



# Installing Open Street Maps

**For Garmin SatNavs, Basecamp and Mapsource.**

This is a quick run through of the process involved in getting Open Street Maps to work on Garmin Satnavs (the example here is a Zumo 590) and the same maps on Basecamp and Zumo.

There is nothing difficult about it, but finding the quick and easy way from the various options is a bit daunting when you first look into it as there are so many ways of tailoring your own maps. I have done it before, but when I tried to repeat the process for this article I kept saying to myself - 'It wasn't as complex as this'. Eventually I found the way that I used the first time.

This is it.

## What are Open Street Maps ?

According to Wikipedia - OSM is a collaborative project to create a free editable map of the world. Click the link for more information.

Basically, the maps are available under the Open Data License, are free to download and use, and navigable versions can be used in satnavs in place of the proprietary maps.

There are some limitations. There is no speed limit information (for the one that I use for the UK), and ETA is hardly accurate. But in some respects the detail exceeds that provided by my Zumo Garmin maps.

## The Installation Process in a nutshell:

Find out where Basecamp stores your maps. In my case (PC, Windows 10) it is in a folder called **C:\ProgramData\Garmin\Maps**

- From the website, locate the Installation file for your chosen maps
- Run the install program, Install to the folder where Basecamp stores its maps.
- Locate the **gmapsupp.img** file to save to memory card
- Create a folder called 'Map' on the memory card
- Copy the **gmapsupp.img** file to the Map folder on the memory card.
- Open Basecamp and check that the map is available.
- Turn on the SatNav and make the new map active and the others inactive.

The process is described in more detail in the following pages, with illustrations.

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and is Open Data, licensed under the Open Data Commons Open Database License (ODbL)*

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# Locate the Map you Wish to Install

Find it at [garmin.openstreetmap.nl](http://garmin.openstreetmap.nl)

This page contains up to date copies of the open street map resources, but it is arranged with a lot of predefined country. These are organised into 6 different continental drop down lists - I have selected the UK maps from the 'Europe' Continent, and the map tiles that are required for the United Kingdom are shown highlighted.

Click on Download map Now and you will be redirected immediately to a list of files - which are shown and described on the next page.

## Optional - If You Wish To Build Your Own Map Area

If you wish to add or remove tiles, then it takes a few more minutes for the system to prepare maps that are tailored to your selection.

To do this, you need to place a tick in 'Enable Manual Tile selection' and then click on the areas you wish to include or exclude.

As soon as you click on any of the tiles, the option to Download Map Now disappears and it is replaced with this box:

**Request your map or download it directly:**  
Email address:

Provide your email address and click 'Build my Map'.

Rather than being taken to a list of files to download, you see a message which tell you that you will get two emails. The first comes immediately. The second comes when your files are ready to download and provides a link to a list of files that have been specially created to match your selection. This took about 5-10 minutes when I did it.

What you do next is the same for both tailored maps and predefined country maps and is described on the next page.

# Free maps for Garmin brand GPS device

*from OpenStreetMap*

- Choose your map type:**
- Generic Routable
  - Generic Routable (new style)
  - Routable Bicycle (Openfietsmap Lite)
  - Generic Nautical (non-routable)
  - Transparent overlay with elevation contours

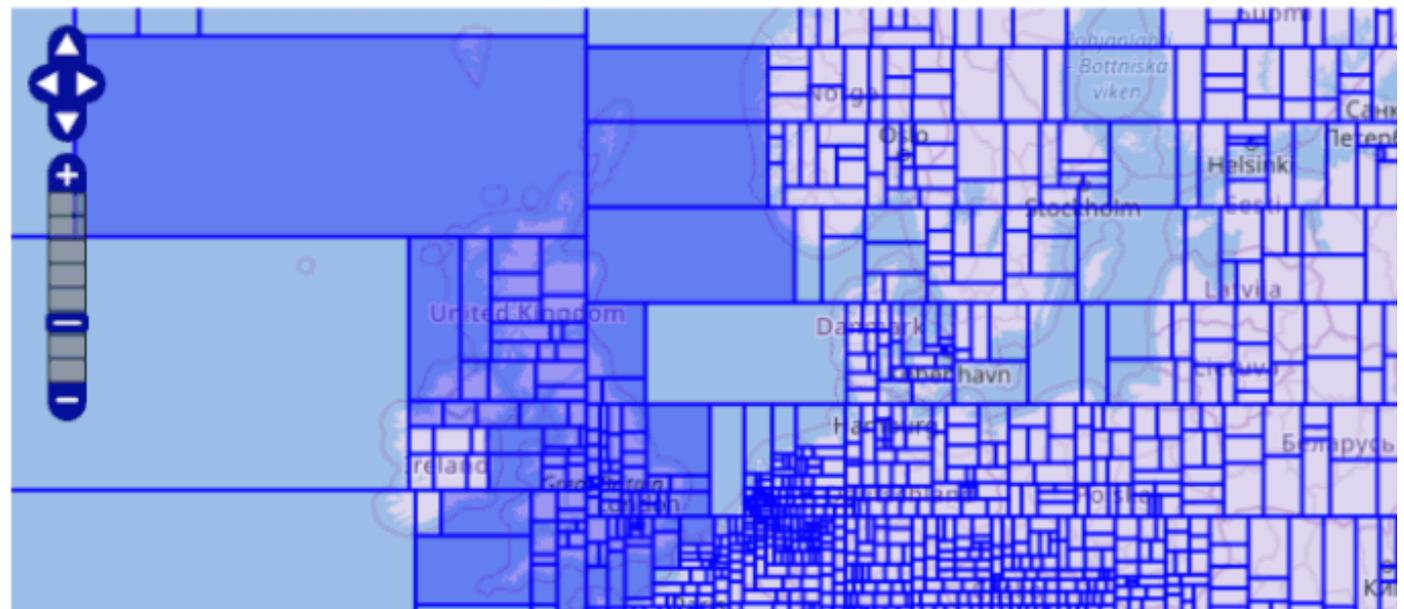
Generic Routable and the new style are both suitable for navigation with a satnav. I have tried both and prefer the new style.

**Choose a predefined country:**

**Perhaps you'd like to add some additional tiles?**  **Tick this if you wish to select your own map tiles**

Enable manual tile selection:  then use the map below to add and remove tiles to the selection.

**Request your map or download it directly:**  
[Download map now!](#)



# Downloading the Maps

Whether you chose a predefined country or you made your own selection

The list of files for a pre-defined country (UK in this case) is shown in the screen shot below. If you selected additional tiles, you will have a longer list, but don't worry about that. If you are using a Mac or a PC, you will need to download just the same two files that I have described below.

Make a folder into which you can download the files.

Download and save **osm\_generic\_new\_gmapsupp.zip**

There is an installer program in the list for Macs and another for PCs/Windows.

For a Mac users: download and save **osm\_generic\_new\_macosx.zip**

For Windows users: download and save **osm\_generic\_new\_windows.exe**

## Free maps for Garmin brand GPS devices

*from OpenStreetMap*

country: United Kingdom

version: 04-11-2019

<a href="#">Name</a>	<a href="#">Size</a>	<a href="#">Description</a>
 <a href="#">metadata/</a>	-	
 <a href="#">osm_generic_new_windows.exe</a>	609M	Map installer for BaseCamp / MapSource on the Windows platform.
 <a href="#">osm_generic_new_tiles.zip</a>	625M	Compressed file containing the tiles and overview map. This is useful for applications like Qlandkarte and Linux users.
 <a href="#">osm_generic_new_macosx.zip</a>	609M	Map installer for BaseCamp / Mac OSX platform.
 <a href="#">osm_generic_new_gmapsupp.zip</a>	584M	Compressed file containing a single image that can be placed directly onto the SD-card of the GPS. Unzip first!

Map data © openstreetmap.org and contributors

# What to do with the Download Files

There are only two of them !

Name	Date modified	Type
osm_generic_new_gmapsupp.zip	06/11/2019 11:55	Compressed (zip)
osm_generic_new_windows.exe	06/11/2019 11:55	Application

Do the easy one first.

**osm\_generic\_new\_windows.exe** is the map installer for Windows and Basecamp. It will install all of the necessary files in the folder that you specify.

Right click the file and Run it as administrator. This is why the file needed to be saved in a folder before running it.

Name	Date modified	Type
gmapsupp.img	06/11/2019 11:59	Disc Image File
osm_generic_new_gmapsupp.zip	06/11/2019 11:55	Compressed (zip)
osm_generic_new_windows.exe	06/11/2019 11:55	Application

Open  
Run as administrator  
Troubleshoot compatibility

There will be the usual questions - the file is OK to run, but then it asks where to install it. This may be where it suggests, but on my Windows 10 PC, they are installed in the location shown below.

Destination Folder  
C:\ProgramData\Garmin\Maps\OSM generic routable new(GBR) Browse...

Recently, I have experienced problems when installing maps to my own preferred location. They work fine, but my routes are recalculated when loaded into Zumo - something which should not happen.

As soon as I reinstalled into the location above, my routes would transfer and import very quickly. I need to investigate further, but for now, this is where they go on my PC.

Now for the Zipped File.

**osm\_generic\_new\_gmapsupp.zip** contains a single file - gmapsupp.img - but to get at it, the file needs to be unzipped.

Windows 10 has its own built in system for reading zipped files. Other users will need a third party program to unzip the file. 7Zip is an excellent free utility which can be downloaded from their site at <https://7-zip.org> with versions provided for 32-bit and 64-bit Windows systems.

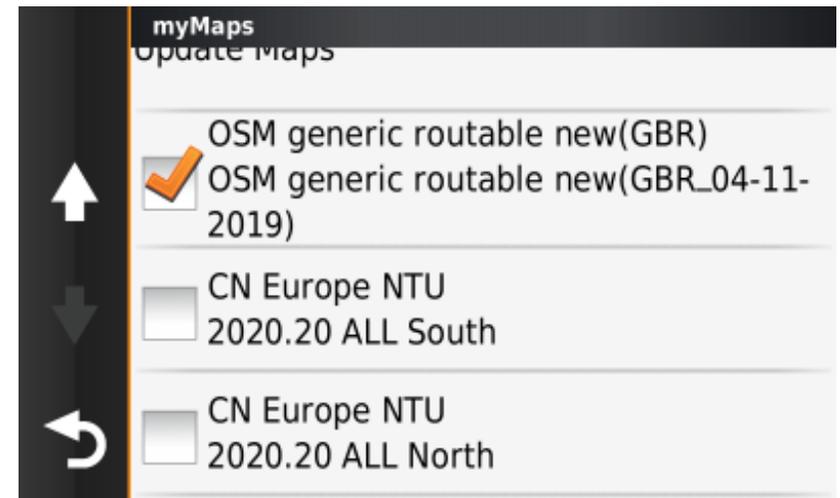


Once you have gmapsupp.img, this needs to be transferred to the SD card in the satnav in a folder called **Map**. The folder name must be on the root of the memory card (ie not in a subfolder) and it is case sensitive. This matters on some Zumos, including my Zumo 590. Capital **M**, lowercase **a**, lowercase **p**.

Either take out the Memory card, or plug the USB cable into the Zumo and wait until your computer recognises the two storage locations - Internal Storage and Memory Card.

Note that SD cards in the Zumo have to be formatted as FAT32 and FAT32 has a maximum file size of 4GB. If you have a very large map, it will probably not work.

Unplug the USB cable (or insert the memory card) and turn on the satnav. On the Zumo access MyMaps from Settings, Map & Vehicle, MyMaps. The new map should appear in the list. Untick the existing maps, and tick the new one.



**JaVaWa GMTK** is a toolkit which allows you to view, inspect and modify certain aspects of the files in Basecamp and on the Zumo. I used It to change the file name after seeing the mess above !

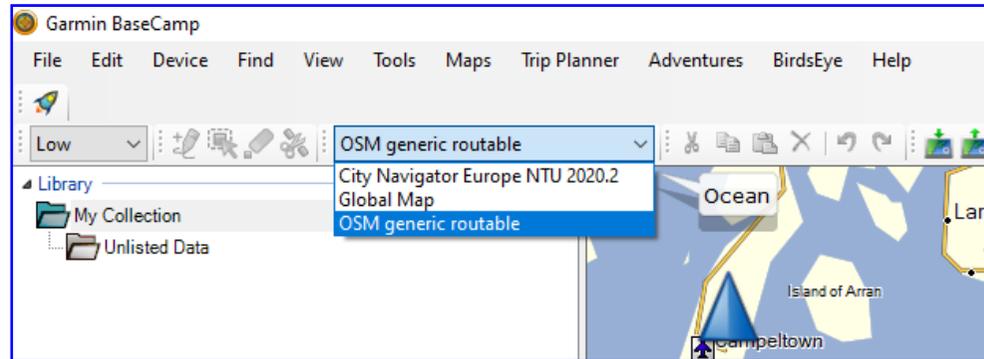
# Selecting the Map

## In BaseCamp

Basecamp works a lot faster if the Zumo is not plugged in to the USB port. The new map will certainly slow down BaseCamp much more as BaseCamp tries to read in the entire map from the card.

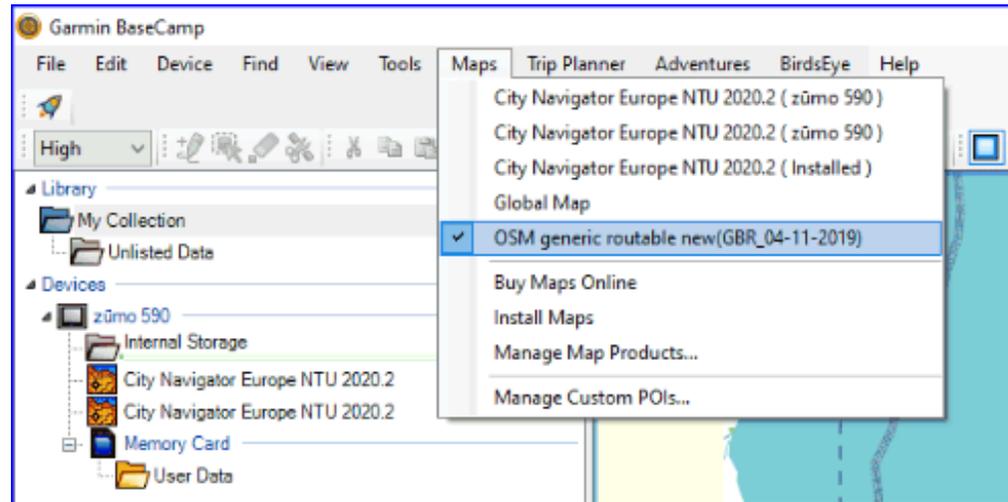
### Two ways to access the new map.

#### 1 From the drop down map list.



#### 2 From the Map Menu

## In Mapsource



Mapsource and Basecamp both access the same maps from the same location. If a map loads into Basecamp OK, then Mapsource will find it as well.

There is only one way to change the map view in Mapsource, and that is from the drop down map list.

# Checking the Maps are Compatible

## On Zumo and Basecamp

One thing that Garmin does particularly well is to ensure that the route received by the Zumo is exactly the same as the route that was sent from BaseCamp. The designer of the route will put in as many Shaping Points and Via Points as necessary to ensure that if the satnav does recalculate the route, it produces something close to the original - but in fact, this should not be necessary. We want to check that the Zumo receives the identical route that was drawn.

### So here's a test to see if this works on your set-up.

Choose a good main road that is heading away from your current location. Identify a potential detour from the main road which can rejoin further along.

In Basecamp, create a Waypoint (Flag) for your start - just up the road, and before your potential detour. Create another Waypoint after your potential detour can rejoin.

Highlight the Start Point in the list of waypoints at the side, and then CTRL and highlight the End Point. Right click and select 'Create a Route from Selected Waypoints' from the pop up menu.

This should have created an almost straight ride - the most obvious route to get from Start to Finish - or in my case from Skipton to Kirkby Lonsdale.

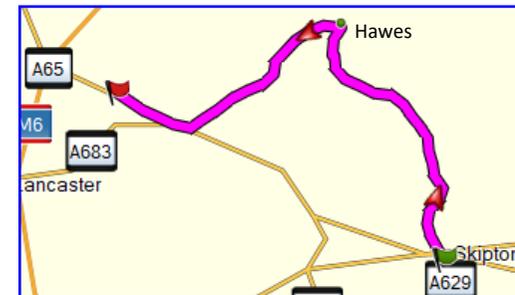
Now use the **Insert Tool** to 'rubber band' a mid-point, clearly off route and well way from the start and the end.

My mid-point is at Hawes, - see map opposite.

Now any reasonable satnav, given the chance to recalculate the route without Hawes being there, will generate a route direct from start to end - like the top map.

So I am going to make Hawes - the mid point - into a **Shaping Point** - ie a non alerting point. This is what I have done in the table on the right. Hawes is now a Shaping Point.

*The satnav will always navigate to Shaping Points as well as Via Points. The reason I am changing it to a shaping point is that Basecamp can be configured to leave a route intact without transferring any of the shaping points.*

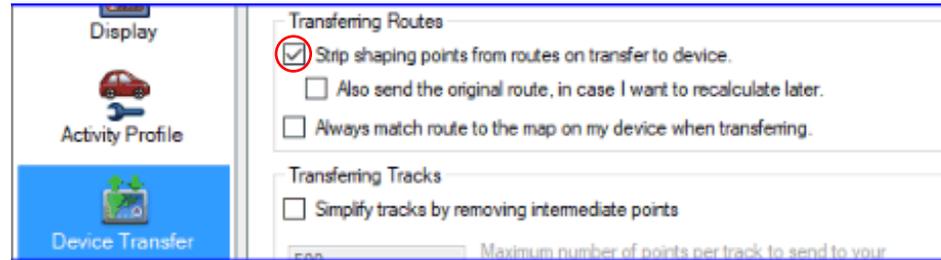


Symbol	Via Point Name
	Skipton Depart: 06/11/2019 20:19
	Hawes (won't alert) Arrive: 21:08
	Kirkby Lonsdale Arrive: 21:41

# Transfer the Route to the Zumo

...and strip out the shaping points

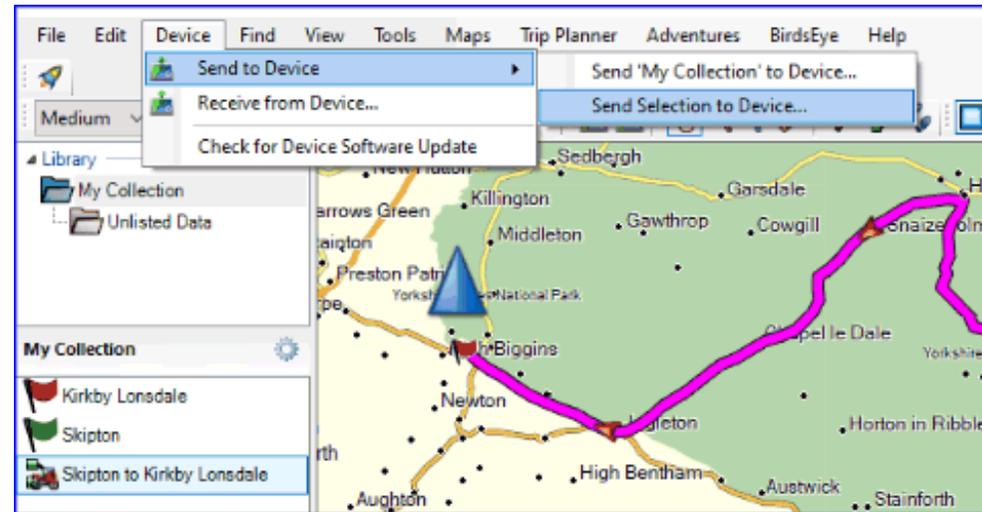
Basecamp has an intriguing option to strip any Shaping Points from the route when it is transferred - but to keep the route itself intact. This option is in the dialog box which can be obtained by selecting **Edit → Options → Device Transfer**. See below.



Connect the Zumo to the PC via the USB cable, wait for BaseCamp to recognise that the Zumo is connected and that any green progress bars have finished moving.

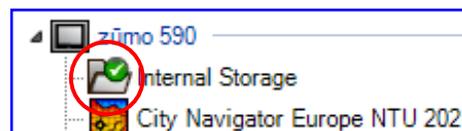
Select the route (Skipton to Kirkby Lonsdale) from the left hand pane.

Then select from the menu **Device → Send to Device → Send Selection to Device**



Choose **Zumo 590** rather than **Memory Card** if you are given the option.

Watch the progress bar in Basecamp alongside 'Internal Storage'. Make sure you see the green tick →



Finally, go back to the Device Transfer menu (shown at the top of this page) and untick all 4 of the check boxes.

# Check the results in Zumo

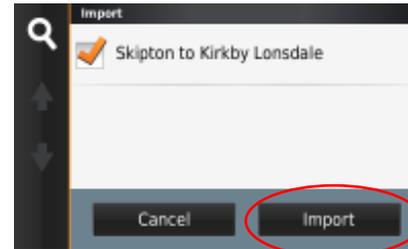
Annotated screen shots.

When the route is transferred, imported and selected, it should **not** be recalculated.

These screenshots show the checks to ensure that the route still visits the Hawes Shaping Point that was stripped out on transfer.

If it doesn't, something is wrong.

**Apps → Trip Planner → 3 Bar Menu → Import:**



**Apps → Trip Planner:**

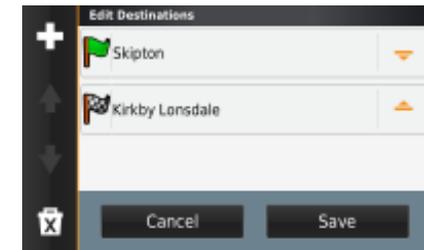


**Select Skipton to Kirkby Lonsdale**



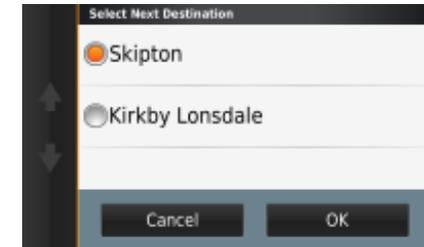
Note that in this display of the route, there are only 2 points listed - the Shaping Point at Hawes has not been included in the transfer.

**3 Bar Menu → Edit Destinations**



In the above screen we should be able to edit all 3 route points, but only the start and finish are shown. This is because we stripped out the Shaping Points on transfer. If there had been any other Via Points, they would remain in this list.

**Return to Image 3 → Go**



Select the first point. The satnav will say Calculating - briefly. It is not calculating your route. It is calculating how to get you from where you are now to the start of the route (Skipton).

**View Map from Navigation Screen**



View the map from the navigation screen and the original route is intact - still visiting Hawes, even without the Shaping Point.

If the route had been recalculated it would have worked out the obvious, more direct route.

# Summary

I cannot see any good reason for wanting to strip out the Shaping Points from a route. You need them in your route so that if your SatNav recalculates, it still generates a route that visits all of the places or roads that you wish to pass through. If you navigated using the route in the example (without the Shaping Points), and deviated from the route at the start, the satnav would then recalculate a route to the end, without visiting Hawes.

It can sometimes be difficult to work out why your route seems to have changed since you set off. Often it is to do with things that have happened when riding.

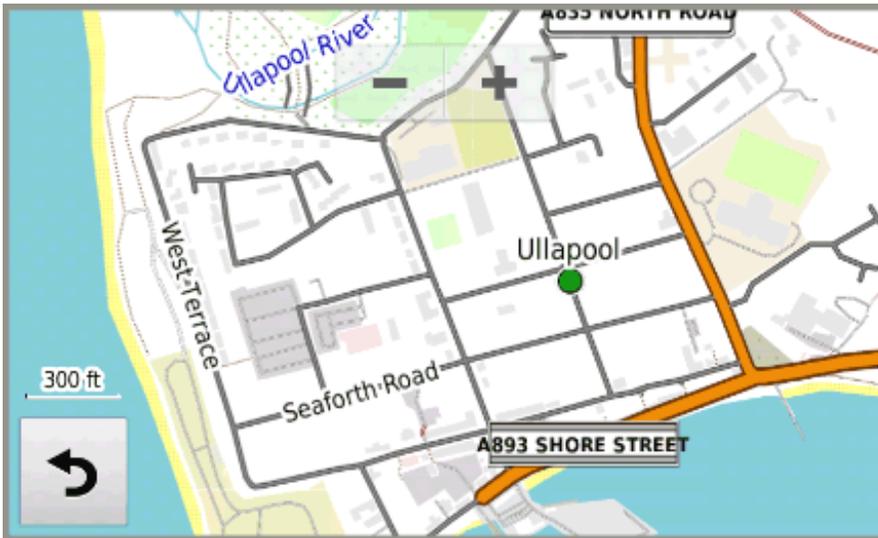
But sometimes it is to do with differences between the map on the satnav and the map used in BaseCamp - and the exercise on the previous page is an excellent way of finding out whether or not your routes are being transferred properly.

Open Street Maps are free to download and use, and I think that they have a nice 'map-like' appearance on the satnav screen.

However, in some respects they are more primitive than the later Garmin offerings. The ETA calculations may well be off, particularly when travelling through built up areas. My Zumo 590 is pretty accurate with the Garmin maps, but the OSM maps are far too ambitious for my style of riding! Simulate a route on these maps with the GPS turned off, and you will see what I mean. 80mph in a 50mph area ? It is as if someone has their km/h and mph mixed up !



City Navigator Europe NTU 2020.2



Zumo Screen - OSM Generic Routable New (GBR\_04)11\_2019)



Basecamp - OSM Generic Routable New (GBR\_04)11\_2019)