

## Measuring distances from home to school

Children who live closest to the school using the shortest designated route as defined on the Directorate for Children, Education and Families' Geographic Information System. For all schools where the Local Authority (LA) is the Admissions Authority (AA) for the school and any schools where the Admissions Authority (the Governing Body) has a policy to use the LA's measuring system, the route from home to school has been measured using the “**shortest designated route**” since September 2005.

The start point of a measurement is the “seed point” of the home address. The “**seed point**” is provided by Ordnance Survey from information compiled from Royal Mail and/or district or city councils. The seed point normally falls within the bounds of a property. The accuracy of seed points is to the nearest ten centimetres. It is possible to move the location of an individual seed point, but this is not necessary for most addresses. It is not possible to verify the individual location of every seed point prior to measuring due to the number of addresses in Oxfordshire and surrounding areas.

### **From the seed point the route firstly connects to the nearest point of the digitised network.**

The digitised network is constructed from road data supplied by Ordnance Survey called the Integrated Transport Network (ITN).

The Integrated Transport Network has been accurately digitised to measure along the centre of roads and takes corners at right angles. This is the same underlying information as used by internet-based mapping solutions (e.g. Google Maps). However, the LA has a more accurate start point than internet-based mapping solutions and the ITN has been augmented by the LA to take into account other available public routes (e.g. alleyways, public footpaths, bridleways, etc.). The augmented ITN used by the LA is accurate to at least 1 metre

All 548,000 kilometres of roads in Great Britain are accurately mapped in a consistent and logical network. The network does not include routes that are not defined as public; these include crossing parks with no paths where the park is not open and available all the time, “short-cuts” across patches of open land without paths, or footpaths across private land which are not defined by Ordnance Survey as public routes.

The end point of the “shortest designated route” is the **nearest open gate** of the school first arrived at from the direction of travel from the seed point that is officially available for use by students for entry and exit to the school site at the start and end of the school day. The location of these gates has been set by the LA. The LA consults with each individual school annually to ensure accurate placement of the gate and its availability for use. The shortest designated route is established using an algorithm within the bespoke software used by the LA. This software is called RouteFinder and is produced by Higher Mapping Solutions ([www.highermappingsolutions.com](http://www.highermappingsolutions.com)).

This programme integrates with the LA's database (ONE) which is supplied by Capita Children's Services ([www.capita-cs.co.uk](http://www.capita-cs.co.uk)).

RouteFinder measures in kilometres and the measurement is converted into miles accurate to three decimal places, which gives an accuracy up to 1.609344 metres.

The "shortest designated route" is not necessarily a driving route because it may use in whole or in part a non-driveable route (e.g. footpaths). The "shortest designated route" is also not necessarily a walking route for example, where roads are used, the measurement is along the centre of the road not along the edge (pavement or equivalent) of the road.

Other measuring systems may give a different measurement but the LA cannot take a measurement from another measuring system into account because this would constitute mal-administration of the admissions process.

For addresses which are outside the digitised network (approximately 6 miles outside Oxfordshire's county boundary) an internet mapping solution will be used. For addresses in Europe, we use [maps.google.co.uk](http://maps.google.co.uk) For addresses outside Europe we measure a straight line distance using longitude and latitude. Firstly, we derive a start point (the home address) using [itouchmap.com/latlong.html](http://itouchmap.com/latlong.html) We then measure the straight line distance in statute miles from this start point to the end point (the school gate) using [www.nhc.noaa.gov/gccalc.shtml](http://www.nhc.noaa.gov/gccalc.shtml).

A small number of 'Own Admission Authority' schools measure using a straight-line distance from home to school. The LA also calculates these distances for those particular schools.