Slide

auto-drawing map geometry

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STRAVA

What is STRAVA

- Fitness tracking website
- “An online network for athletes”
- 120 million rides and runs
- 2 million new activities a week

1 Grab a GPS Device

2 Go Out for a Run or Ride

3 View Your Activities on Strava.com

How we are using OSM

- Route Builder (http://www.strava.com/routes/new)
  - based on OSM
  - custom routing engine written in Scala
  - incorporates route popularity
- Maps from Mapbox

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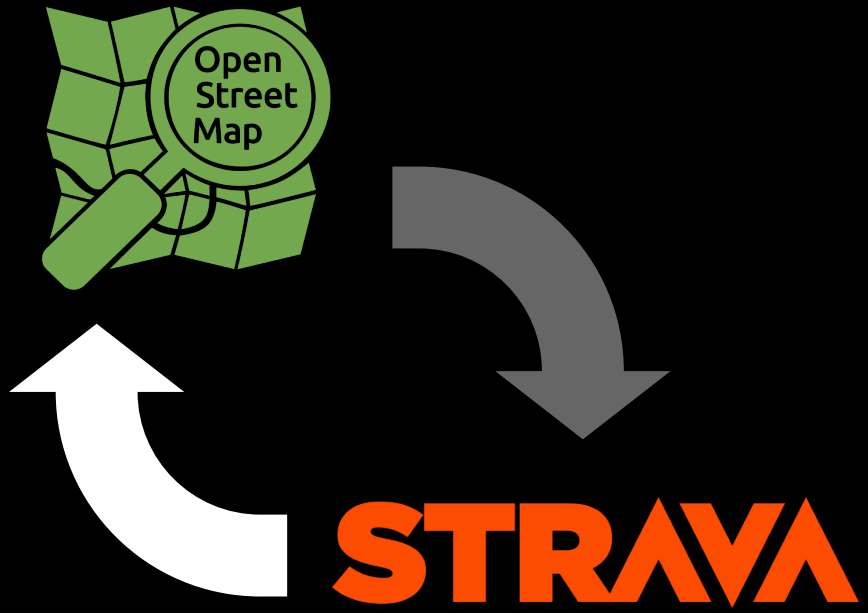
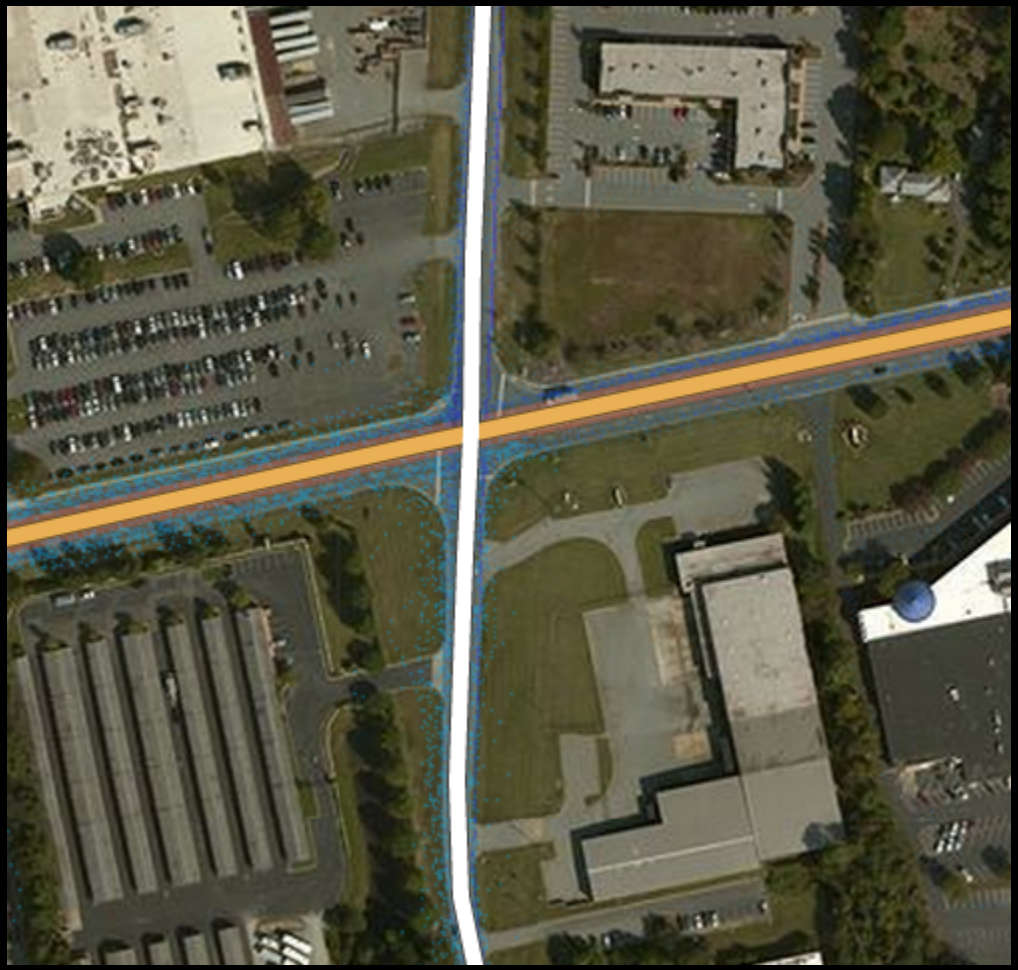
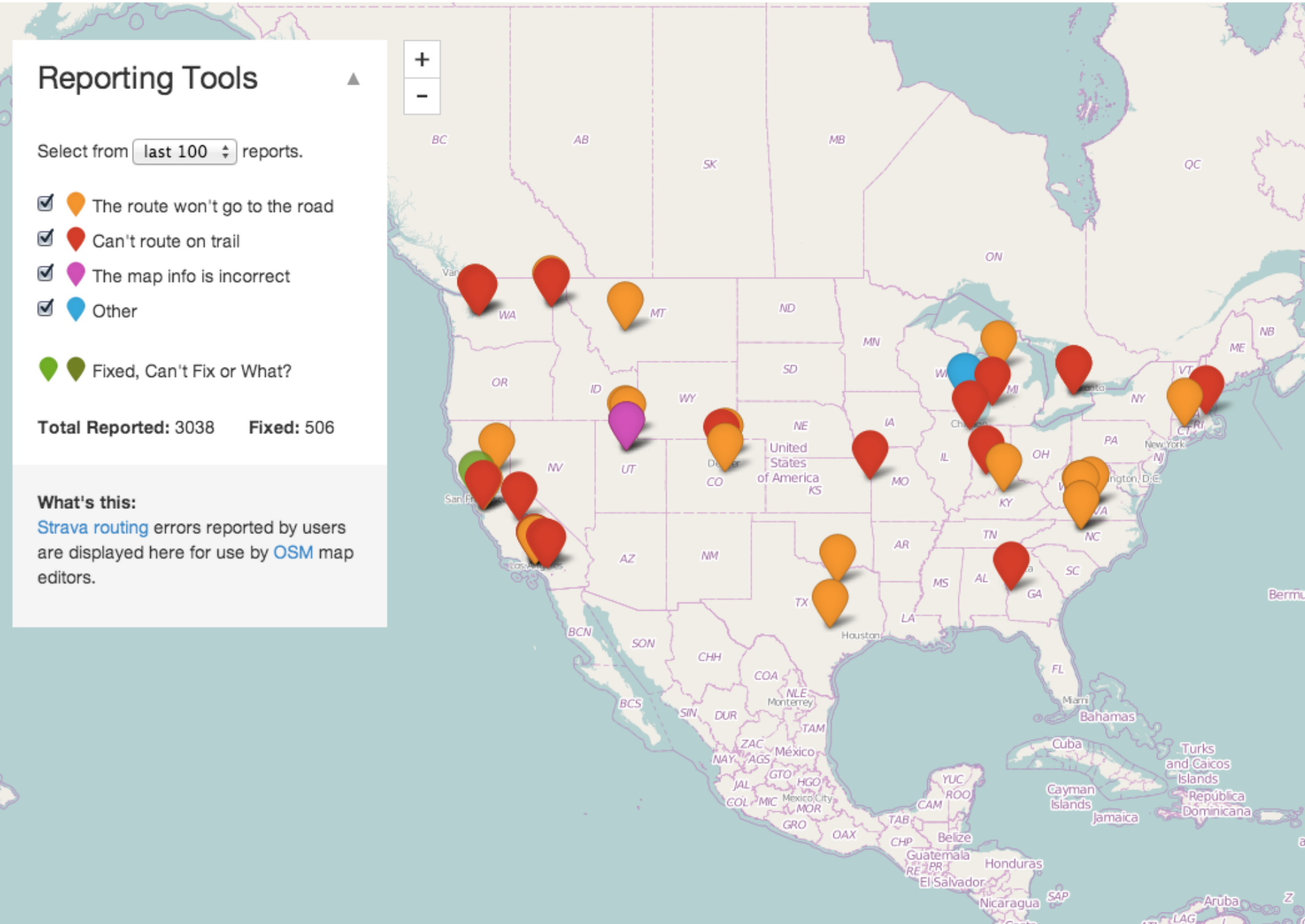


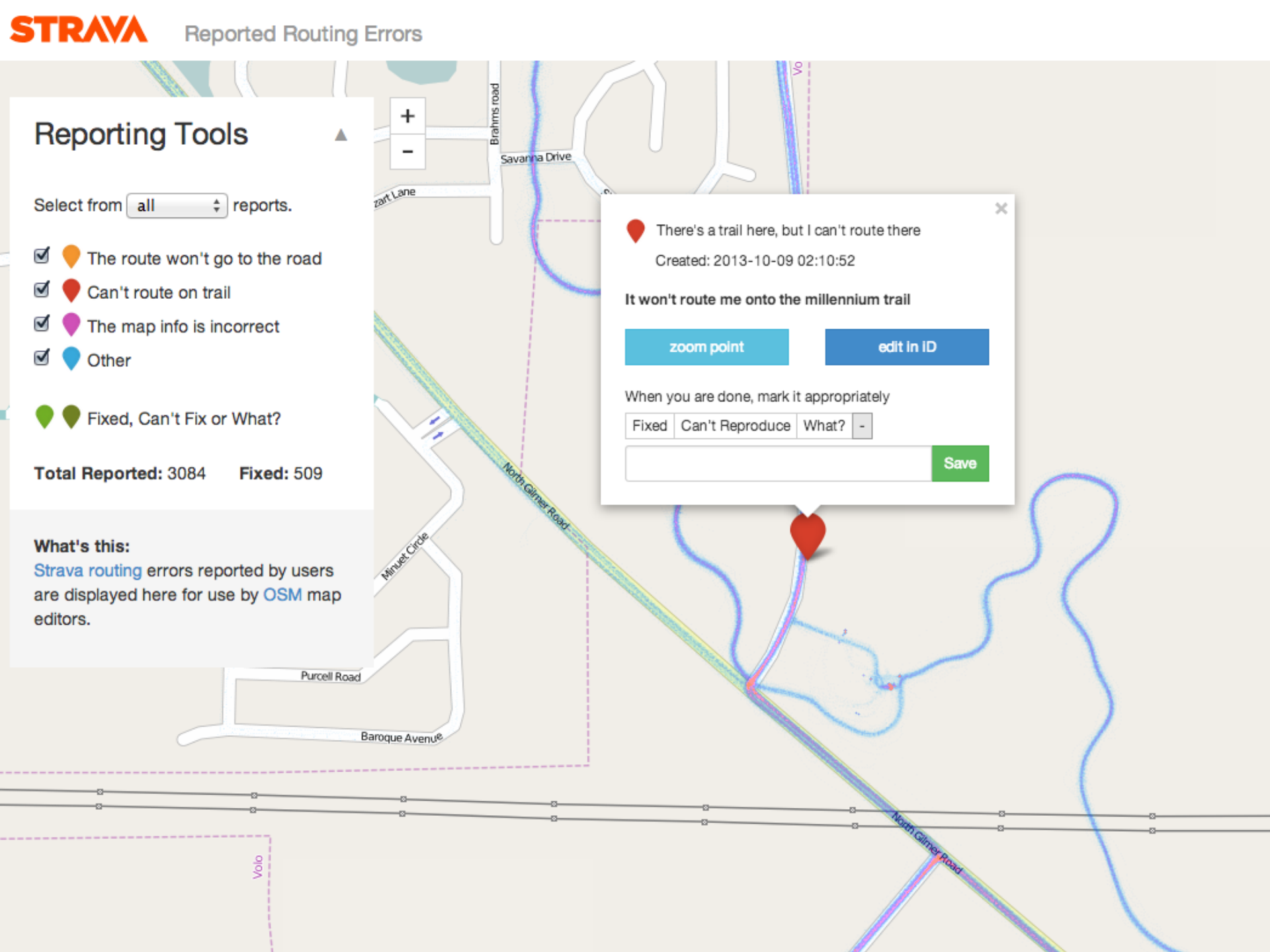
Helping to improve OSM

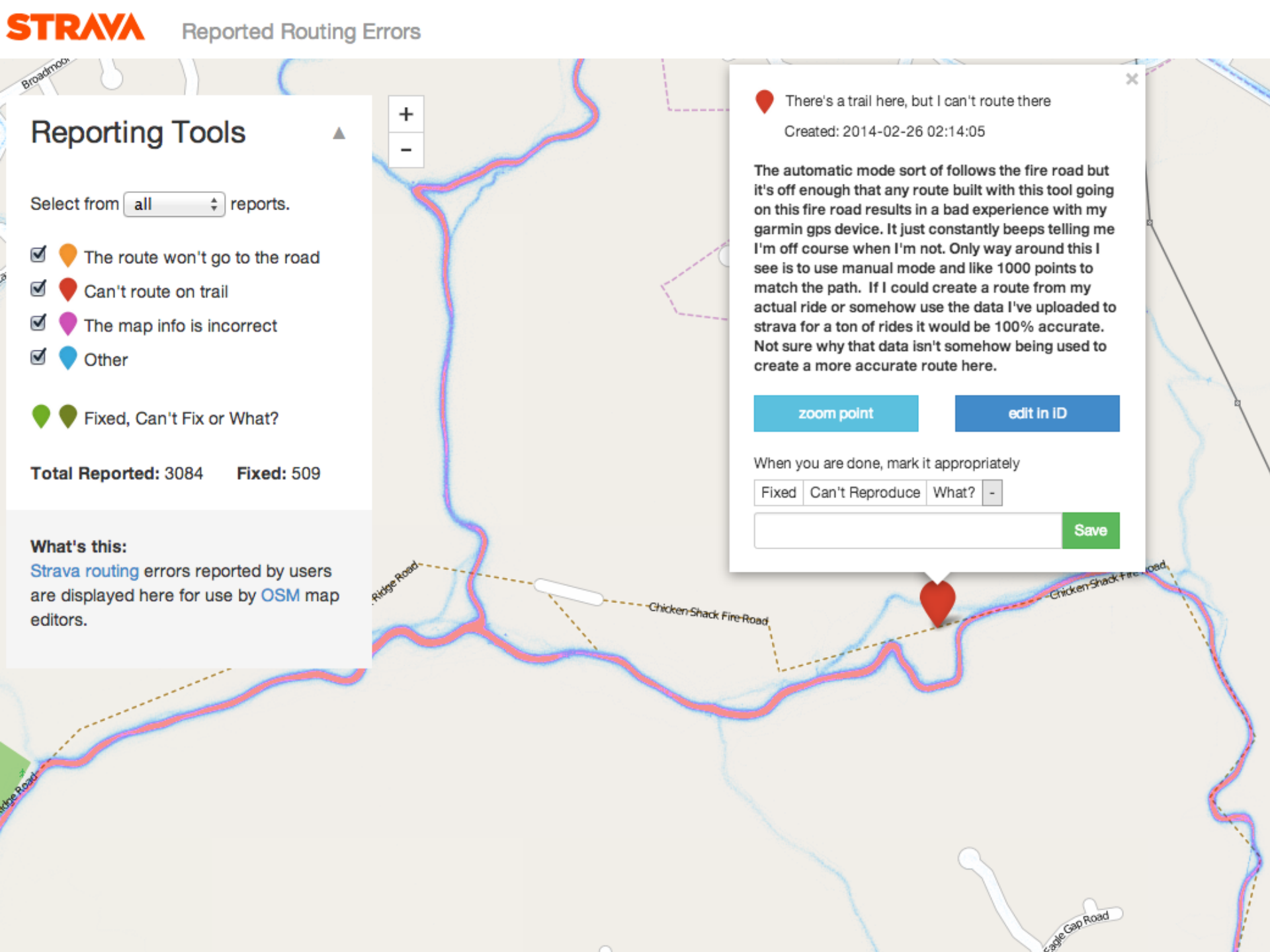
- Geometry
  - connections for routing
  - better representation of trails and rural roads



STRAVA Reported Routing Errors




STRAVA
Reported Routing Errors
Reporting Tools
Select from all reports.
The route won't go to the road
Can't route on trail
The map info is incorrect
Other
Fixed, Can't Fix or What?
Total Reported: 3084
Fixed: 509
What's this:
Strava routing errors reported by users are displayed here for use by OSM map editors.
There's a trail here, but I can't route there
Created: 2013-10-09 02:10:52
It won't route me onto the millennium trail
zoom point
edit in iD
When you are done, mark it appropriately
Fixed
Can't Reproduce
What?
-
Save
Brahms road
Savanna Drive
North Gilmer Road
Minuet Circle
Purcell Road
Baroque Avenue
Volo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Select from all reports.
The route won't go to the road
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Fixed, Can't Fix or What?
Total Reported: 3084
Fixed: 509
What's this:
Strava routing errors reported by users are displayed here for use by OSM map editors.
There's a trail here, but I can't route there
Created: 2014-02-26 02:14:05
The automatic mode sort of follows the fire road but it's off enough that any route built with this tool going on this fire road results in a bad experience with my garmin gps device. It just constantly beeps telling me I'm off course when I'm not. Only way around this I see is to use manual mode and like 1000 points to match the path. If I could create a route from my actual ride or somehow use the data I've uploaded to strava for a ton of rides it would be 100% accurate. Not sure why that data isn't somehow being used to create a more accurate route here.
zoom point
edit in ID
When you are done, mark it appropriately
Fixed
Can't Reproduce
What?
Save
Chicken Shack Fire Road
Eagle Gap Road

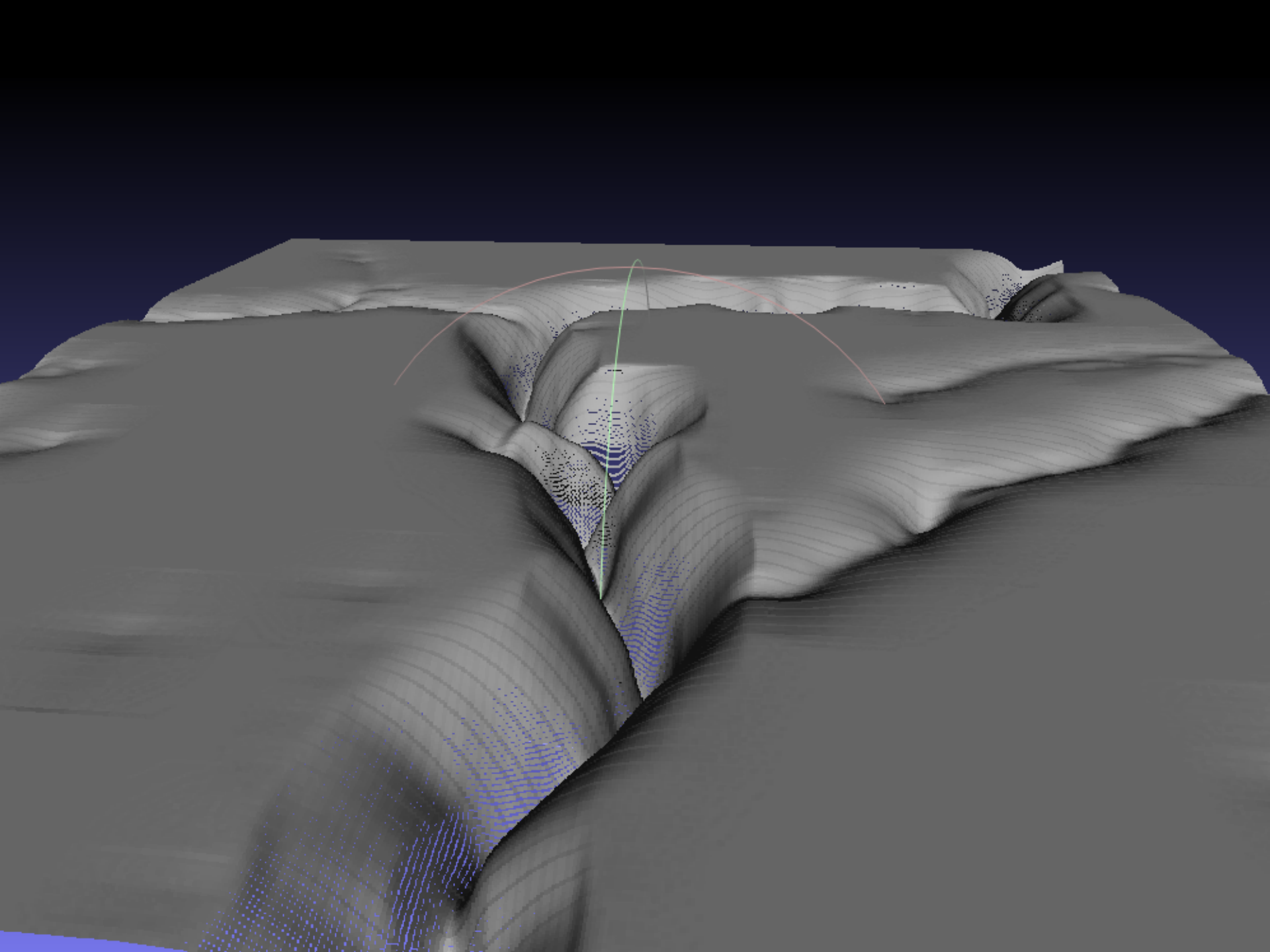
Slide demo

http://labs.strava.com/slide/demo.html#17/-122.54545/38.05432

Sliding the geometry into place

- Runs server side and is written in Go
- Leverages the Strava global GPS dataset
- Improves the path one step at a time
- Most slides complete in under 0.3 seconds

labs.strava.com



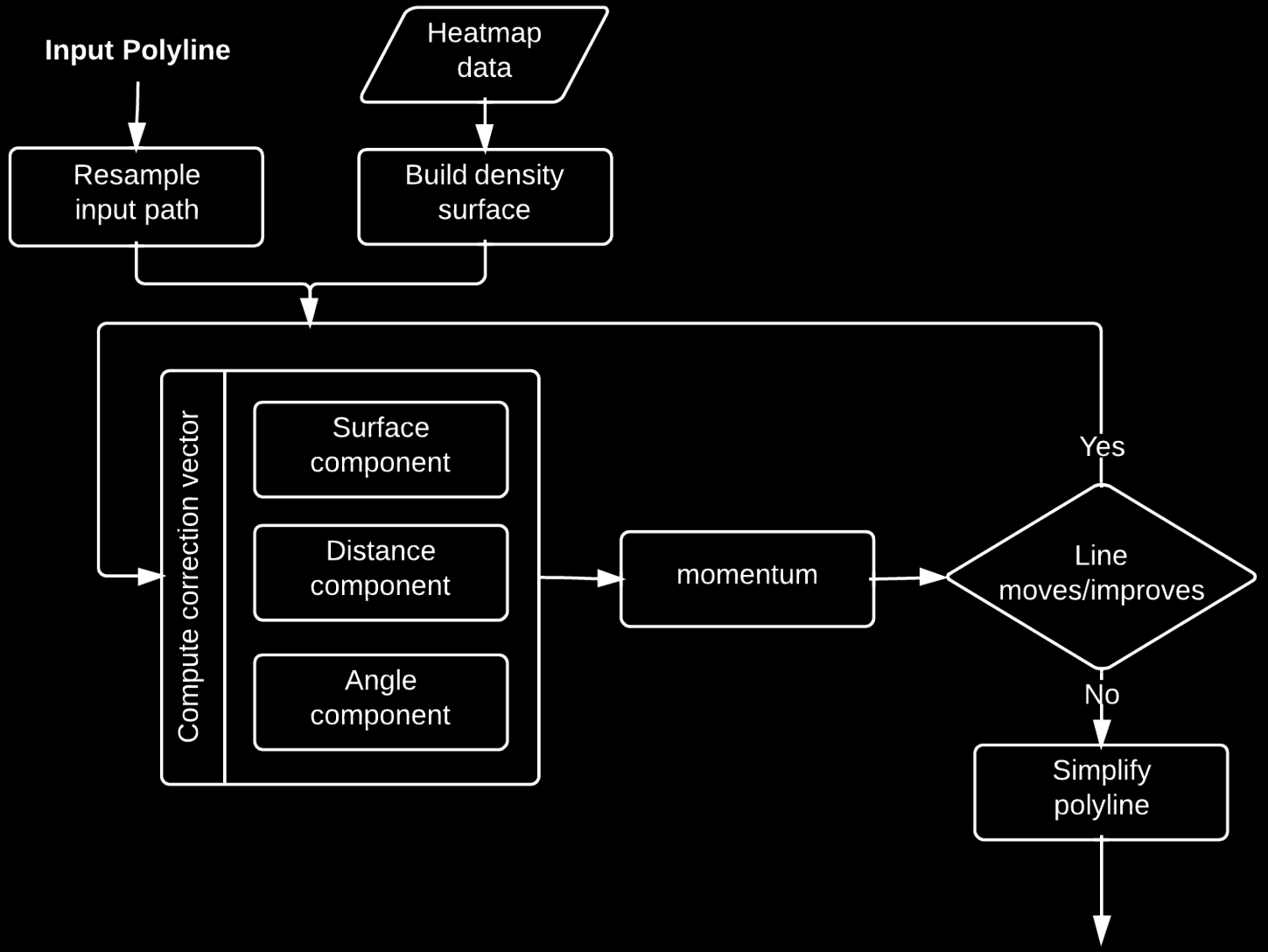
Slide

Based on Mathematical Optimization

3 components to the cost function

- Depth with respect to the surface
- Equal distance between resampled points
- Maximize vertex angles

Slide overview Slide



Integration with the iD Editor

- Self hosted fork of iD
- Extra Slide operation/action
  - select 2 or more nodes on the same way, will slide section between them
  - select a way to slide the whole thing

strava.github.io/iD

Id demo

http://strava.github.io/iD/#background=Bing&map=17.34/-122.54499/38.05496

http://strava.github.io/iD/#background=Bing&map=16.90/-88.14613/42.31283

Thank you

labs.strava.com

- Global Heatmap
- Reported Routing Errors
- Slide Tool

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