

## Measuring Home to School Distances



For admissions purposes for all schools where Oxfordshire County Council is the admissions authority for the school, and any own admission authority schools that have adopted the Local Authority's (LA) measuring system, the route from home to school will be measured using the shortest designated route.

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 positioning of front doors, driveways and back gates is not relevant to the route or the measurement and they are not programmed to be used by the measuring system.

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 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 accurate reading 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 maladministration 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 the UK and Europe, we use Google Maps ([www.google.co.uk](http://www.google.co.uk)) which allows measuring by shortest routes when set to ‘walking’ mode. 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 Admissions Authority’ schools measure using a straight-line distance from home to school. The LA also calculates these distances for those particular schools.

## Terms used in this explanation

“shortest designated route”	The shortest distance between two points calculated using a computer programme as defined in this explanatory document
Geographic Information System (GIS)	A system designed to capture, store, manipulate, analyse, manage and present all types of geographic data. The Admissions Team of Oxfordshire County Council uses MapInfo (supplied by Pitney Bowes Software) for its GIS needs
LA (Local Authority)	Oxfordshire County Council
Admissions Authority (AA)	<p>The authority that has responsibility for admissions decisions</p> <p>For Community and Voluntary Controlled schools the AA is Oxfordshire County Council</p> <p>For all other schools and academies the AA is the Governing Body, a sub-group of the Governing Body or a group given authority to make admissions decisions by the Governing Body.</p> <p>The AA is never an individual person</p>
Ordnance Survey	The national mapping agency for Great Britain, an executive agency and non-ministerial government department of the UK Government
“seed point”	A geographically defined spatial point set by Royal Mail and/or district or city councils, and supplied to Ordnance Survey which then sells that data to other organisations (e.g. Oxfordshire County Council). The seed point used by the Admissions Team of Oxfordshire County Council is the “all numeric British Co-ordinate System” (easting and northing)
easting	a measurement in metres east of the south-west corner of the SV square of the Ordnance Survey mapping grid (this square is in the far south-west of the British Isles and includes the Scilly Isles). Oxfordshire County Council uses a six-digit integer and a single decimal place (accuracy to 10 centimetres)
northing	a measurement in metres north of the south-west corner of the SV square of the Ordnance Survey mapping grid (this square is in the far south-west of the British Isles and includes the Scilly Isles). Oxfordshire County Council uses a six-digit integer and a single decimal place (accuracy to 10 centimetres)

digitised network	the geographic database of all possible, available, measurable routes. The digitised network is based on the Integrated Transport Network (ITN) produced by Ordnance Survey augmented to include additional non-driveable public routes
“nearest open gate”	the first gate arrived at from the direction of travel which is available for use by students for entry and exit to the school site at the start and end of the school day
algorithm	a series of programmed instructions carried out by the RouteFinder software which calculates all available routes between the start and end points and outputs the shortest
RouteFinder	GIS-based software produced by Higher Mapping Solutions ( <a href="http://www.highermappingsolutions.com">www.highermappingsolutions.com</a> ) which is designed to find the shortest measurement between two defined points using the available network
ONE database	Database created by Capita Children’s Services ( <a href="http://www.capita-cs.co.uk">www.capita-cs.co.uk</a> ) used by Oxfordshire County Council to hold information about children and their applications for school places