CycleStreets
Cycling intelligence
Bicycle routing & advocacy tools — for cyclists, by cyclists.

Commission a customised journey planner for your website, or embed our world-class routing, that thinks like a cyclist, in your services and tools.

Tools and datasets for advocacy and planning, providing a unique range of datasets and services for transport planning or your website.

Services for councils, companies and organisations

HELPING MORE PEOPLE CYCLE, MORE SAFELY, MORE OFTEN.
Our White label websites product allows you to include a customised journey planner directly into your website, featuring:

- Routing from A-B, giving people the best routes by bicycle
- Clickable points of interest you can supply or pick from our sets
- Browsing your curated routes, such as local tours going via particular locations
- The ability to plan circular routes for leisure

By providing targeted information for your citizens, customers, or users, you can directly give people a range of key information they need to start cycling.

You can include particular points of interest you want to promote, e.g. local tourist destinations, and/or you can include off-the-shelf categories such as facilities or parks.

Clients have included Halfords, county councils such as West Sussex, Cycling UK, the Bicycle Association, London Cycling Campaign, and many more.

About CycleStreets

CycleStreets Ltd is a social enterprise working to get more people cycling, through the provision of online cycle journey planning and tools for planners/advocates to improve cycle infrastructure planning.

We aim to produce the best cycle routing in the world, using our advanced knowledge of how cyclists navigate through varied kinds of on-street infrastructure. People who haven’t cycled before will discover routes away from busy traffic, and existing cyclists will find cut-throughs and alternative routes.

We also create tools that enable councils, consultancies and cycling advocates to work more effectively, providing data and visualisations that help make the case for better cycle infrastructure. These include street ratings data, LTNS / modal filters, and a range of other unique datasets. Read more on pages 6-11.

We believe that cycling is a form of transport which offers so many benefits – to the environment, to health, to liveable cities, to facilitate access to employment, and much more. Cycling is accessible to almost everyone and helps create pleasant, happy places.

We believe our cycle routing algorithm is the most detailed available. We perform the most in-depth analysis of street data, taking into account the many varied types of cycle infrastructure, even scoring widths of cycle lanes, turn delays, elevation profiling, route types, and so much more.
Plan a cycle journey
To plan a journey, type in your start point and destination. Alternatively, you can click on the map to add waypoints.

View scenic routes

Our system offers a user-friendly site, meeting modern user expectations, and using maps designed to show cycling and walking infrastructure clearly.

Our routing ‘thinks like a cyclist’, taking into account a large number of aspects determining route choice, including elevation.

Our white label sites are designed to match your website’s look and feel, picking up your colours, fonts, and other details.

As well as planning routes from A-B, you can include any curated routes you wish to promote - ideal for encouraging tourism.
White label websites

Features

• Plans journeys from A-B with a choice of routes: quietest, fastest, a balanced route (offering the best of both), and e-bike. (Circular leisure routing is also available at extra cost.)

• Gives full route details: stage-by-stage instructions, calorie saving, CO₂ saving, time and distance, and GPX output.

• Takes account of: street/road/path types, cycle infrastructure, signed routes (including Sustrans NCN), apparent legal status, surface types, cycle lane widths, obstructions, and much more, where these exist in the surveyed data.

• Avoids hills and inclines where suitable alternative routes exist.

• Includes a customisable ‘Quick zoom’ link panel, to enable people to zoom straight into particular cities/towns/areas.

• Background map shows cycle parking, signed cycle routes, hills, bike shops, etc.

• Offers an easy-to-use interface: select points by clicking on the map or type for a name, then click ‘plan route’.

• Routes have a permalink that can be shared to friends and colleagues easily.

• Works with our free mobile phone apps (for iPhone, Android and HTML5), so you don’t need to spend money on mobile development.

• Includes access to a statistics dashboard, giving the daily numbers of routes planned, average distance, and overall totals.

• Uses OpenStreetMap, with many areas having very detailed active travel data.

Embedding the map is simple, and can be done directly within your content management system without needing any special support from your IT team. We supply a simple block of HTML to paste in.

Example sites (currently using our older solution) can be seen at: www.cyclestreets.net/services/whitelabelsites/
Embed our advanced cycle routing in your website, app, or tools.

Our leading cycle routing is also available as a data interface, meaning you can embed our routing in your public access systems or cycling accessibility tools.

You send our API the origin and destination of a route – for whatever purpose – and it will send back the route a cyclist would take, as raw data for display or processing.

Five routing types are available:

- **Quietest**
- **Balanced**
- **Fastest**
- **E-bike**
- **Circular (leisure)**

Our API is used in DfT-recommended tools such as the Propensity to Cycle Tool.

We work out the route a knowledgeable cyclist would most likely take from A-B. We take into account a **wide range of factors**:

- Road/street type
- Hills and inclines
- Cycle infrastructure
- Path widths/quality
- Barriers, obstructions
- Land ownership
- Surface quality
- Route legibility
- National signed routes
- Local Authority signage
- Lighting (partial support)
- Turn delays

The result data also provides summary information, such as the quietness (cycleability rating), time, distance, CO₂ saving compared to a car, and calorie requirement, plus full street-by-street details.

JSON format with full documentation makes integration easy for your developers.

This service is also available through the official GOV.UK Digital Marketplace, making procurement easy, with off-the-shelf terms and transparent pricing.
Rating of every street/path for cycle-friendliness.

This unique dataset gives a rating for the cycling level of service for every path, street, and cycleway in the UK.

The quality of cycle infrastructure and streets, and thus their cycle-friendliness, is highly variable around the UK. There is a huge difference between a shared-use pavement and a dedicated, Dutch-quality cycle track. Our dataset provides, for the first time, an automated analysis of the quietness and a speed rating for every location.

These ratings come from the internal rankings of streets within our journey planner. They are the result of hundreds of rules, used in combination, that enable our routing to 'think like a cyclist'.

We provide a GIS download service by boundary for councils, consultancies, and others helping you identify where improvements are needed, and providing evidence for decision-makers.
A unique UK-wide dataset of modal filters, plus analysis of which streets are through/non-through traffic, with statistics by area.

Modal filters – measures such as bollards, gates, cycle contraflows, etc., are important ways to prevent through-traffic from using residential areas. They help ensure that motor vehicles are used for access only.

Despite controversy about their introduction, many have existed for decades. Yet, until now, there has been no national mapping data on where they are.

We have undertaken complex geographical analysis to detect the locations of modal filters and LTNs across the UK.

This unique dataset is now available to view online, or to download – contact us for details of GIS downloads by boundary.

This data will be useful for any councillor or officer working to introduce LTNs in their area. It demonstrates how widespread these measures already are, and where further work remains needed.

Around 25,000 modal filters exist all around the UK. And over half the streets in most highway authority areas are Low Traffic Neighbourhoods (LTNs), with many areas seeing far higher levels.
StreetFocus

Find out what planning applications there currently are in your area and match these with potential development projects.

StreetFocus is a new site being launched to provide UK-wide access to planning applications.

For the first time, it provides modern web-based access to planning applications across the UK that is easy to use and mobile-friendly.

Officers, councillors, citizens and indeed anyone, can subscribe to an area and receive alerts. You can filter by size and type.

Perhaps you would like to see at a glance the locations of large/medium developments being proposed, to monitor these easily and comment on them? StreetFocus makes this easy.

StreetFocus will automatically detect where a larger-sized planning application could pay for a Section 106 improvement and match it.

For instance, you may be keen to see an infrastructure improvement in an area, and be notified if a developer could pay for it.

We can connect StreetFocus to your databases of infrastructure proposals for a fee, and data from Widen My Path is automatically fed in already.

Monitor an area – get alerts for an area when a new planning application arises.

“Great cycling satnav app. Just used it for 8 miles through town and got a much better route.”
Capturing citizen ideas for active travel improvements.

Widen My Path was launched at the start of the COVID-19 pandemic to help local authorities identify, by asking citizens, where new cycleways and wider pavements are needed.

A quarter of a million suggestions/likes have been submitted to the site, giving local authorities an excellent evidence base for where infrastructure improvements are most needed.

Citizens can select one of three types – cycling, walking and point closures. For a small fee, we can add additional types for your area, as we have done for instance for Leicester City Council.

There are homepages for every area of the UK, giving a direct link for your area.

To avoid a mass of duplicated pins, users can upvote proposals. The icon size grows in proportion to the votes, meaning that popular ideas stand out. There is protection against duplicate voting.

Unlike tell-us-where style sites from other providers, the data generated by the public is open, with spreadsheet and GIS downloads. This means you can freely use it for any project, now or in the future, as an ever-growing permanent resource.
Photomap

bikedata.cyclestreets.net/photomap

100,000+ reusable photos of cycling infrastructure, categorised, geolocated, and searchable.

Whether you need a photograph of good-quality cycle parking, poor-quality shared-use, or anything else, to illustrate your documents, our Photomap will have what you need.

Over 100,000 images have so far been contributed by users, growing daily. Most are openly licensed under Creative Commons (simply requiring attribution) or as Public Domain, so you can use them without fee. Images are available at full-resolution.

What’s more, every image is properly categorised – by whether it depicts good or bad infrastructure, and by category, e.g. cycle parking, cycleway, road environment, etc.

The Photomap is also an excellent way to discover issues that people have found with the on-street network.

Text-based caption/tag search also enables you to find exactly the image you need.

“Brilliant route; nice and direct and got to see a lot on the way.”
Free, unrestricted, access to view STATS19 collision data and many other datasets.

Bikedata provides cycling-related data to help planning and advocacy, aiming to provide a ‘one-stop shop’ for data relating to active travel.

Getting improvements to infrastructure of our streets often involves a solid factual case for improvements alongside the political work. For instance, reducing speed limits to tame traffic relies on having good access to collision data to demonstrate the urgency of solving a safety problem.

A wide range of datasets are available, e.g.:

- Collisions, with full metadata, free
- Planning applications
- Traffic counts
- LTNs and modal filters
- Cycle theft
- Problems reported by cyclists
- Photomap
- Cycleability ratings of every street

As well as open access to data, you can mix-and-match layers, enable filters per layer, export to CSV, draw an area to limit results, and more – all through our (mobile-friendly) site.
Batch matrix routing

www.cyclestreets.net/journey/batch/

Enables matrices of O/D cycle journeys to be created.

Transport planning, simulation, and accessibility analysis, often requires details of a matrix of potential journeys, to determine how much active travel potential there is in an area.

We provide a batch matrix routing facility. By providing a set of locations, a set of known origin-destination points, or a bounding box to be chopped into centroid locations automatically, we plan all the combinations efficiently, resulting in a spreadsheet containing all the data.

For instance, by generating a matrix of both the fastest and quietest routes by zone, you can determine the circuitry of current infrastructure.

A wide range of settings are available, e.g. uni/bi-directional, limit by length, selecting which routing type(s), and more.

Our routing properly judges the cycleability of each route as well as time. By contrast, other tools available on the market make use of much more basic cycle modelling – judging only time/distance. A journey may take 15 minutes – but if it goes along hostile main roads, how many people realistically would really be able to do such a journey? CycleStreets provides proper route modelling.

To use our batch routing, an API key is needed, as detailed on page 5.

Volume use is available on the basis of a cost per 100,000 routes planned.

The batch routing results in a spreadsheet file, containing the details of each route, time, distance, and more.
Training and consultancy from UK’s foremost OSM experts.

Our journey planner, and much of the rest of our work, makes use of OpenStreetMap (OSM), arguably the best available data source for cycling and walking internationally.

OSM is already used by a vast array of apps and analysis tools, making it important to ensure the data in your area is as good as it can be.

We are amongst the foremost experts in the UK on use of OpenStreetMap, and one of the earliest community members. We have strong expert knowledge for a wide range of topics.

We provide on-site training for companies and organisations of all kinds, and can cover anything from basic training to in-depth discussion of highly technical topics. Users have found our training both practical and enjoyable.

We can provide you an in-depth understanding of the OSM data model and metadata standards, how to edit data, what best to focus on, understanding of the IP / legal framework, processes relating to merging of data, and of course, the use of OSM data in practice for routing and analysis.

Cycling data, in particular, has a lot of subtlety which is important to understand for effective use.

Our guide for local authorities.
Open data

OpenStreetMap (OSM) has been called the ‘Wikipedia of Maps’. It has over 8 million user accounts worldwide and counting.

This is a very different model to Ordnance Survey data. There is not a formal checking process in place, but instead OSM maintains quality by use of community norms and oversight by interested citizens / companies.

Because the bike is such a good tool for collecting the data and so many OSM surveyors are cyclists, OpenStreetMap contains much more cycle-oriented information than conventional maps.

Open data

CycleStreets uses open data, a theme very much in line with the government’s priorities. Datasets we use include:

- OpenStreetMap
- Ordnance Survey Code-Point Open
- Ordnance Survey Boundary-Line
- NASA contour data

OpenStreetMap (OSM) was featured on the front page of the government’s data.gov.uk

No guarantee can be made of correctness. But we should bear in mind that even commercial datasets are far from perfect. Tales of satnavs sending lorries down inappropriate streets are commonplace, and can take a long time to fix. New housing estates can seemingly take time to enter Ordnance Survey maps.

By contrast, an error in OpenStreetMap can be fixed within a matter of minutes, and will appear in CycleStreets within a few days.

The result is an innovative and fast-changing dataset that harnesses the involvement of local people while being ideal for cycle routing.
How does our routing work?

CycleStreets uses data from OpenStreetMap, a publicly-available dataset of streets, roads, cut-throughs, off-road paths, cycle facilities, bikeshops, etc. (basically anything that can physically exist).

We take a snapshot of all the UK data daily and, like any automated routing system, run a large number of algorithmic calculations on it to determine the best routes for cycling.

These rules are continually developed and are aimed at making the same decisions a real cyclist would. For example, a knowledgeable cyclist will typically choose a flatter, slightly longer route, rather than a straighter one over a hill.

Streets/paths marked in OpenStreetMap which are part of the Sustrans network, or which are marked as having Local Authority signage, receive additional ‘weighting’, i.e. are more likely to appear in a route going through the area concerned.

The more data for each street that is present, the better quality the routing. For instance, these aspects in the data are all things which we can use to give ever-better routing:

- **Street type** (e.g. residential street, A/B/C-roads, bridleways, pedestrianised area).
- Whether the infrastructure is part of a **named/numbered cycle route** (e.g. Sustrans / NCN / Local Authority network)
- **Directionality** (e.g. two-way, one-way, contraflow cycleway)
- **Cycle-specific infrastructure** such as cycle lanes, cycle tracks, cycle bridges, etc.
- **Traffic lights** and crossings
- Intermittent **prohibitions** (e.g. no cycling between 10am and 4pm)
- Public or private **access**
- **Banned turns**
- **Speed limits**
- **Surface type** (e.g. cobbles)
- **Unlit paths**
- **Road widths**
- **Width of cycle lanes**
- **Width of obstructions**
- Presence of **traffic calming** and its type
- Presence of **hills** (automatically taken into account)

Not all of these features are implemented in the engine yet or available in the data UK-wide, but we are in the process of taking all these into account as our routing develops.
CycleStreets is the original UK-wide cycle journey planner, offering a user-friendly way for people to plan cycle-friendly routes from A-B online or on their mobile.

Used in DfT-promoted tools

CycleStreets routing is used in a range of tools promoted by the Department for Transport including the Propensity to Cycle Tool (PCT).