveshend					
Hythe	heth		Hith			Hyth
Maidstone	maideston					Maidston
Ospringe	ospring					
Otford	otford					
Rochester	Rowchestr					
Romney	Rumy					Romney
Sandwich	sandwych					
Sittingbourne	sithingborn		Sittingborn			Sittingborn
Tonbridge	tunbryg		Tunbridge			Tunbridg
Yalding	yawhour					
Lancashire						
Burscough*						
Cartmel	kartmell					
Clitheroe	clederhowe					Clithero
Cockersand Abbey	cokersand					
Furness	fournes					
Knowsley	kow					
Lancaster	lancastre					
Liverpool	leverpole					Leverpool
Manchester	manches					

Prescot	prescot					
Preston	preston					
Warrington	wington		Warington			Warington
Wigan	ig					Wiggan
Winwick	Wynwyke					
Leicestershire						
Ashby de la Zouch	aschby		Ashby			Ashby d' l' Zouch
Belvoir	bevoir					
Leicester	leycestre					
Loughborough	lohb					
Market Harborough	harborowe		Haverborough			Harboroug
Melton Mowbray	melton		Milton Mowbray			Melton
Lincolnshire						
Ancaster	ancastre					
Bardney	bardne					
Barton-Upon-Humber	barton		Barton			Barton
Bitchfield	bilesfeld					
Bolingbroke	bolingbrok					
Boston	Boston					
Bourne	brune		Born			Borne
Brigg	glanfordbrig		Glamford Bridges			Glanford Briggs
Burton-on-Stather	burton-stather					Burton
Caistor	cast					Castor
Crowland	Croweland					
Fosdyke	fosdyke					
Grantham	grantham					
Grimsby	gremby					
Horncastle	horncastell					Horn Castle
Kirton	kirkton					Kirton in Lindsey
Lincoln	lincoln		Lincolne			
Louth	louth					
Pinchbeck	pinchebek					
Saltfleet	flete					
Sleaford	sleford		Sleford or Sleeford			Sleford
Somerton Castle	Somerton					
Spalding	spaldynge					
Spital-in-the-Street	spitall		Spittle			
Stamford	Stamford					
Stow	Stowe					
Torksey	torkesey					
Wainfleet	Waynflet					
Wragby	Wragby					
Middlesex						
Brentford	braynford		New Brantford or Old Brantford			

London	london					
Uxbridge	Waxsbrigg		Uxbridg			Uxbridg
Norfolk						
Attleborough	atylborow					Atleburg
Aylsham	aylesham		Alesham			Alesham
Blakeney	blakeney					
Broomholm	Brumholm					
Burnham	burndon					
Cawston	causton					
Cromer	crowmere					
East Dereham	derham					Derham
Great Yarmouth	yernemouth		Yarmouth			G. Yarmouth
Hingham	hengham					
King's Lynn	lenne		Kings Lyn			Lyn Regis
Norwich	Norwich					
Pickenham	pykyngham					
Thetford	tetford					
Walpole	walpole					
Walsingham	walsyngham					
Wymondham	wyndham		Windham			Windha
Northamptonshire						
Brackley	bracle					
Catesby	katby					
Daventry	dauentre		Daventre			
Higham Ferrers	hegham		Higham-ferries			Highamferris
Northampton	Northamton					
Peterborough	petreburgh		Peterborow			
Rockingham	Rokyngham		Rokingham			
Towcester	towcestre					
Wansford	Walmesford					
Northumberland						
Alnwick	Alnewik					Alnewick
Bamburgh	bamburgh					
Berwick-upon-Tweed	Berwike		Barwick			Berwick Uppon Tweed
Bolton	bolton					
Corbridge	corbryg		Corebridg or Cerbridg			
Felton	felton					
Haggerston	h...ston					
Haltwhistle	hautwisel		Haltwesel			Haltwesell
Harbottle	hbotell					
Haydon Bridge	haidon		Hadon			
Hexham	hexham					
Langley-on-Tyne	langley					
Morpeth	morpeth					
Newbiggin-by-the-Sea	Newebiggyn					

Newbrough	newbrough					
Newcastle upon Tyne	novum castrum		Newcastle			Newcastle
Norham	norham					
Prudhoe	prodhowe		Prudo Cast			
Rothbury	rothbury					
Thirlwall Castle	thirlewall		Thirlwal Cast			
Tynemouth	tynmouth		Tinmouth			Tinmouth C.
Wark	werk		Wark Castle			
Warkworth	warkworth					
Wooler	Wollere					Wuller
Nottinghamshire						
Blyth	blith		Blythe			
Mansfield	maunsfeld					
Mattersey	mattersey					
Newark-on-Trent	Newerk		Newark			Newark Uppon Trent
Nottingham	Notyngham					
Southwell	suthwell					
Tuxford	tuxford					
Oxfordshire						
Banbury	banbery					
Burford	burford					
Chipping Norton	norton					
Middleton Stoney	midelton					
Oxford	oxonia					
Tetsworth	tetsworth					
Thame	tame					Tame
Witney	whitney					
Woodstock	Wodstok					
Rutland						
Oakham	okham		Oakham or Oakeham			Okeham
Shropshire						
Bridgnorth	briggenorth		Bridgenorth			
Clun	clun		Clunn			Clunn
Ellesmere	ellesmere					Ellismere
Lilleshall	lilhill					
Ludlow	llowe					
Oswestry	oswestre					
Shrewsbury	Salopia					
Somerset						
Axbridge	axbrig					Axbridg
Bridgwater	brgw		Bridgewater or Bridgewatr			
Bruton*						
Chard	chard					
Cleeve Abbey*						

Crewkerne*			Crokehorn or Crookhorn			Crokehorn
Dunster*						
Frome*						
Glastonbury	gl					
Ilchester*						
Taunton	ton					Tauton
Uphill	uphill					
Wells*						
Staffordshire						
Burton upon Trent	burton					Burton
Lichfield	lichefeld					
Newcastle under Lyme	Novum castrum sub lyne		Newcastle under Lime			Newcastle
Stafford	Stafford					
Stone	stone					
Tutbury	tutburi					
Suffolk						
Brandon	brandofery		Brandon-Ferrey			
Bungay	bongay					
Bury St Edmunds	bery		St Edmons Bury or Bury			Bury
Cattawade	catiwad					
Clare	clare					
Debenham	debeham					
Dunwich	donwych					
Felixstowe	xtow					
Ipswich	yepeswych					
Mildenhall	myldenhal					
Newmarket	nywmarkett					
Orford	orford					
Stratford St Andrew	Stratford		Stratford or Stretford			Stradford
Surrey						
Bagshot	bagschot					
Chiddingfold	chedyngfold		Chidingfold			Chidingfold
Cobham	cobham					Cobha
Croydon	croidon					
Dorking	dorkyng		Darking			Darking
Farnham	farnham					
Guildford	Gilford		Guilford			Guilford
Kingston upon Thames	kyngston		Kingstone sup Thamess			Kingston
Reigate	Reigate					Rygate
Sussex						
Arundel	arundell					
Battle	bale					Battel
Boreham Street	borham					
Bramber	brymbre					

Chichester	cicestre					
East Grinstead	grenested		East Greensted			E. Grinsted
Hastings	hastynges					
Horsham	horsham					
Lewes	lewes and Lewis					
Mayfield	malsted					
Midhurst	mydhest					
Petworth	petwurth					
Pevensey	peuins					
Robertsbridge	pons robt.					
Rye	Rye					
Shoreham	Shoreham		New Shoram			N. Shorham
Stopham	Stopham					
Winchelsea	Wynchelsee					
Warwickshire						
Alcester	altre					Aulcester
Birmingham	bermyngham					Birmigha
Coleshill	colshill		Coleshall			Coleshall
Combe Abbey	combe					
Coventry	coventr		Coventrey			
Solihull	solly...					
Stratford-upon-Avon	tford		Stratford			Stratford on Avon
Warwick	Warwick					
Westmoreland						
Appleby	appelbee					Applebye
Beetham	bethum					
Brough	burgh c					
Brougham	burgham		Broome castle			Broome C.
Kendal	kirkebie kendale					Kirkby Kendal
Kirkby Lonsdale	kirkebie lonesdale					
Pendragon Castle	pendragon					
Shap	Shap		Shop			
Wiltshire						
Amesbury	ames...					
Calne	calne		Caln			
Chippenham	cheppenham		Chipenham or Chipham			
Collingbourne	colligborn		Collingborn			
Cricklade	krykelaith					
Malmesbury	malmesbury		Malmsbury			Malmsbury
Marlborough	merleb...					
Salisbury	salesbery					
Upavon	...haven					
Warminster	warm...		Warmister			
Worcestershire						
Bromsgrove*						
Droitwich	wych					

Evesham	evesham		Evesholme			Evesholm
Kidderminster	kmini		Kederminster or Kedermister			
Worcester	wircestre					
Yorkshire						
Bawtry	bawtri		Bauttey			Bawtery
Bentham	bentham					
Beverley	beverley					
Boroughbridge	burghbrig		Burrowbriggs			Boroughbridg
Bowes	bowes					
Bradford	bradford					Bradforth
Bridlington	brydlington					
Castle Bolton	bolton					
Croft-on-Tees	Croft brig					
Doncaster	doncastre					Doncastor
Gilling	gyllyng					
Guisborough	gesbogh		Gisbourgh			Gisborough
Hawes	morehouse					
Hedon	hedon					Heydon
Helmsley	helme					Helmesly
Helperby	helperby					
Hessle	hesell					
Hornsea	hornsee					Hornsey
Howden	hawden					Houden
Hull	hull					Kingston uppon Hull
Knaresborough	knaresburgh		Knasbrough			Knaresborou
Langton	langton					
Leeds	ledes					
Leeming	lyming		Lemyng			Leming
Malton	malton		New Malton			N. Malton
Market Weighton	Wighton					
Northallerton	Allert...					North Allerton
Patrington	patryngton					
Pickering	pickeringe					Pichering
Pocklington	poklington					
Pontefract	pontfret					
Richmond	richemond					
Ripon	repon		Rippon			Rippon
Roche Abbey*	ch					
Rotherham	roerham		Rotherum			
Scarborough	scarbough					
Seamer	semere					
Sedbergh	sebergh					
Settle	Setell					
Sheffield	sheffeld					
Skipton	skipton					
Tadcaster	tadcastre					Tadcastor

Thirsk	thresk					
Tickhill	tikhull					
Wakefield	Wakefeld					
Warter	Watre					
Watton	Watton		Wotton			
Wetherby	Wederbie					
Whitby	Whitbi					Whiteby
Yarm	yarm					
York	Eboriens					

Table 6. Parsons' settlement data.

Debatable Settlements

For the vast majority of the settlements it is straightforward to establish whether or not they were on an Early Modern road. Ogilby's topography around the roads is detailed, and he clearly marks where a road passed through a settlement, or the settlement is immediately adjacent to the road. In addition, he provides side turnings indicating nearby towns and villages which demonstrates that they were not on a given road. Moll's settlements are marked along his roads, with distances between them given in miles. The settlement is named and has a small circle on or adjacent to the road, or a symbol indicating a post town. However, a small number of settlements are open to interpretation. This is either because they are not named but there is a strong possibility that a road passes through them, or they are close to a road. As a rule of thumb, settlements within approximately half a mile of the road have been accepted as 'on the road' on the grounds that this was close enough for travellers to seek shelter or a change of horse on their journey. This is probably a conservative estimate of the distance travellers might go from the road in search of hospitality. In 1398, the canons of Lilleshall Abbey complained that the hospitality they were required to offer to travellers on Watling Street was a serious financial burden.[54] Watling Street (the modern A5 at this point) is 2.1 miles from the Abbey.

The following two tables explain why those settlements open to interpretation have been accepted or rejected as settlements along a road.

Gough Map Settlements Accepted as on Early Modern Roads

Gough Map Settlement	County	Description
Babraham	Cambridgeshire	Babraham (Badburnham) is shown on Ogilby's map (Plate 46) near to the road. On a Google map it is approximately 0.5 miles from the projected road and is therefore plausible as a stage along it.
Bentham	Yorkshire	Bentham, although not named on Ogilby's map (Plate 88), is midway on his road across the moor between Wennington (Welington) and Clapham. The road is straight and would have passed through Bentham. There is only one modern road between Clapham and Bentham, so although Moll's geography

[54] 'Lilleshall: Communications', *British History Online* <http://www.british-history.ac.uk/vch/salop/vol11/pp146-147> [accessed 28 May 2019].

		of this area is less precise, the assumption has been made that Bentham also lies on his roads.
Bitchfield	Lincolnshire	Moll's 1710 map shows a thin secondary line running north from Stamford to Ancaster. Although not named, the straightness of the road suggests that it would have run either through, or close to, Bitchfield. On a modern map, the section of road running north between Corby Glen and Boothby Pagnell via Bitchfield is the only north-south section of road in the area.
Boreham Street	Sussex	Again, Moll's 1710 map shows a thin line running west from Battle to Lewes via Hailsham. At this scale, the road alignment is ambiguous but suggests that it could well have passed through Boreham Street. Although there is no similar road marked on his 1724 county map of Sussex, Boreham Street is named and looks on a similar trajectory between Battle and Hailsham. On a modern map, the only east-west road in the area goes through Boreham Street.
Bowes	Yorkshire	On the 1710 map, a secondary road runs west from Greta Bridge (Creta B.) to Brough. Bowes is not marked but it is hard to see how it could have avoided running through the town, given that on a modern map, this is the only east-west road running across the high ground.
Brougham	Westmoreland	This castle is south east of Penrith, close to the Moll 1724 road south to Shap, approximately 0.4 miles from the modern road.
Castle Bolton	Yorkshire	This castle is approximately half a mile north of the Moll's 1724 road running south west from Richmond to Askrigg. There are two modern roads across the high ground which run parallel, about a mile apart, on either side of the River Ure. On Moll's map, Bellerby is on the south side, so the road indicated must be the northern one, running just south of Castle Bolton. It also shows 'Redmire' adjacent to the road, which is the later site of Castle Bolton village.
Hailes	Gloucestershire	Hailes Abbey is 0.7 miles from the Early Modern roads so this is slightly over the approximate 0.5 threshold for distance from the road. However, it has been accepted as close enough because of the traditional duty of abbeys in medieval times to provide shelter for travellers. Other abbeys further from the road, such as Lilleshall, are in the medieval record as having suffered from the burden of accommodating travellers.
Thirlwall	Northumberland	Thirlwall Castle is shown almost adjacent to Ogilby's road between Tynemouth and Carlisle (Plate 86), just west of Haltwhistle (Haltwesell).
Wragby	Lincolnshire	Wragby, although unmarked, appears to sit on Moll's 1710 road which runs west from Horncastle to Lincoln. Wragby

		appeared in the Titchfield Itineraries between Lincoln and Horncastle.[55] On a modern map, Wragby is on the only east-west road in the area.

Table 7. Gough Map settlements accepted as on Early Modern roads.

Gough Map Settlements Rejected as on Early Modern Roads

Gough Map Settlement	County	Description
Croft-on-Tees	Yorkshire	Moll's 1724 maps (North Yorkshire and Durham) show a road going north from Northallerton to Darlington between the large southern loop of the River Tees to the east and Croft bridge to the west. This appears to be an error as it seems much more likely that the road would have gone through Croft, because of its major bridge across the river, and its location on the modern A167 road north to Darlington. However, further research is needed to be sure that another bridge further to the east was not in common use in the early eighteenth century.
Prudhoe Castle	Northumberland	Although the castle is marked as very close to the road on Ogilby's map (Plate 86), the River Tyne runs between them. There seems to be no evidence of a medieval bridge, and although a ferry could have been in use, the natural river barrier suggests the castle's usefulness as a stage along the road would be doubtful.

Table 8. Gough Map settlements not accepted as on Early Modern roads.

[55] James Frederick Edwards, 'The Transport System of Medieval England and Wales: A Geographical Synthesis' (unpublished Doctoral thesis), University of Salford, 1987), p. 64.

Appendix B: Gough Map settlements on Early Modern Roads

A series of maps is presented below which together show the distribution of Early Modern roads and Gough Map settlements in England. Note that the maps are not all presented to the same scale. Some purple and red icons, which indicate settlements **not** on a road, may appear to be on a road because the small scale of the map has eliminated the visible distance between settlement and road that would be obvious at a larger scale.

Gough Map settlements

	Low status settlement on road
	High status settlement on road
	Low status settlement not on road
	High status settlement not on road

Table 9. Icons for Gough Map settlements.

A 'low status' settlement is here defined as a settlement with a single building icon. All other settlements showing a church, castle, walls or more than one building are deemed to be 'high status'. The distinction has been made in order to demonstrate how far low status settlements represent simple stages on a road to a higher status settlement. Information on the settlement icons has been derived, with a few corrections, from The Gough Map website.[56] Settlements where the icon is no longer visible have been treated as if they were single buildings.

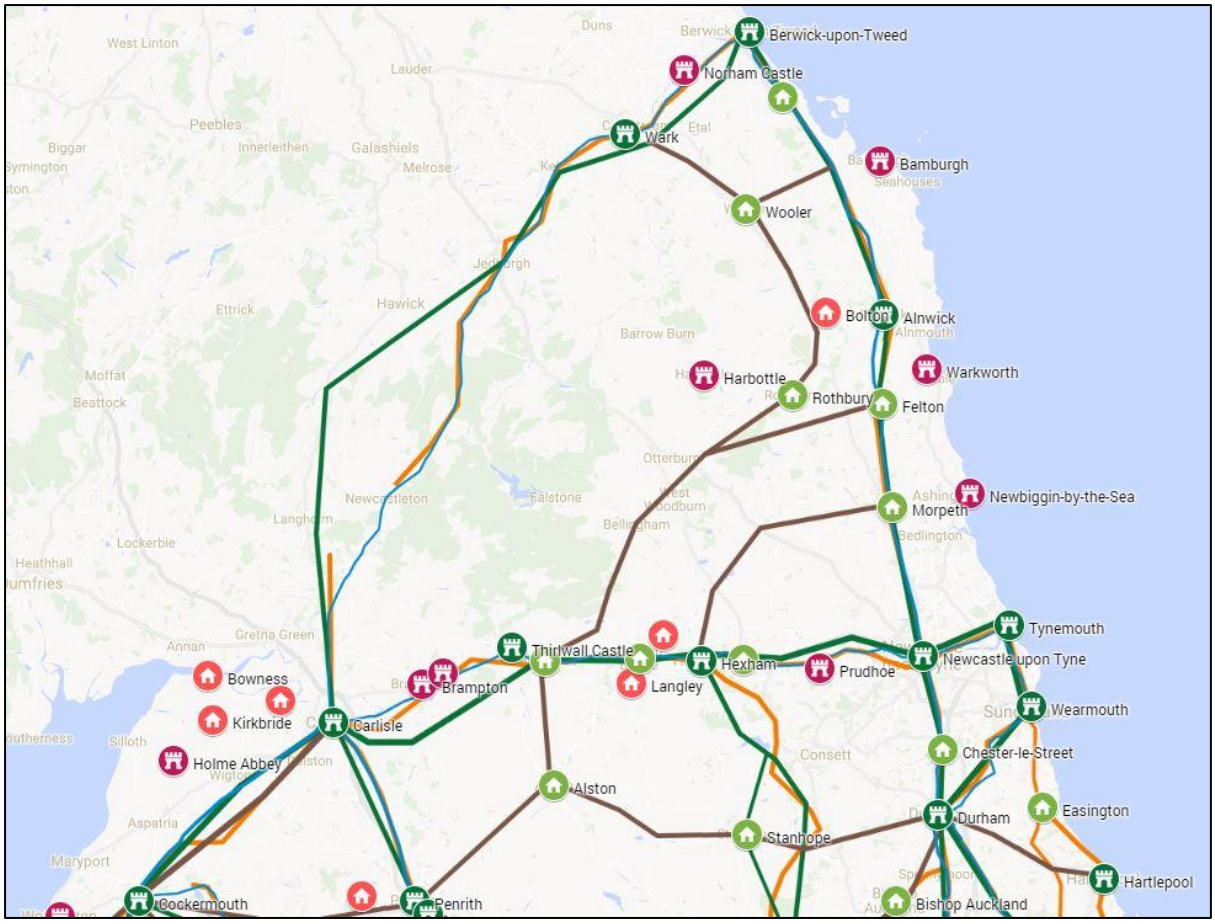
Early Modern roads

	Ogilby's road (1675)
	Moll's road based on Ogilby (1710)
	Moll's added road (1710)
	Moll's road (1724)

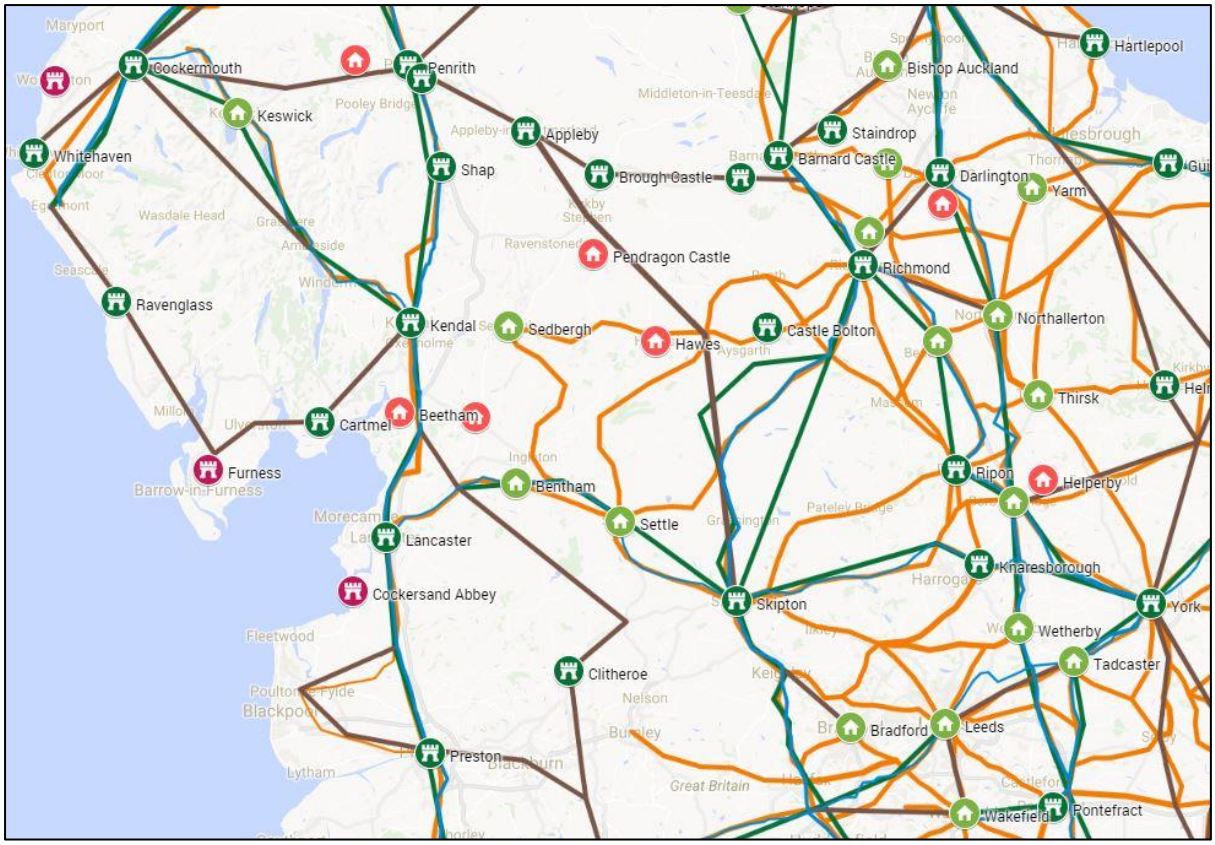
Table 10. Key to Early Modern roads.

The roads shown on the maps below should be viewed as schematic rather than geographically accurate.

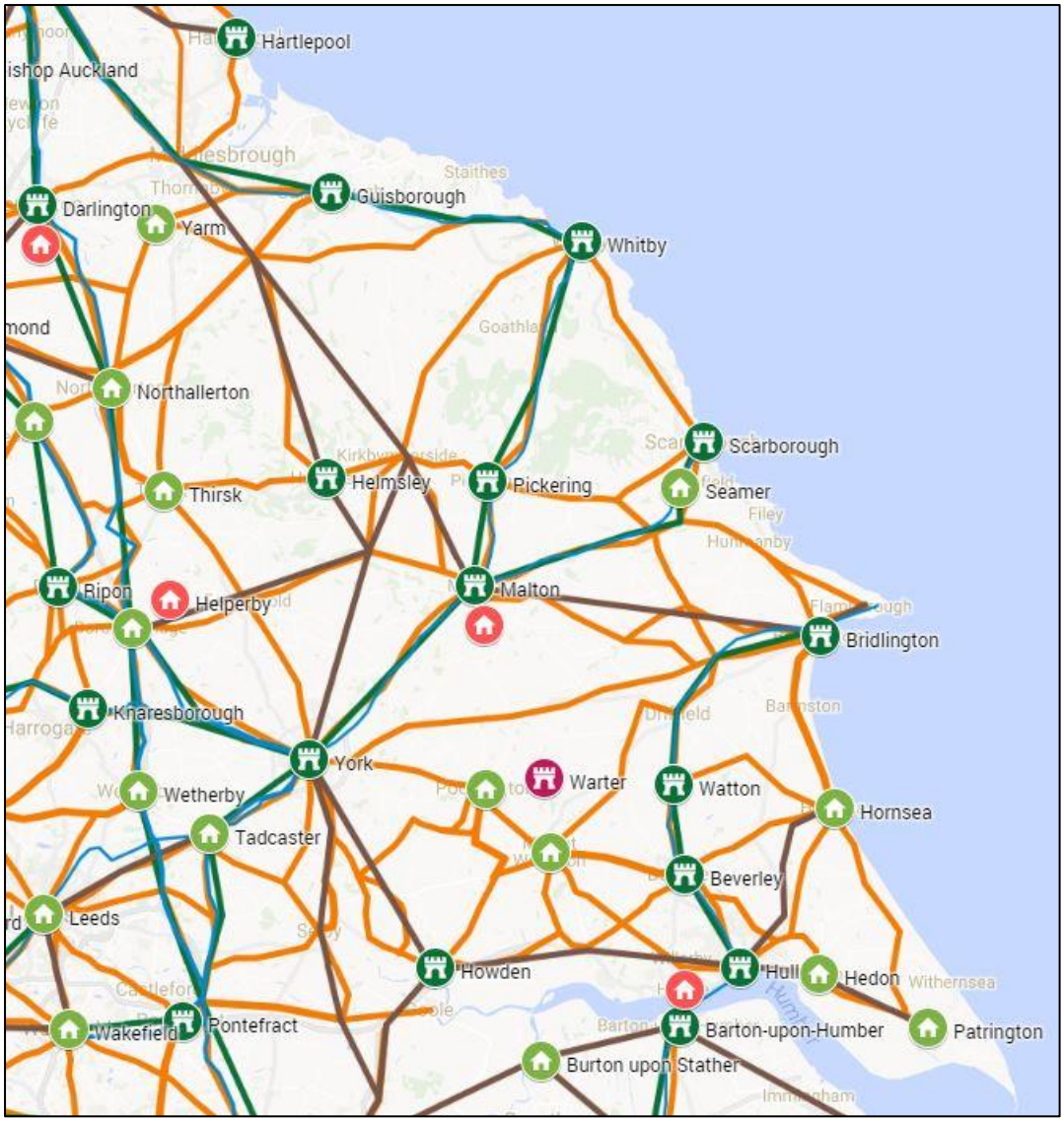
[56] *Linguistic Geographies: The Gough Map of Great Britain* <http://www.goughmap.org/> [accessed 24 June 2019].



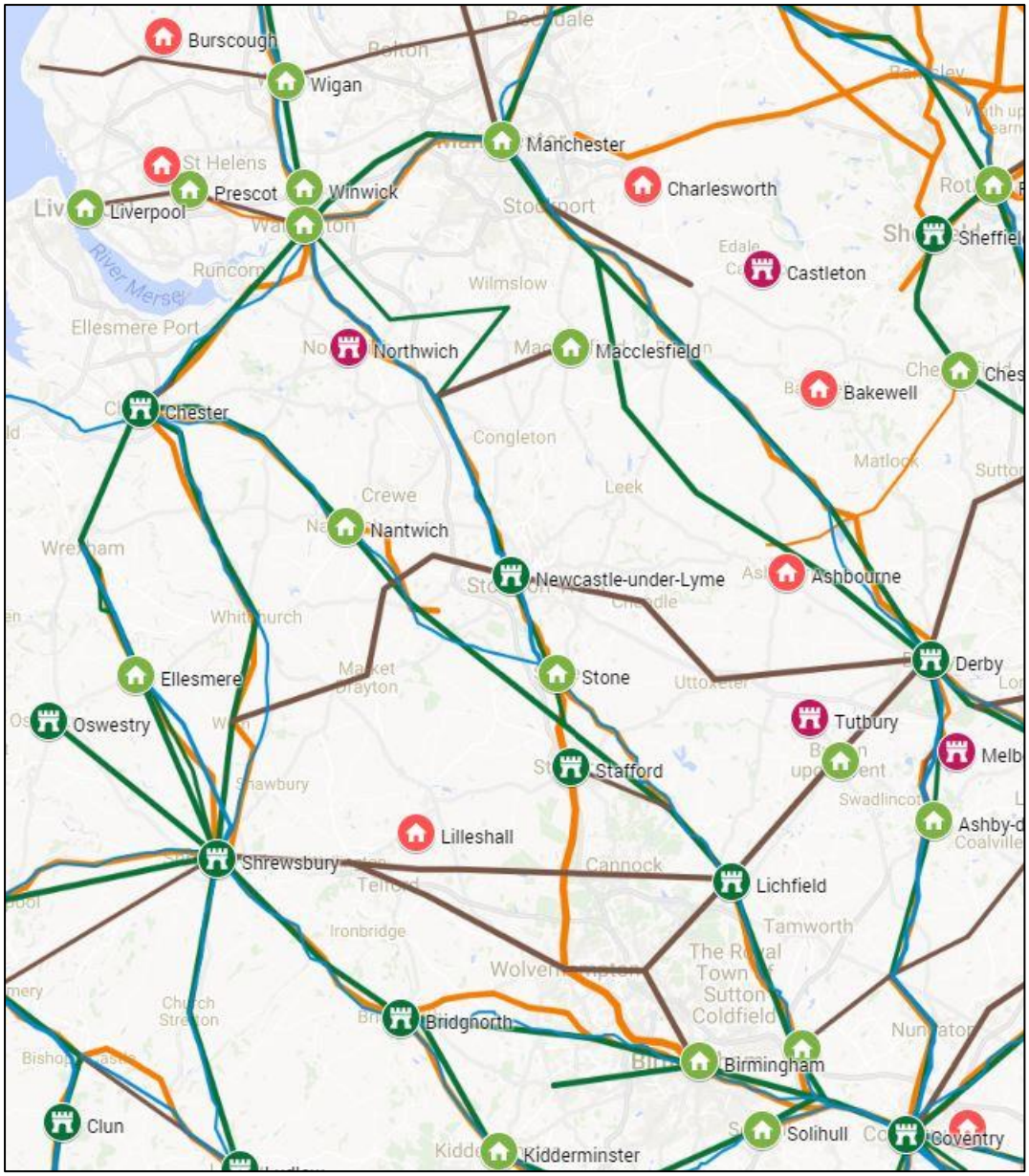
Map 1. Northumberland, Cumberland and Durham. Map data ©2019 Google.



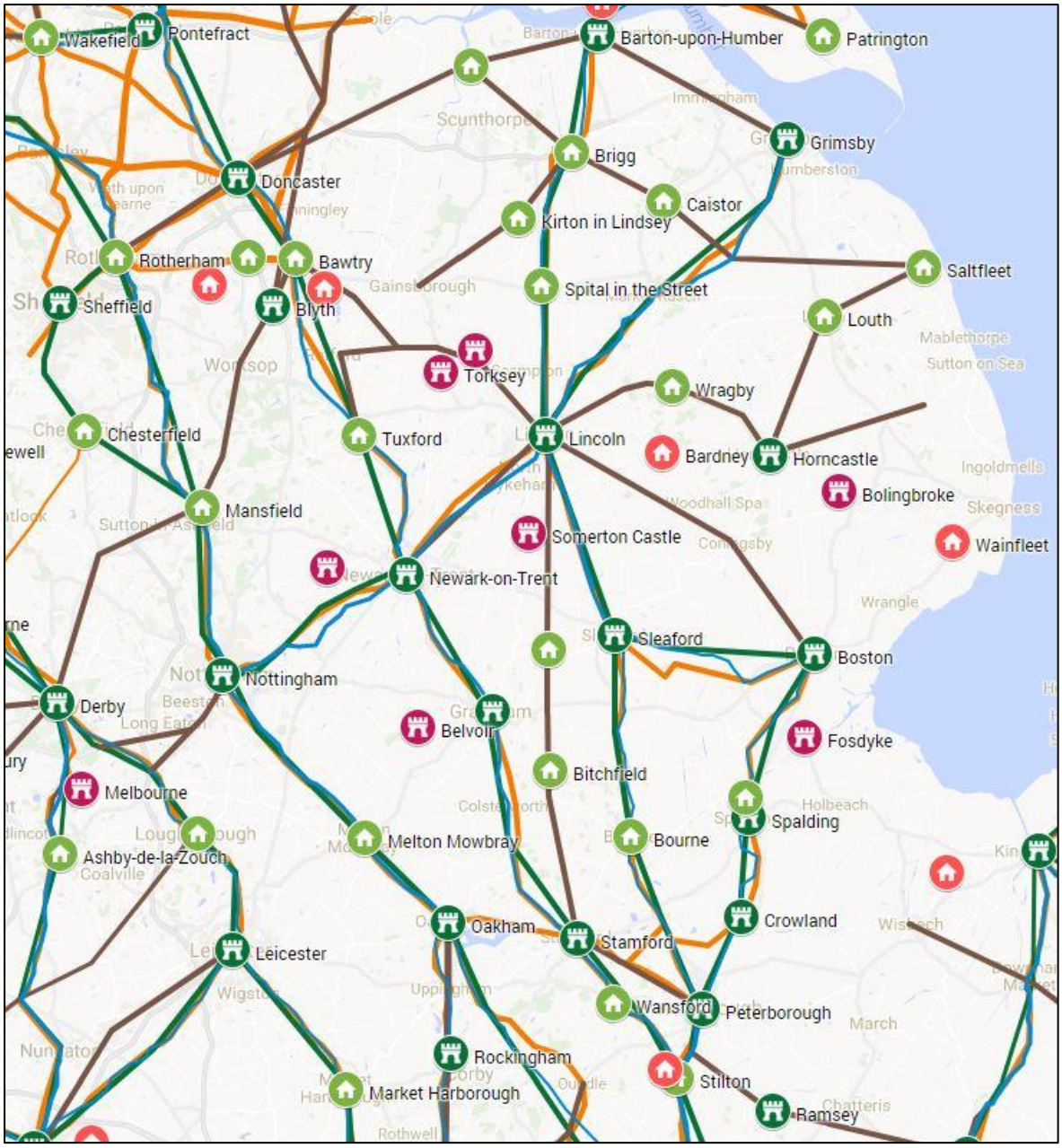
Map 2. Westmoreland, Lancashire and west Yorkshire. Map data ©2019 Google.



Map 3. East Yorkshire. Map data ©2019 Google.

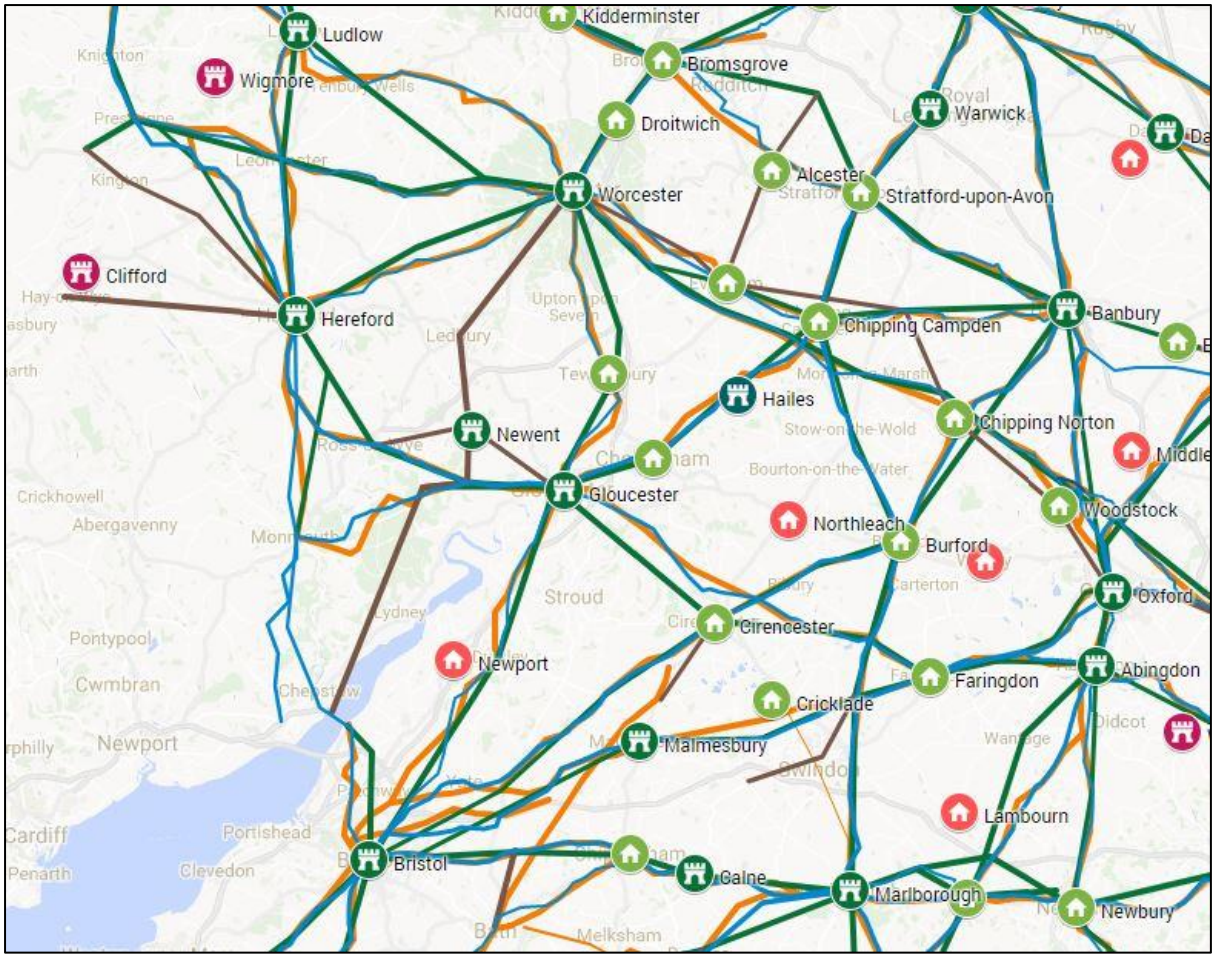


Map 4. Lancashire, Staffordshire, Derbyshire and Shropshire.
Map data ©2019 Google.

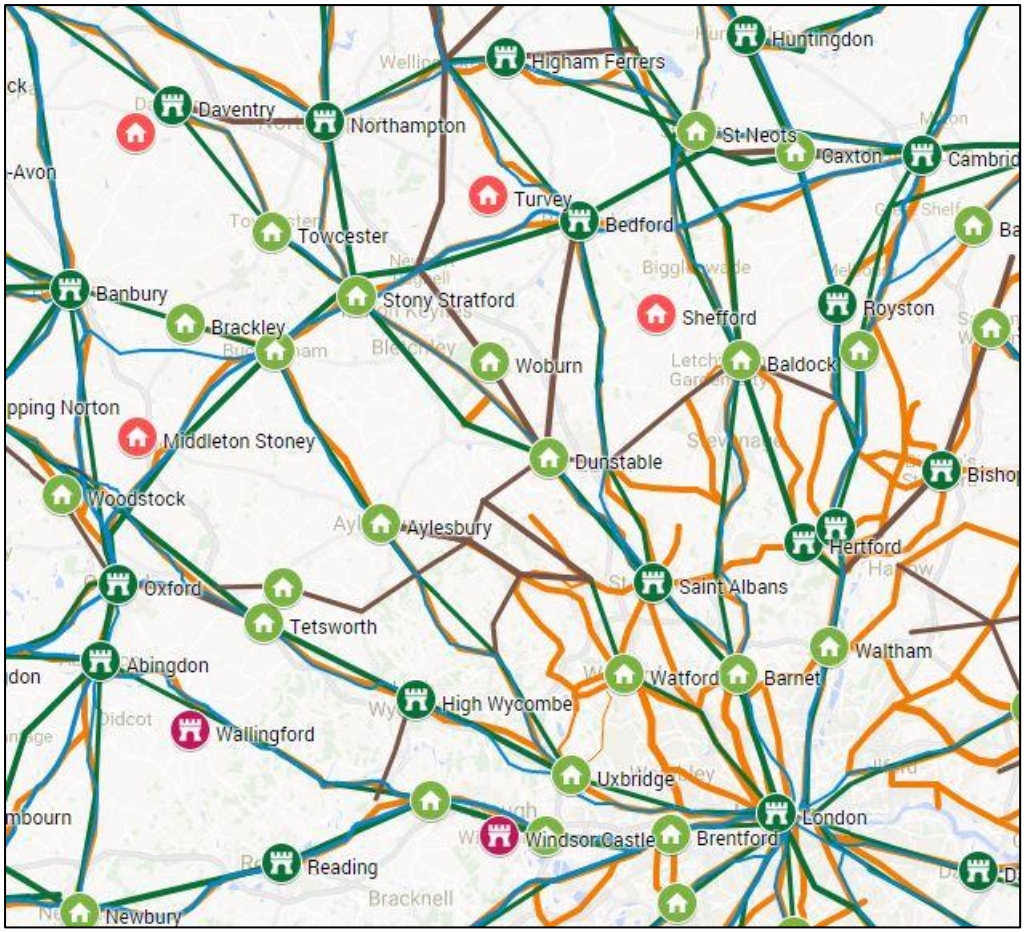


Map 5. Lincolnshire, Derbyshire, Leicestershire and Rutland.
Map data ©2019 Google.

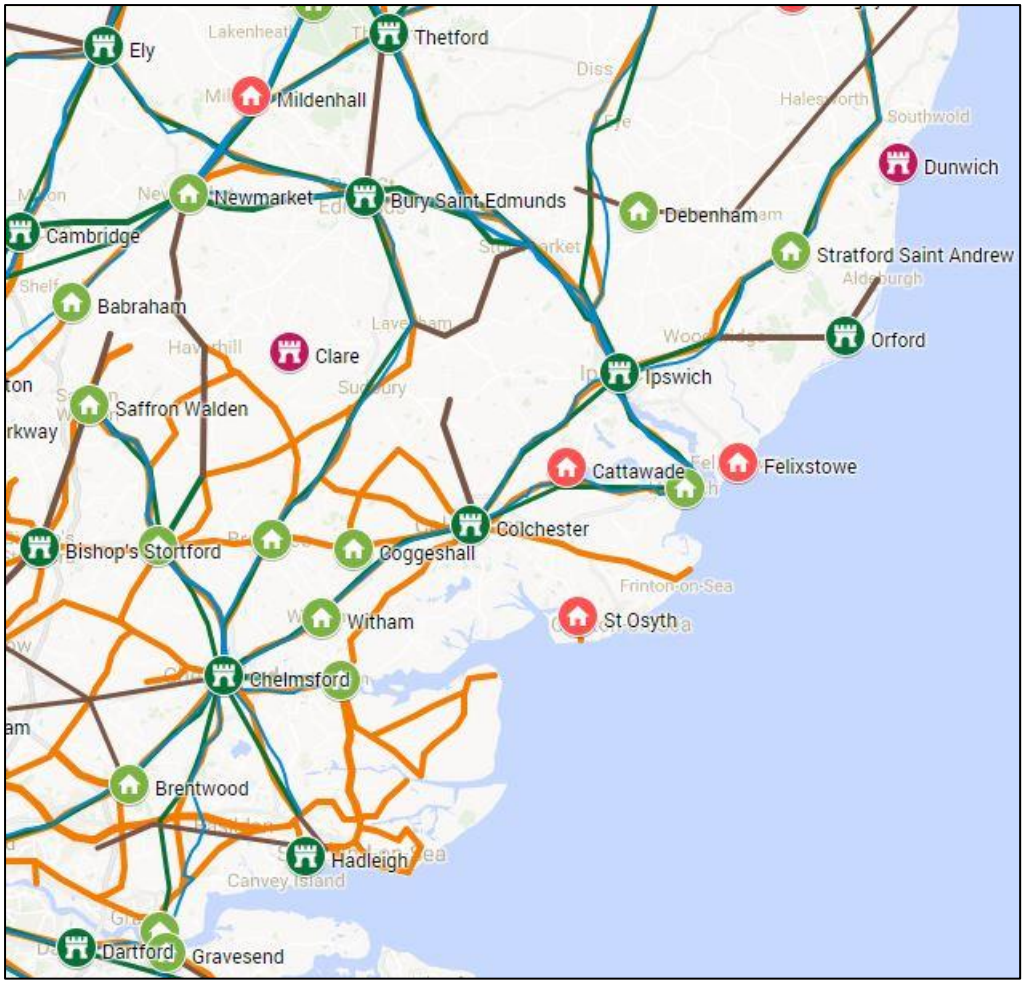
Map 6. Norfolk and Suffolk. Map data ©2019 Google.



Map 7. Worcestershire, Herefordshire, Warwickshire, Wiltshire and Oxfordshire. Map data ©2019 Google.

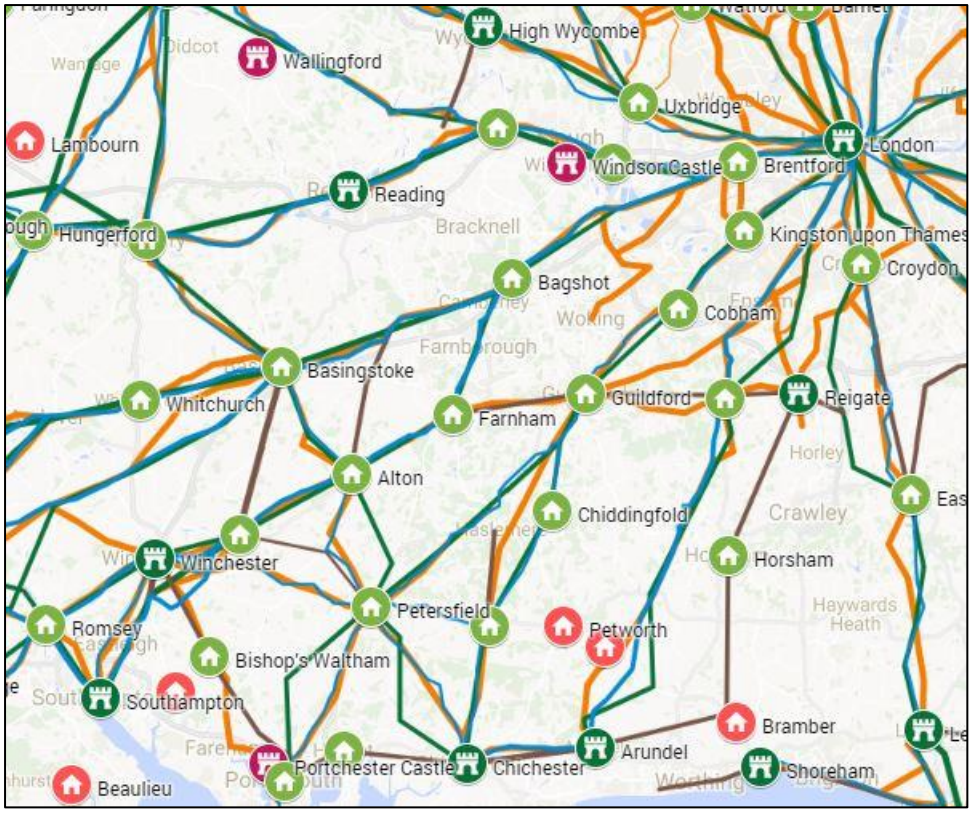


Map 8. Northamptonshire, Cambridgeshire, Buckinghamshire, Hertfordshire, Oxfordshire and Berkshire. Map data ©2019 Google.

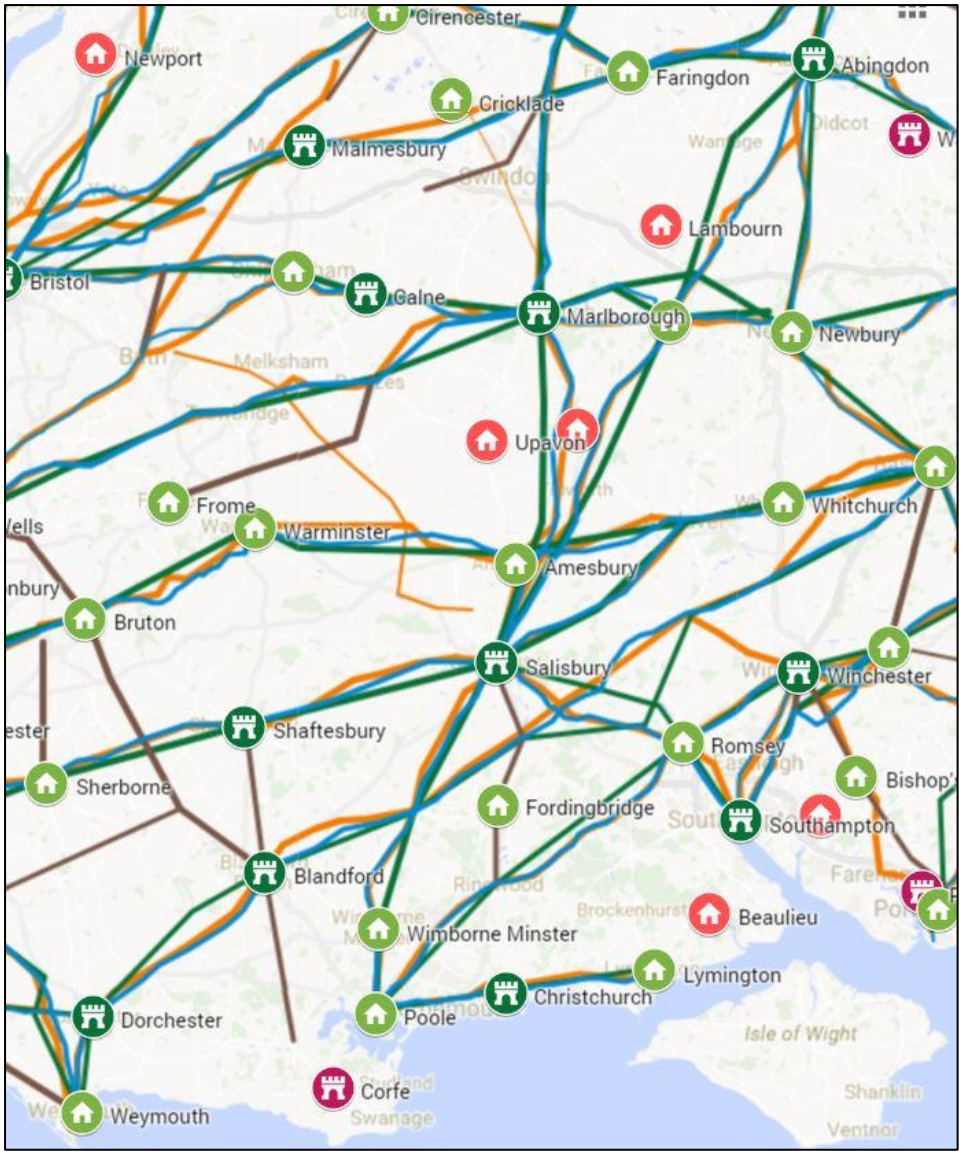


Map 9. Suffolk and Essex. Map data ©2019 Google.

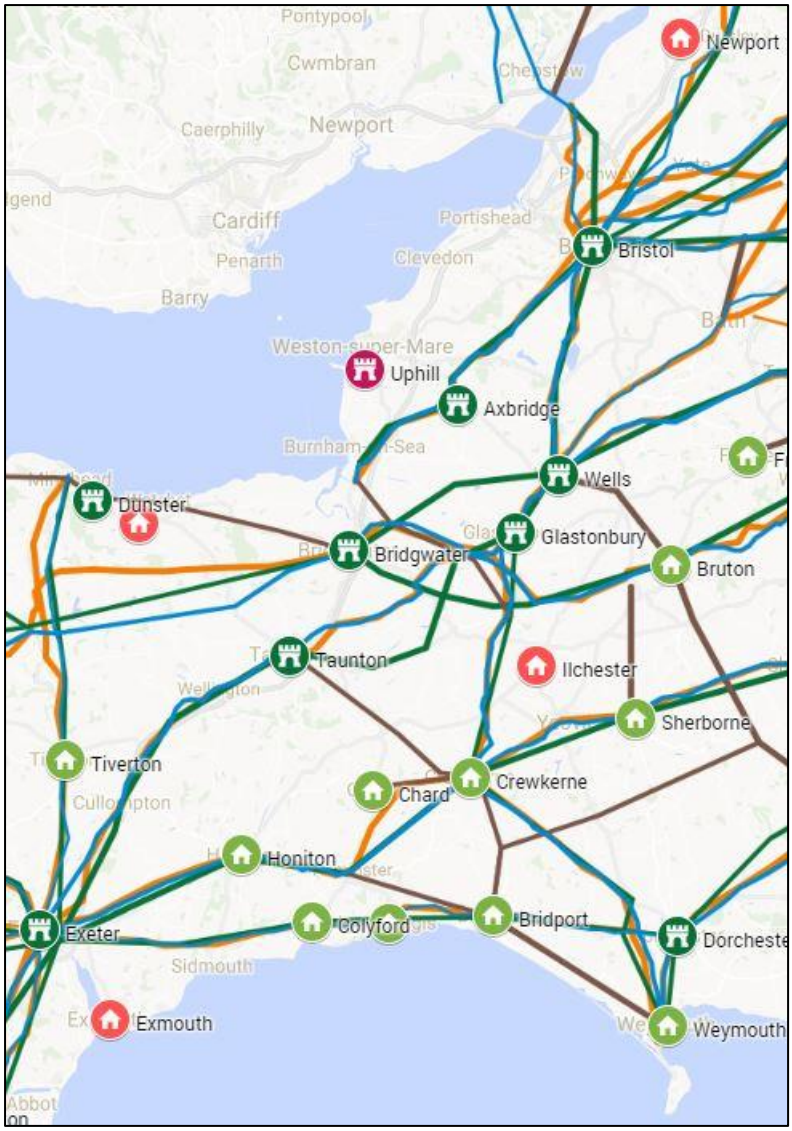
Map 10. Kent and Sussex. Map data ©2019 Google.



Map 11. Sussex, Surrey and Hampshire. Map data ©2019 Google.



Map 12. Wiltshire, Hampshire and Dorset. Map data ©2019 Google.



Map 13. Somerset, Dorset and Devon. Map data ©2019 Google.

Map 14. Devon and Cornwall. Map data ©2019 Google.

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