

Broad Character: Communications
Character Type: Transport
National Perspective

INTRODUCTION: DEFINING/DISTINGUISHING ATTRIBUTES

The Character Type Transport includes the main physical communication methods:

- Canal
- Railway
- Tramway
- Road
- Tunnel
- Bridge
- Civilian airfield

The Character Type Transport relates to areas of coastally-specific, maritime-related infrastructure related to the physical movement of people and/or goods.

Canals are artificial navigable waterways used for the transportation of goods. Nowadays they are also used for recreational purposes (<http://thesaurus.english-heritage.org.uk>).

Railways involve a line or track consisting of iron or steel rails, on which passenger carriages or goods wagons are moved, usually by a locomotive engine (<http://thesaurus.english-heritage.org.uk>).

Tramways refer to a light railway on which raw materials, goods and/or passengers are conveyed. Early usage was predominantly industrial with carriages hauled by animal power or by a centralised power source. In later usage tracks were inlaid into a road surface, on which tram cars run, powered by a centralised source, usually for the conveyance of passengers.

Roads are 'a way between different places, used by horses, travellers on foot and vehicles' (<http://thesaurus.english-heritage.org.uk>). Within a HSC context roads will be those related to coastal areas, coverage of ports, shipping routes, ferry crossings and ferry routes, for example.

Tunnel refers to an elongated, enclosed routeway for the transportation of goods and people under roads, railways, rivers, or through topographic features such as hills (<http://thesaurus.english-heritage.org.uk>).

Bridge is a structure with one or more openings beneath it to span a river or other physical obstacle, for the purpose of providing passage over that obstacle. Bridges commonly have substantial dedicated approach areas and their abutments and support pier/pillar footings may go deep into the beds of rivers and estuaries.

Civilian airfield refers to areas used for the landing and take-off of primarily civilian aircraft, often including associated buildings, equipment and other installations (<http://thesaurus.english-heritage.org.uk>).

HISTORICAL PROCESSES; COMPONENTS, FEATURES AND VARIABILITY

Canals were important elements in early industrial development since they met the need for cheap transport of raw materials and manufactured items. In Europe, particularly England, inland canals preceded the development of railroads during the earliest phase of the Industrial Revolution. In the 1760s, the opening of the Bridgewater Canal (North West England) halved the price of coal in Manchester. This triggered a period of "canal mania" in England and between 1760 and 1820 over one hundred canals were built. The culmination of canal building came at the end of the nineteenth century, with the

opening of the Manchester Ship Canal from Eastham on the Wirral to new, purpose-built dock facilities in Salford and Manchester. It allowed deep draft ships to access Manchester directly, avoiding port charges at Liverpool, and led to the development of Manchester as the country's largest inland port (Wood 2005)

In the 19th century, England was the leading country in the development of the railways which transformed lifestyles not only at a national but also an international level. In the early 19th century, various fundamental technical advances were made by engineers such as Richard Trevithick, George Stephenson and his son Robert Stephenson, leading to the development of the steam locomotive. During this time, the first passenger horse-drawn railway was opened between Swansea and Mumbles in Wales. In 1811, John Blenkinsop designed the first successful and practical railway locomotive - a rack railway worked by a steam locomotive between Middleton Colliery and Leeds on the Middleton Railway. The locomotive, *The Salamanca*, was built a year later. In 1830, the first commercial passenger steam railway, the Liverpool and Manchester Railway, opened.

Many coastal settlements were established or developed as a result of the advent of the railway network. This is particularly true in East Anglia where coastal resorts were often farmland and small hamlets prior to the construction of the railways. In many cases wealthy individuals bought land specifically to create resorts as a result of this development. It has been argued that some resorts such as Clacton owe their existence entirely to the railways (Williamson 2006, 125) which also brought tourism to the Broads. Similarly, ports were able to expand as new industry, parcels and passengers were brought to the docks

Steam locomotives required large investments in labour to clean, load, maintain and run. After World War Two (WW2), labour costs increased dramatically in developed countries, making steam an increasingly costly form of transport. At the same time, the war had forced improvements in internal combustion engine technology that made diesel locomotives cheaper and more powerful. This caused many railway companies to initiate programs to convert from steam to diesel locomotion.

From the 1950s, the period of large-scale motorway construction began. This marked a deliberate policy shift from railways to roads, as England's primary means of transporting goods and people. Rail transport also faced competition from roads for commuting, and air transport took passengers from long-haul trains. Where roads in towns had contained trams, most were replaced by buses, while high trans-shipment costs caused short-haul freight trains to become uncompetitive. The 1990s saw an increased focus on accessibility and low-floor trains. Many cities that closed their old tramways have reopened them as new light railway systems, as for example in Manchester.

The Channel Tunnel is the longest undersea tunnel in the world, linking Folkestone in Kent (England) to Coquelles in Pas-de-Calais (France). Eurotunnel shuttles, Eurostar and national freight trains run in the two single track and single direction tunnels at a maximum speed of 160km/h.

Road transport has developed over the centuries from foot transport to motorways and their related service points. The earliest routeways are often still in use and have been developed over the centuries, others have become disused and superseded by later constructions. Several early trackways have been found in England in intertidal contexts. For example, the Neolithic trackways on the Isle of Wight at Wootton Quarr (Waller 2006) and the Formby prehistoric footprints (Merseyside) (Huddart *et al* 1999). Some of these included built wooden tracks used to traverse wetlands and boggy areas around the coast and estuaries. Examples are found dating as far back as the Mesolithic in Ireland and the Neolithic in England. These include the Hightown Neolithic trackway near the mouth of the Mersey River with radiocarbon dating of 3960-3690BC (Gonzalez and

Cowell 2007), and the Post Track and Sweet Track in Somerset, dated, dendrochronologically, to 3838 BC and 3807/3806 BC respectively (Pollard and Healy (eds) 2008, 75). Additional work such as the Rapid Coastal Zone Assessment Surveys (RCZAS) have also found previously unrecorded trackways including one on the Deben foreshore just below Sutton Hoo in Suffolk.

Packhorses were the chief form of transport for goods in England until the late 18th century. Away from main routes, their use continued into the 19th century. In remoter areas, this usage has left a legacy of old paths still called *packhorse roads*, along with narrow and low stone arched packhorse bridges in various areas (e.g. Hacketty Way Bridge, Somerset). Many such former packhorse routes are now popular walking trails: walking remains a dominant means of commuting and recreation, valued for helping to maintain a healthy lifestyle.

England contains the vast majority of the UK's motorways, dating from 1958 (part of the M6) to the most recent (M6 Toll). Today, the Department for Transport is the government department responsible for the English transport network.

VALUES AND PERCEPTIONS

Some of the prehistoric trackways discovered in coastal and wetland areas have associated features showing they were endowed with religious values relating to the remote and liminal areas they accessed. This is particularly striking in the Bronze Age when water appears to have been afforded a particular spiritual value as demonstrated at the complex at Flag Fen, Cambridgeshire, and by the many artefact hoards deposited in watery contexts.

Canals have a lasting imprint on the present-day landscape from the 18th-19th century period of prosperity and success, affecting not only their own route but a wider swathe of associated settlement and land use. At the same time, they remain an integral part of the present social and cultural landscape, with a range of current uses, including leisure. In general, the early narrow industrial canals have ceased to carry significant amounts of trade. Many have been abandoned to navigation. In other cases, railways have been built along the canal route (e.g. Croydon Canal). In some cases, the Kennet and Avon Canal being an example, abandoned canals have been restored and are currently used for pleasure boaters. The towpaths may be used as footpaths, alongside which have sprung up leisure facilities such as cafes. Recently, in England, canal-side housing has become relatively popular. Another use of canals in the 21st century is as wayleaves (right of way in return for payment) along the towing paths for fibre optic telecommunications networks.

The imprint of rail and roads on the present landscape and seascape is vast, providing the major part of the landward transport infrastructure by which our ports function as hubs connecting the land and sea transport systems serving our society's needs. Coastal road and rail networks are also expressed in the ribbon development spreading residential, commercial and recreational areas along many of our coastlines. Conversely, in remote areas such as the Suffolk Coast and Heaths AONB transport is limited both in terms of rail and road. Whilst this can deter visitors it is also one of the main attractions of the area which retains its air of 'tranquillity'.

RESEARCH, AMENITY AND EDUCATION

Generally, in England, research has focused on canals from an 'industrial' and 'historical' point of view. Further research integrating maritime perspectives will contribute to a greater understanding of canals regionally, nationally and internationally. Today, canals are largely used for leisure purposes. As such, education and outreach initiatives which

bring together leisure activities whilst also exploring the 'industrial heritage' of canals would be highly beneficial in terms of educating and raising public awareness. This could also be the starting point of promoting and seeking further economic benefits.

Further research on early long distance routeways would be highly beneficial at national, regional and local levels, by looking at the developing relationships through time between coastal populations, trade, transport and topography.

Communication routes are the means by which many perceive and appreciate other the historic cultural landscape and seascape, while also themselves possessing a range of features which are express people's past activity. Bridges, viaducts, stations, roadside services and other infrastructure are also interesting elements contributing to their landscape/seascape.

CONDITION AND FORCES FOR CHANGE

In contrast with the large-scale European barge canals which continue to operate for freight transport, the narrow English early industrial canals have ceased to carry significant amounts of goods. Several have been abandoned to navigation, becoming derelict and overgrown, whilst in some cases railways have been built along the canal route (e.g. Croydon Canal). Elsewhere, abandoned canals have been restored and are currently used for pleasure boating.

Railways are still a major functional aspect of the nation's heritage, building on England's leading role in introducing the commercial railway. Many railway routes were later abandoned for road transport and several are now used as footpaths or cycleways; many others are derelict. Today, rail transport is an energy-efficient and capital-intensive means of mechanised transport which has emerged from post-war under-investment in favour of promotion of road for transport of goods and people (e.g. Eurotunnel).

Construction of communication routes at or near the coast frequently involves major engineering projects as coastal areas frequently present unstable environments (e.g. the main rail line from London to Cornwall between Dawlish and Teignmouth in Devon). Demands for new communication routes arise from a variety of factors including increased traffic to the coast, changing configuration of the coastline, rising sea-levels, and coastal defence initiatives, amongst many others. The environmental, including landscape, effects of such projects are assessed through the EC requirement that their proposals are subject to Environmental Impact Assessment (EIA).

RARITY AND VULNERABILITY

Today, the scale of change has affected the size and frequency of key nodal transport points. It has also affected the expression of past and present transport infrastructure along the coast as well as the low, easily overlooked (and therefore vulnerable) character of many early transport-related features.

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