

# Using OpenStreetMap to map active travel routes around the Black Isle

Cycling in Rural Scotland  
22<sup>nd</sup> March 2014



# Community mapping and the Million Miles project

The need for community mapping

Intro to OpenStreetMap

Editing OpenStreetMap

Applications for OpenStreetMap



## Community mapping

### The aim!

Create a map of the Black Isle to make it easier to plan active travel journeys

Print the map before the Million Miles project ends in March 2015



## Community mapping

### The aim!



Better information will make it easier to plan journeys by active travel



## Community mapping

### How do we create a map?



Ordnance Survey maps provide a huge amount of detail...  
...but not always that helpful for active travel and can be out-of-date



## Community mapping

### How do we create a map?

Digital maps can be very useful (especially on smartphones)  
Often lack detail to know if suitable for cycling or walking



## Community mapping

### Some problems!

The Black Isle is a large rural area with a dispersed population



...so it is difficult to identify and map routes



## Community mapping

### Some problems!



Existing active travel routes will alter over time and new paths may be added in the future

...so the map could be outdated by late 2015



## Community mapping

### The solution!

Crowd-source the data by asking local people to contribute to OpenStreetMap.org  
 ...then use this open-source data to create an active travel map for distribution



## OpenStreetMap.org

A collaborative project to create a free editable map of the entire world



Inspired by success of Wikipedia  
 Based on local knowledge, surveys and overlaying maps and images  
 Nearly 1.6 million contributors (Mar 2014)



## OpenStreetMap.org

### Map elements

**Nodes** A geographic point (e.g. bike stand)  
**Ways** A linked series of **nodes** (e.g. cycle track)  
**Relations** Connections between **nodes** and **ways** (e.g. national cycling network)

**Tags** `amenity=bicycle_rental`



## OpenStreetMap.org

Tags allow a HUGE amount of detail:

- Surface of paths (e.g. paved, grass, gravel)
- Barriers (e.g. stile, kissing gate, bollard)
- Access (e.g. cyclists dismount, horses allowed)



## OpenStreetMap.org

Tags allow a HUGE amount of detail:

- Amenities (e.g. cash point, postbox, bench)
- Points of interest (e.g. viewpoint, memorial)
- Transport links (e.g. bus stop, bike parking)



## OpenStreetMap.org

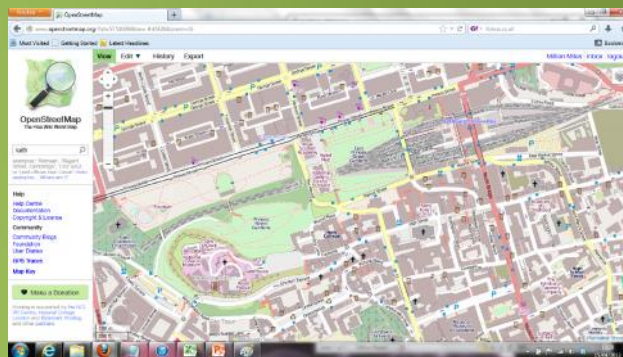
### But map detail is variable

Level of detail depends on whether someone who knows the area is contributing to OSM

Urban areas are better mapped than rural areas (especially noticeable in major cities)



## Edinburgh City Centre



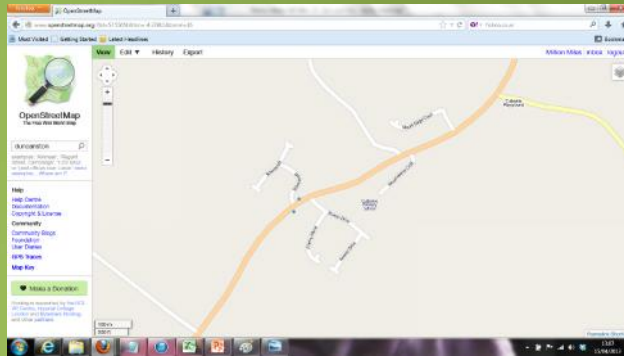
© OpenStreetMap contributors

## Conon Bridge



© OpenStreetMap contributors

## Part of Culbokie



© OpenStreetMap contributors

## Editing OSM



## Editing OSM

### Several ways to gather data

- ✓ Local knowledge of a familiar area
- ✓ Ground surveys (GPS, on paper)
- ✓ Overlaying background images



## Editing OSM

### You're not on your own!

Guidance, background and explanation available through an online wiki

[wiki.openstreetmap.org](http://wiki.openstreetmap.org)



## Editing OSM

### What are we interested in?

Most important = all paths and tracks across the whole of the Black Isle

As much detail as possible (e.g. gates, surface, lighting, local name)



## Editing OSM

### What are we interested in?

All amenities and important buildings (pubs, restaurants, schools, community halls)

Any detail that helps people navigate (woodland, streams, fences, power lines)



## Applications for OSM

### Using OpenStreetMap

Browse different layouts (e.g. cycle map, transport map)

Download images or map data

User guide at [wiki.openstreetmap.org](http://wiki.openstreetmap.org)



## Applications for OSM

### Why bother adding this detail???

#### Direct benefit

TBI can use OSM data to create an active travel map

#### Indirect benefit

Online services that use OSM data will be improved



## Applications for OSM

### CycleStreets.net



One of many online services that uses OpenStreetMap.org



## Applications for OSM

### CycleStreets.net

Calculates a route from A to B to give:

- Map
- Distance
- Time
- Calories
- Elevation profile
- Step-by-step directions



## Applications for OSM

### CycleStreets.net



Three route options:

- Fastest
- Quietest
- Balanced



## Applications for OSM



Embedded version now on Transition Black Isle website!

[cyclerroutes.transitionblackisle.org](http://cyclerroutes.transitionblackisle.org)



## Applications for OSM

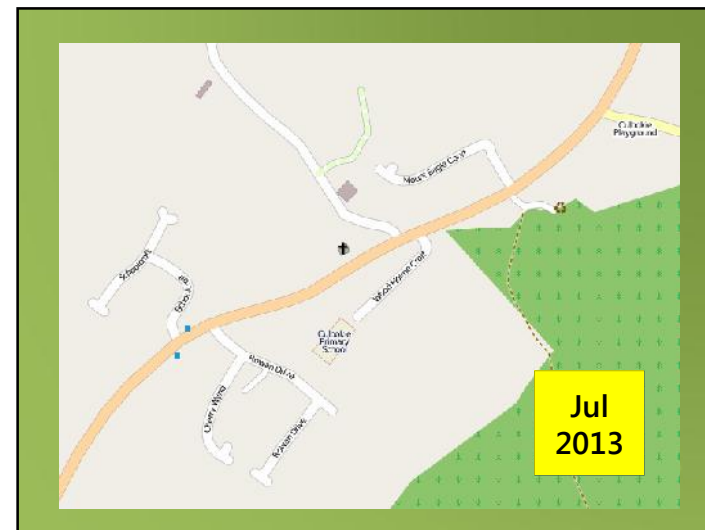
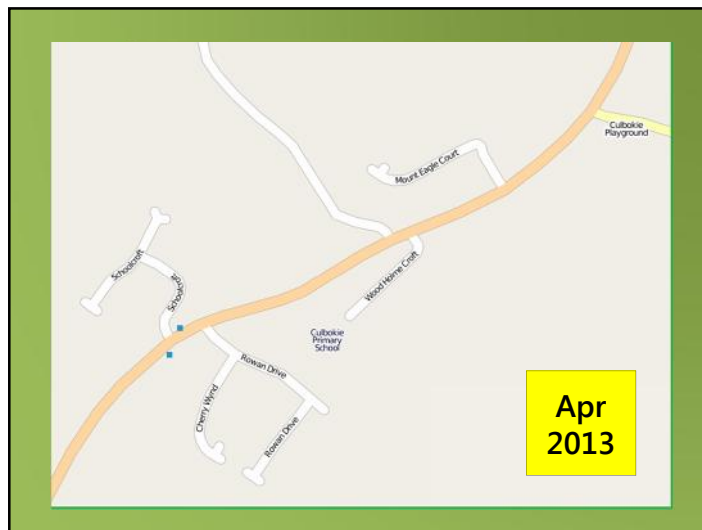
### Interesting applications for OpenStreetMap

- A huge number of online services
- Detailed maps of cities, zoos, attractions
- Aiding disaster relief (Haiti, Philippines)

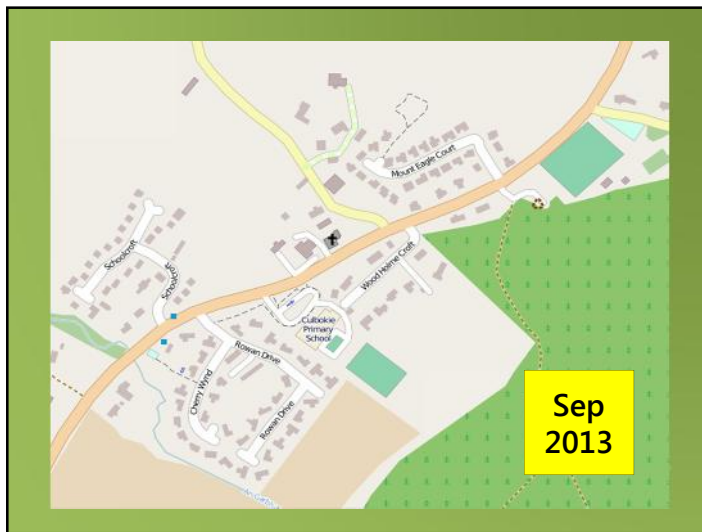


## How are we getting on?

# Something special happened towards the end of last year...







How are we getting on?

### North Kessock



How are we getting on?

### Cromarty



How are we getting on?

Design of active travel map currently under development



And finally...

Any  
questions?

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