



OpenStreetMap

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César Medina <ciesaremedina@gmail.com>



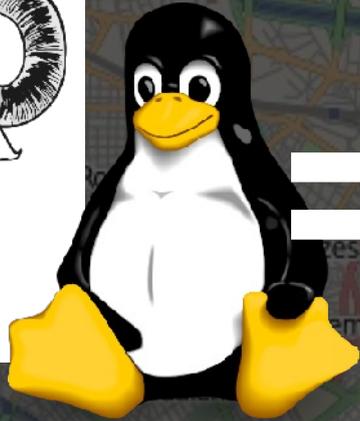
1^{as} Jornadas Brasileiras gvSIG

22 a 24/09 de 2010 - Curitiba - Paraná



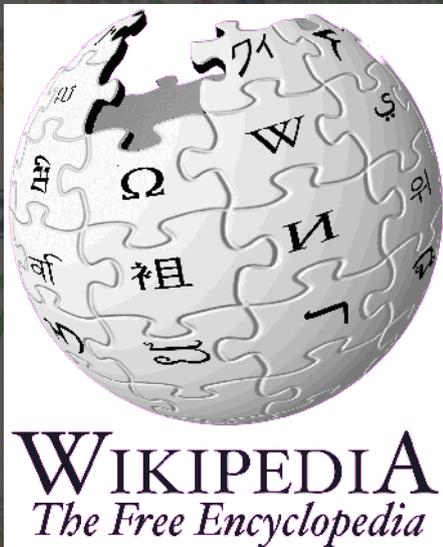


¿Qué es OpenStreetMap?



=

```
static int
read_fw (struct
usb_dev_handle *dev, char
*filename, long off)
{
    int fd, len, req,
llen, res, ret = -1;
    unsigned char data[4],
rdata[1024], *ptr;
```



=

```
{{taxobox
|name = Pleurodema borellii
|status = LC
|status_system = IUCN3.1
|regnum = [[Animalia]]
|phylum = [[Chordata]]
|classis = [[Amphibia]]
}}
''''Pleurodema
borellii'''' is a species
of [[frog]] in the
[[Leptodactylidae]] family.
```



Pleurodema borellii
from *Wikipedia: the free encyclopedia*

Pleurodema borellii is a species of frog in the Leptodactylidae family. It is found in Argentina and possibly Bolivia. Its natural habitats are subtropical or tropical dry forests, subtropical or tropical dry forest, moist montane subtropical or tropical high altitude grassland, freshwater marshes, intermittent freshwater marshes, rural gardens, urban areas, heavily degraded former forest, and ponds.

| Pleurodema borellii |
|--|
| Conservation status |
| <div>Least Concern </div> |
| Scientific classification |
| Kingdom: Animalia |
| Phylum: Chordata |
| Class: Amphibia |
| Order: Anura |
| Family: Leptodactylidae |
| Genus: <i>Pleurodema</i> |
| Species: <i>P. borellii</i> |
| Binomial name |
| <i>Pleurodema borellii</i> (Gerrits, 1954) |

References [edit]

- Cortez, G., Reichle, S., De la Hoya, L., Koller, J., & Lav, J. E. 2004. *Pleurodema borellii* (W. 2006). IUCN Red List of Threatened Species. [Downloaded on 22 July 2007].

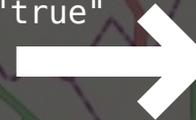
 This Leptodactylidae article is a stub. You can help Wikipedia by expanding it.

Categories: IUCN Red List least concern species | Pleurodema | Leptodactylidae stubs

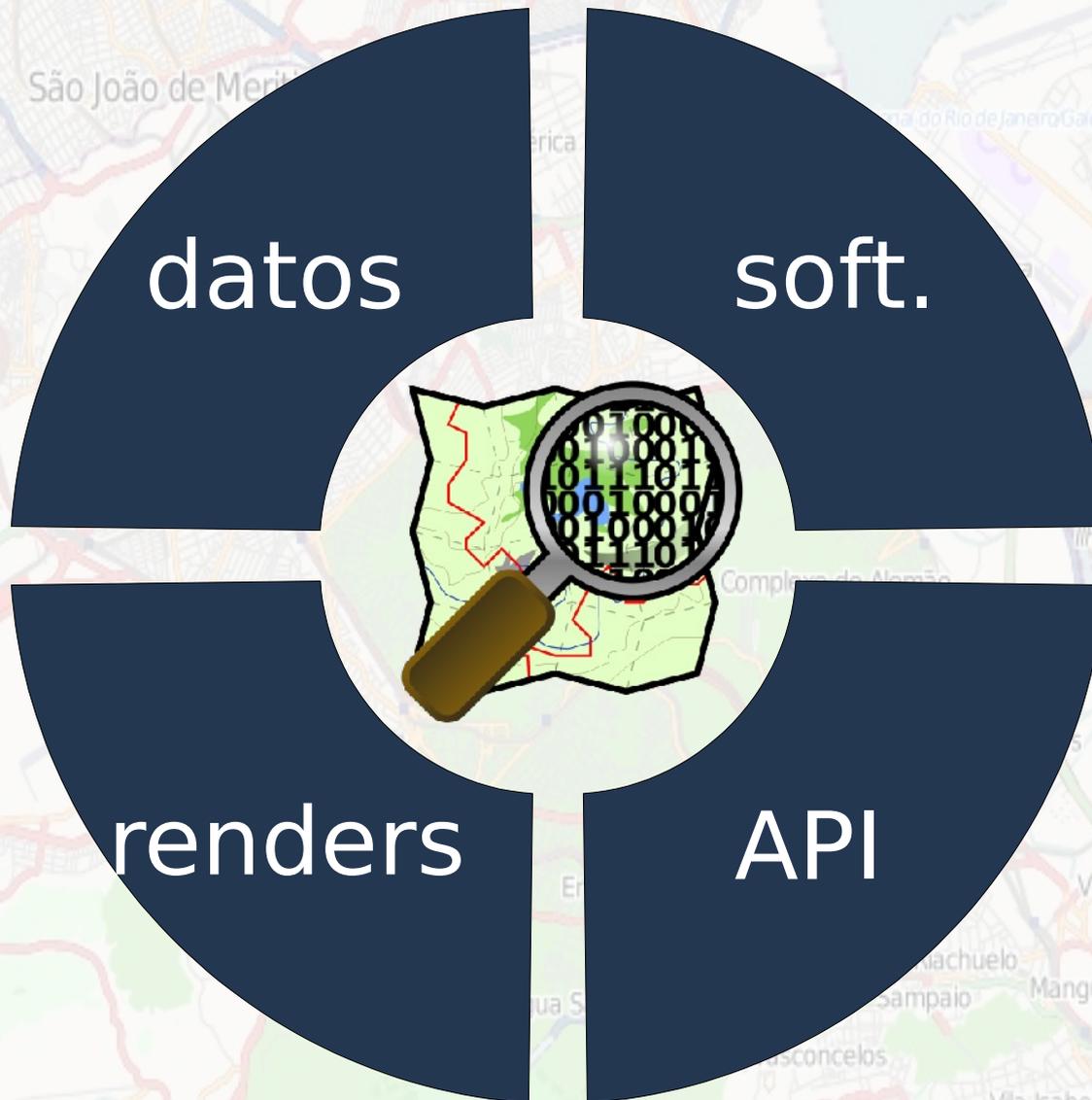


=

```
<node id="206358572"
lat="37.3905641" lon="-5.9882308"
timestamp="2009-02-20T17:16:48+00:00"/>
<way id="22744006" visible="true"
timestamp="2008-10-31T13:50:26+00:00">
    <nd ref="206358593"/>
    <nd ref="206358594"/>
    <nd ref="206358595"/>
    <nd ref="206358596"/>
    <tag k="highway"
v="residential"/>
```



OpenStreetMap es...



OpenStreetMap es...

- 5 años
- 534.650.399 puntos
- 39.701.133 vías
- 208.076 usuarios
- 400+ profesionales

(Estadísticas a fecha 23/01/2010)

OpenStreetMap es una comunidad organizada



OpenStreetMap es colaboración OpenStreetMap son resultados

ito! OSM 2008: A Year of Edits
by ItoWorld PLUS
2 years ago



<http://vimeo.com/2598878>

Santo André

*mmm ¿pero esto
no lo tenemos ya?*

Google Maps Start address e.g., "SFO" End address e.g., "94526"
google, mountain view Stanford, CA [Get Directions](#)

[Search the map](#) [Find businesses](#) [Get directions](#)

[Search Results](#) [My Maps](#)

Directions: [Drive There](#) - [Take Public Transit](#)

Options Alternate routes

From: Google Headquarters
1600 Amphitheatre Pkwy,
Mountain View, CA 94043

Public transit \$3.50 (vs. \$3.03 driving)
Showing Trip 1 Travel time: about 54 mins

Walk to Charleston & Huff (about 4 mins)

Board the VTA 40 - La Avenida - SN Antonio Shop CTR (Direction: 40 SB San Antonio Shopping Center)
9:38am Depart Charleston & Huff
⋮ 11 mins
9:49am Arrive Showers & Latham

Transfer to the 22 - Eastridge - Palo Alto/Menlo Park (Direction: 22 WB Palo Alto Transit Center; 9 mins to make transfer)
9:58am Depart El Camino & Showers
⋮ 16 mins
10:14am Arrive El Camino & Embarcadero

Walk to Stanford, CA (about 14 mins)

To: Stanford, CA





¡No nos dejemos
engañar...esto va
de propiedad
intelectual!

Google vs. OSM

Google MapMaker: **“vuestro trabajo es nuestro”**



MapMaker

- desequilibrio de derechos y obligaciones
- sólo para uso personal
- no se permiten descargas masivas
-

Usar GM para hacer *mashups*...

- atribución estricta

http://www.google.com/mapmaker/mapfiles/s/terms_mapmaker.html

<http://code.google.com/apis/maps/terms.html>

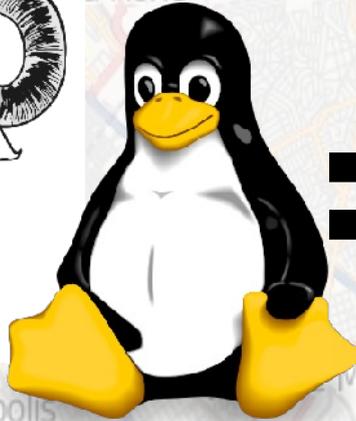
• sólo para aplicaciones públicas

OSM es “libre de libertad”

*muchos de los mapas
que podrían parecer
libres realmente
**tienen restricciones
legales o técnicas en
su uso***



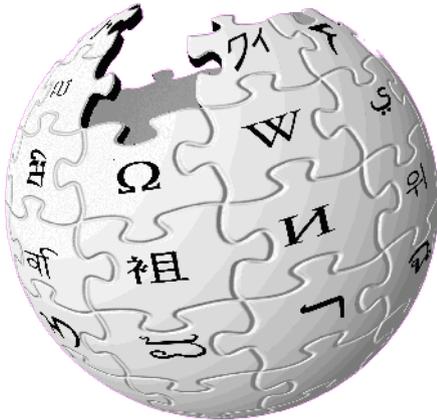
Santo André



=

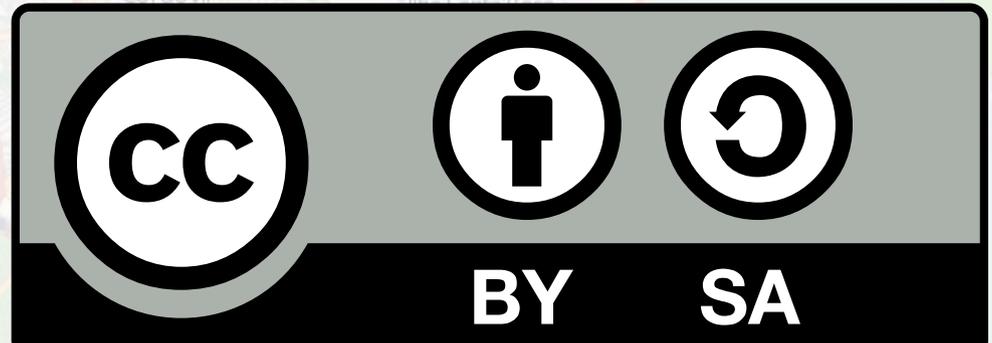


Free as in Freedom



WIKIPEDIA
The Free Encyclopedia

=



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ODbL

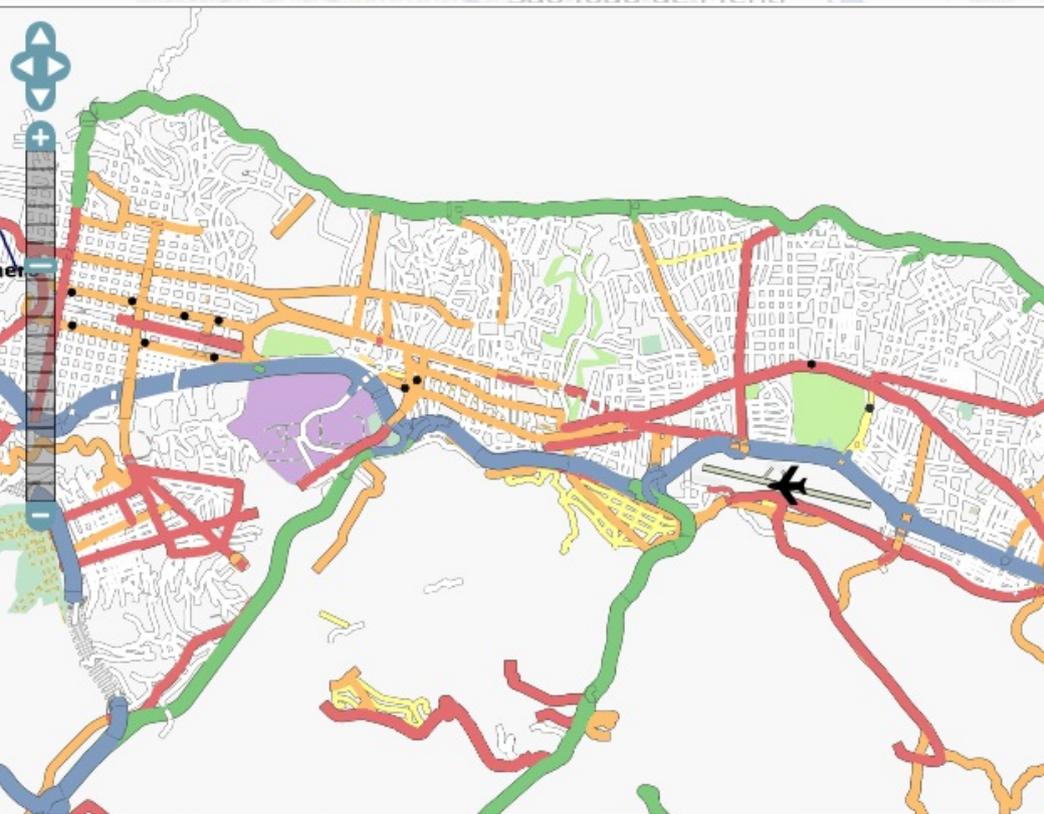
Geofabrik Map Compare

<http://tools.geofabrik.de/mc/>

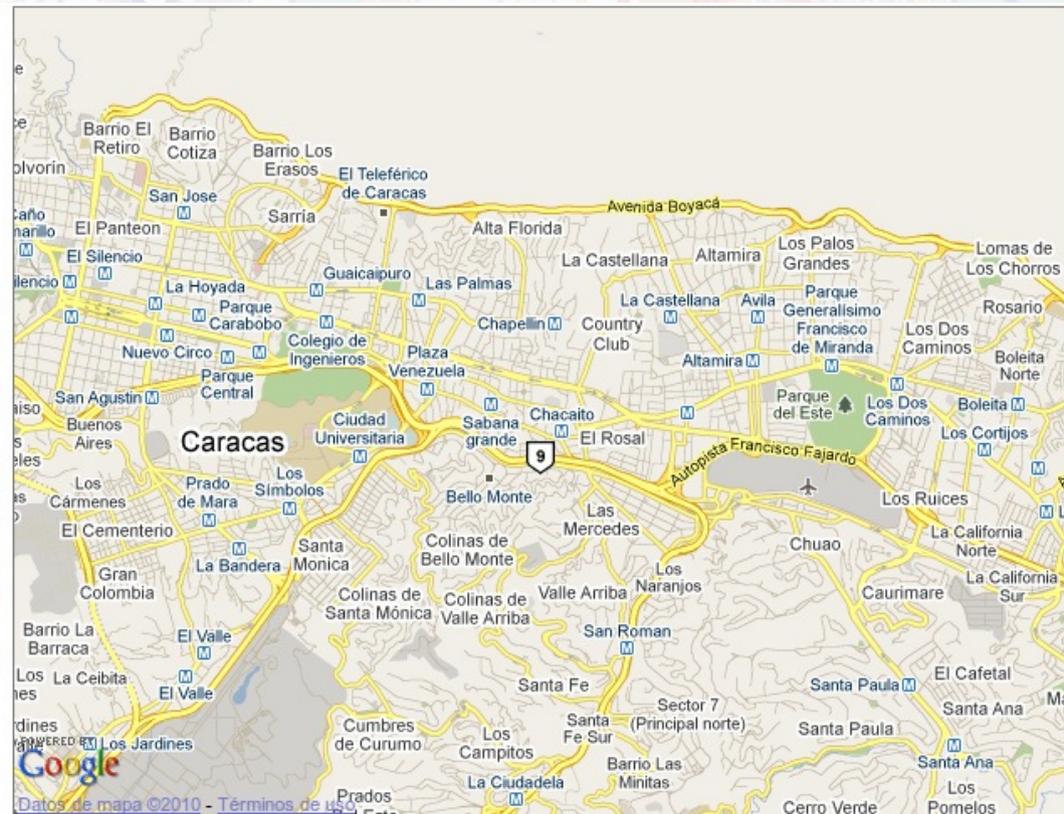


comparemos

GOOG vs. OSM

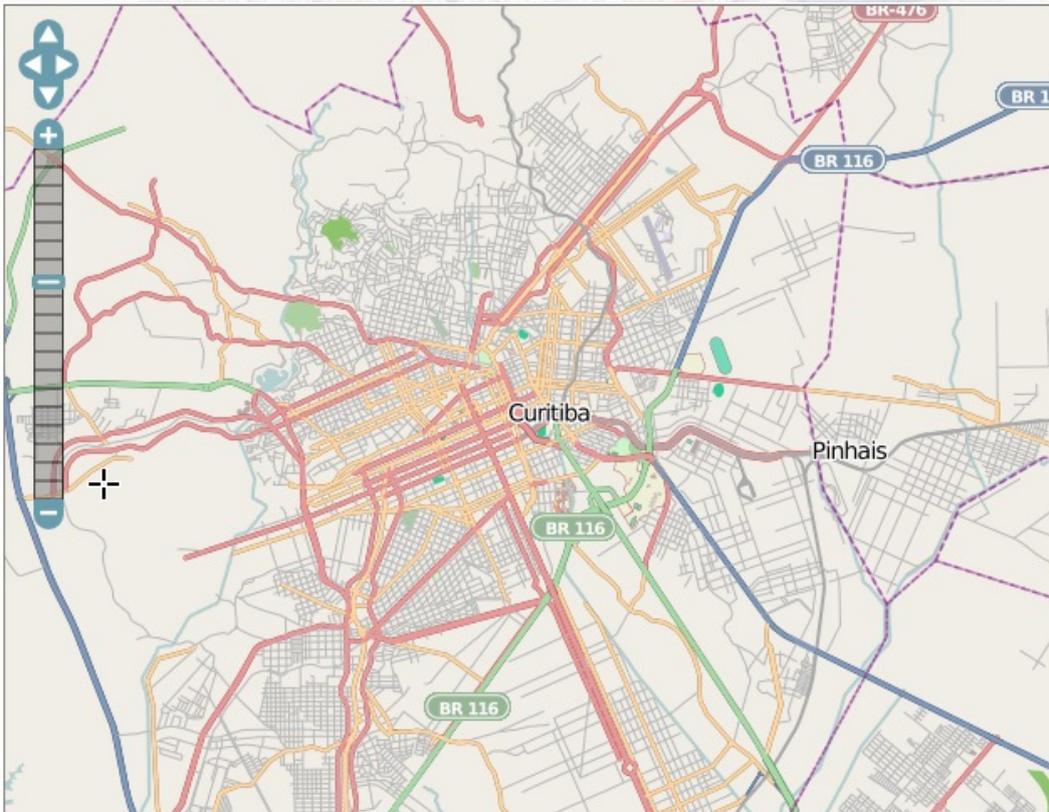


OSM

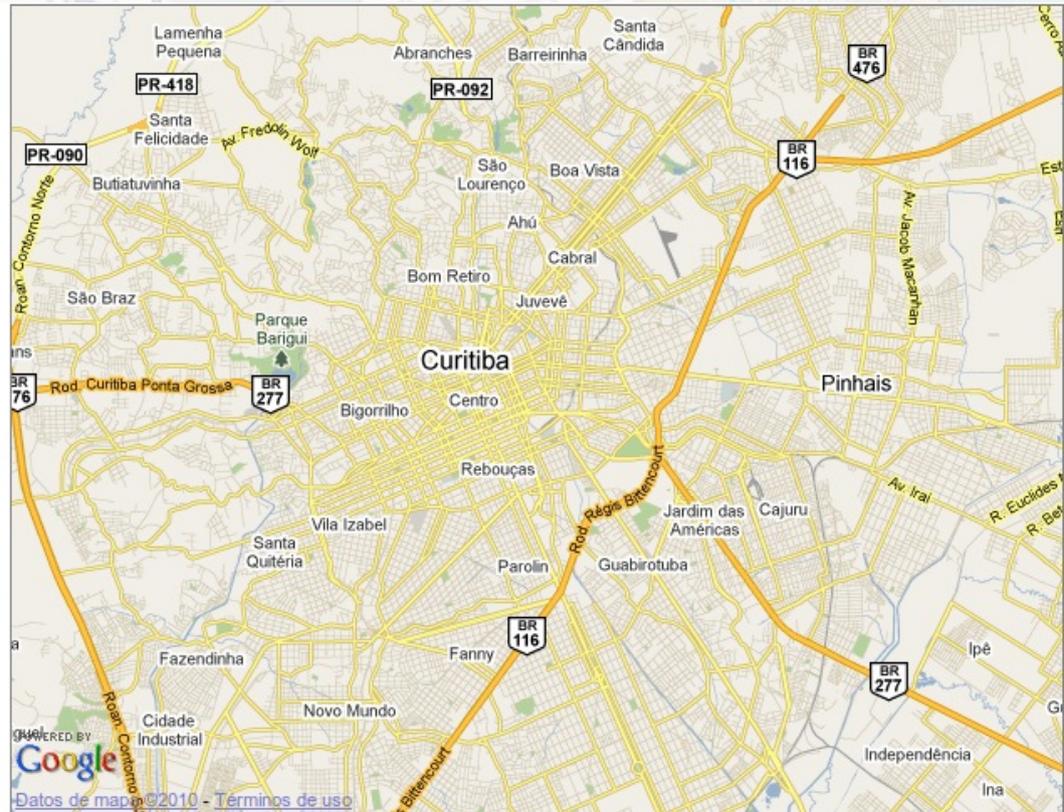


Google: gana

GOOG vs. OSM



OSM

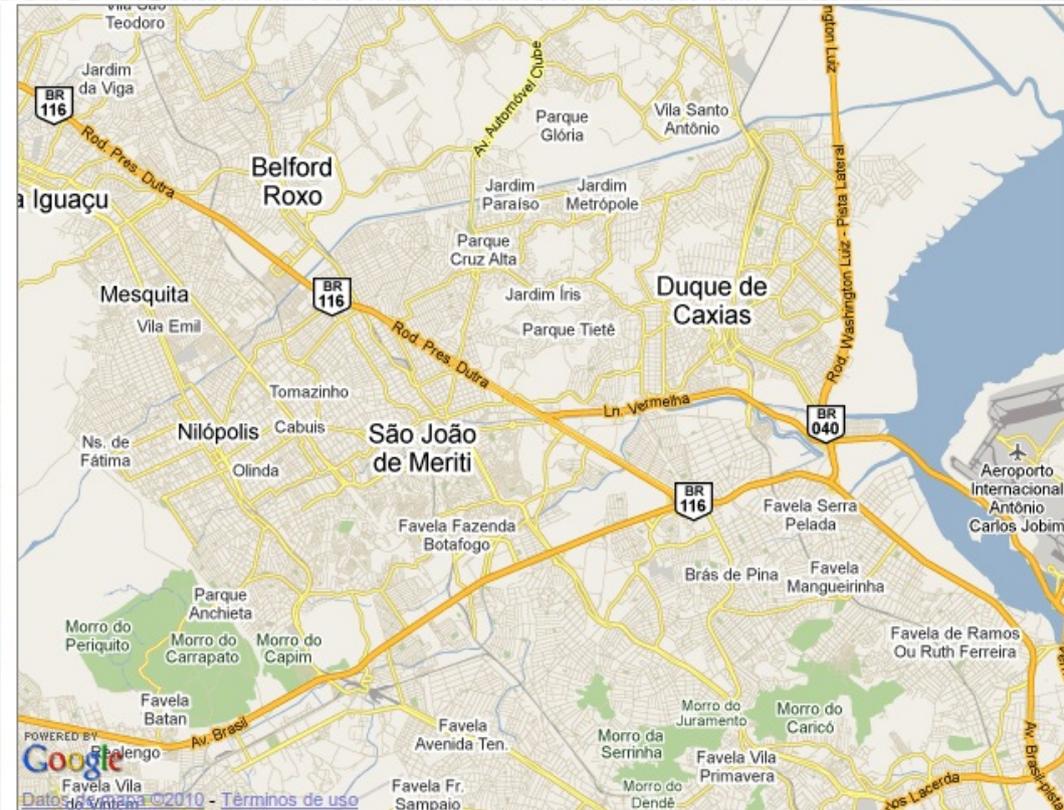


Google: gana por poco

GOOG vs. OSM



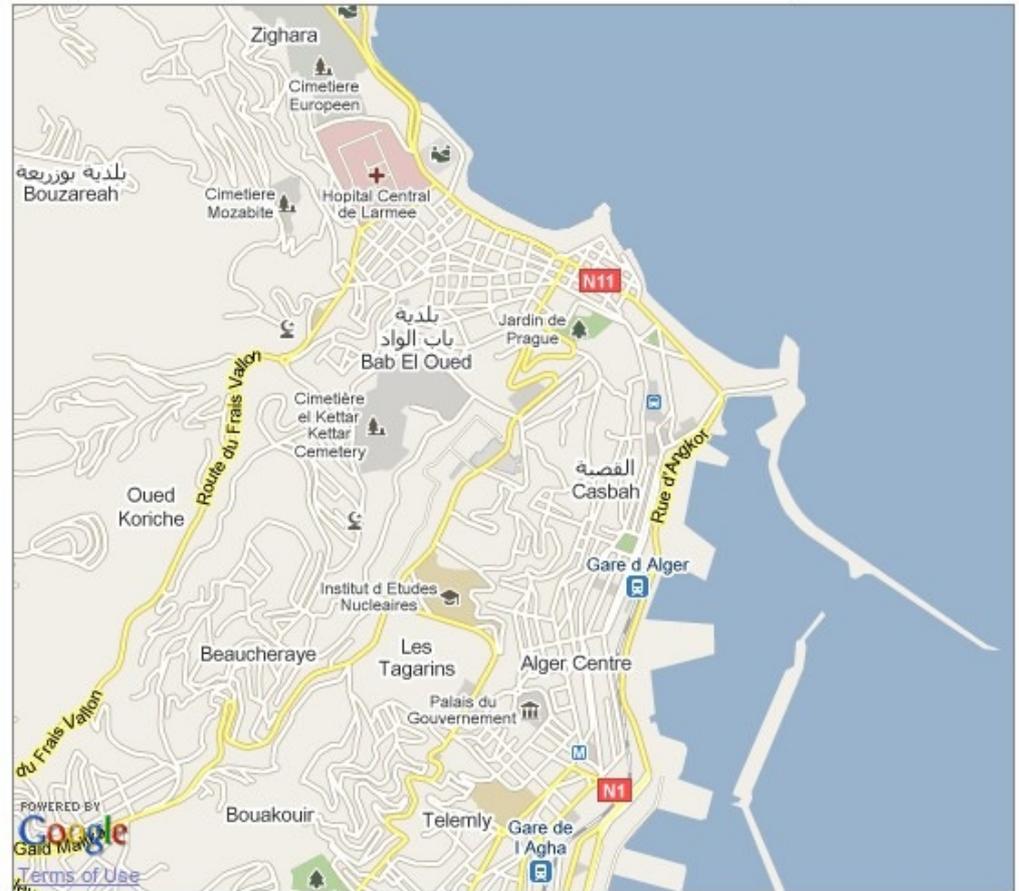
OSM



¿Empate?

Google

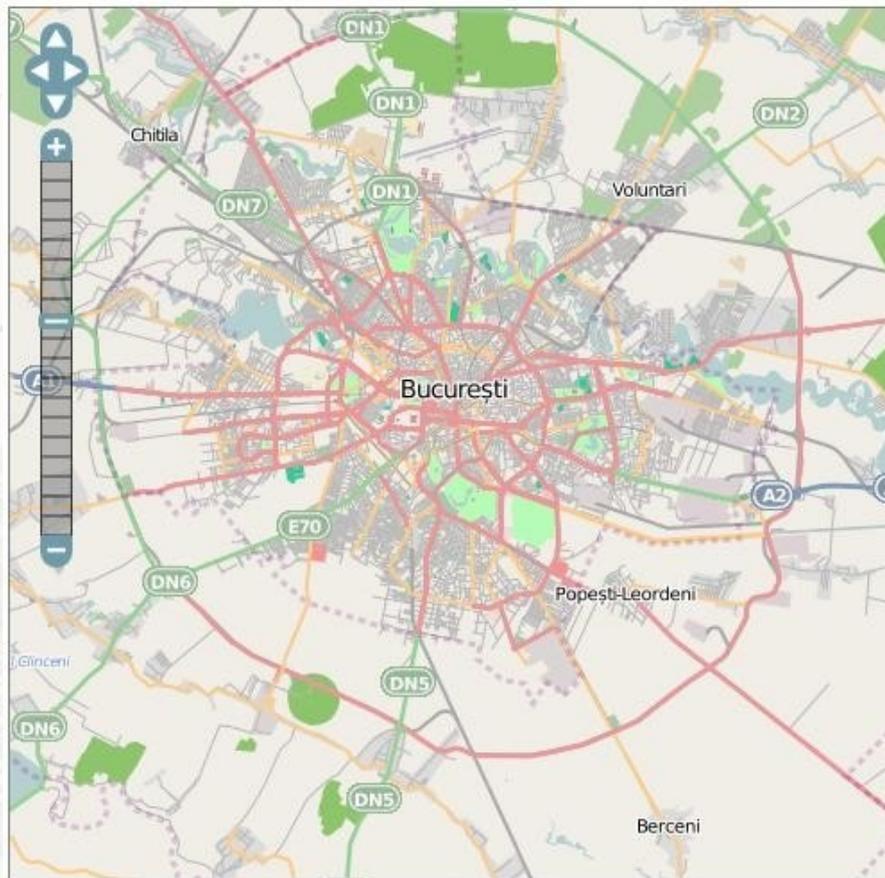
GOOG vs. OSM



OSM: gana

Google

GOOG vs. OSM

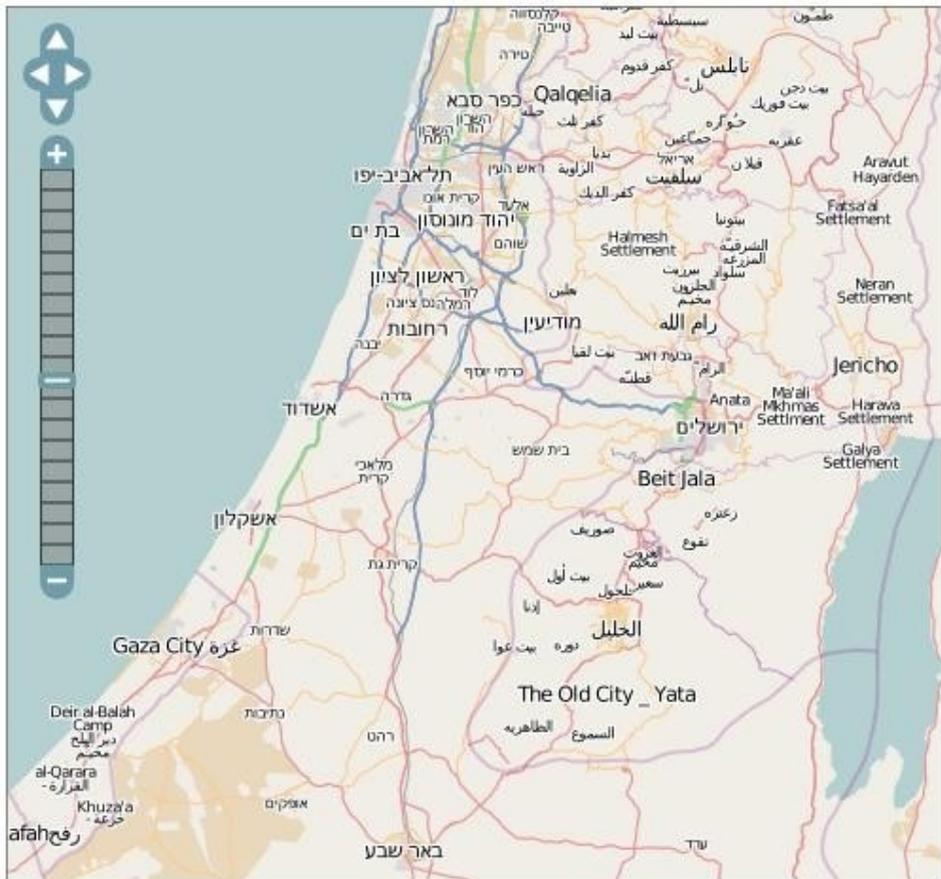


OSM: gana



Google

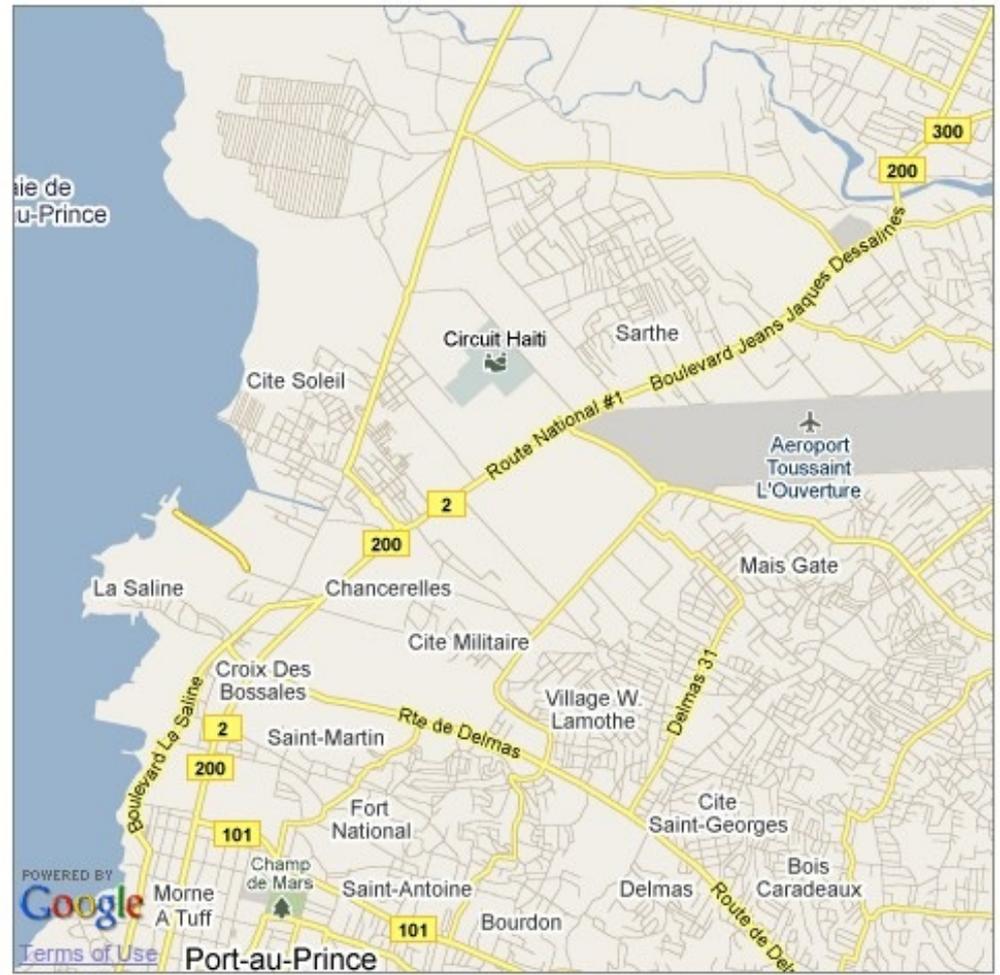
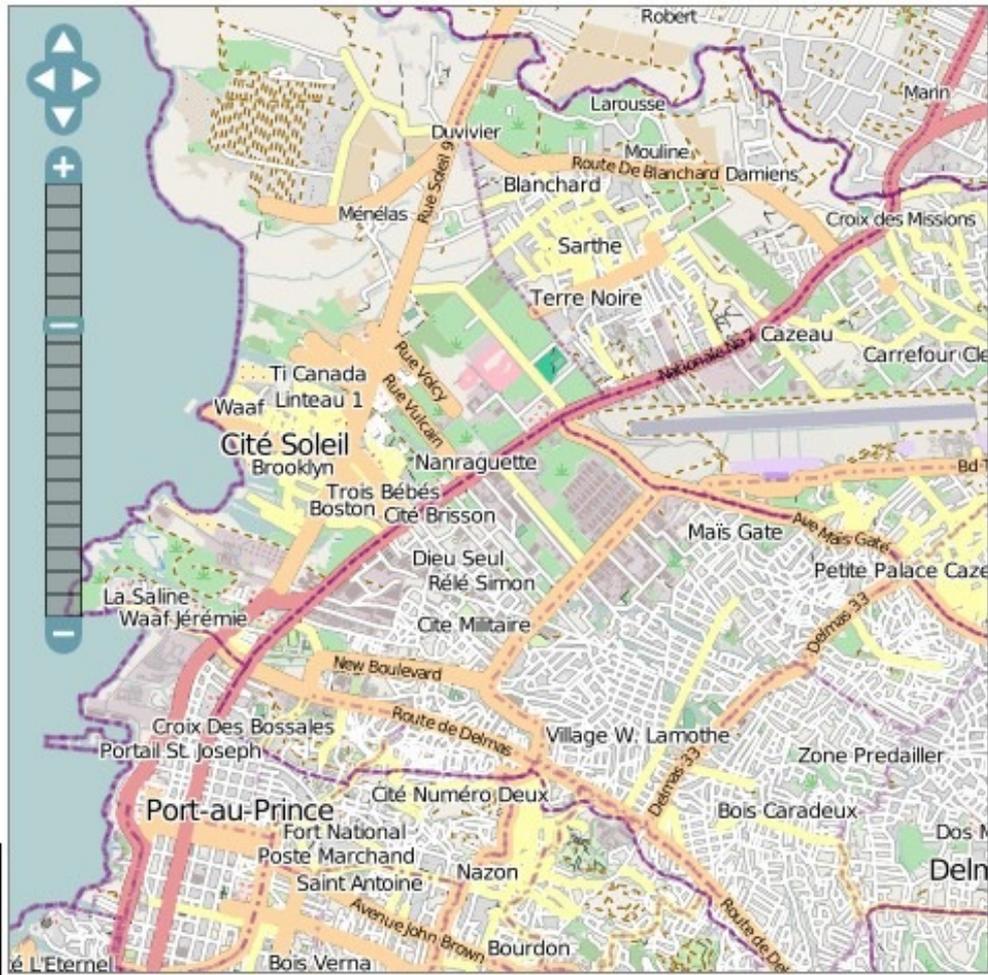
GOOG vs. OSM



OSM: gana.... ¿dónde?

Google

OSM en Haïti



OSM y el terremoto de Haití

ito! OpenStreetMap - Project Haiti
by ItoWorld PLUS
5 months ago

00:00

OpenStreetMap

<http://vimeo.com/9182869>

Santo André

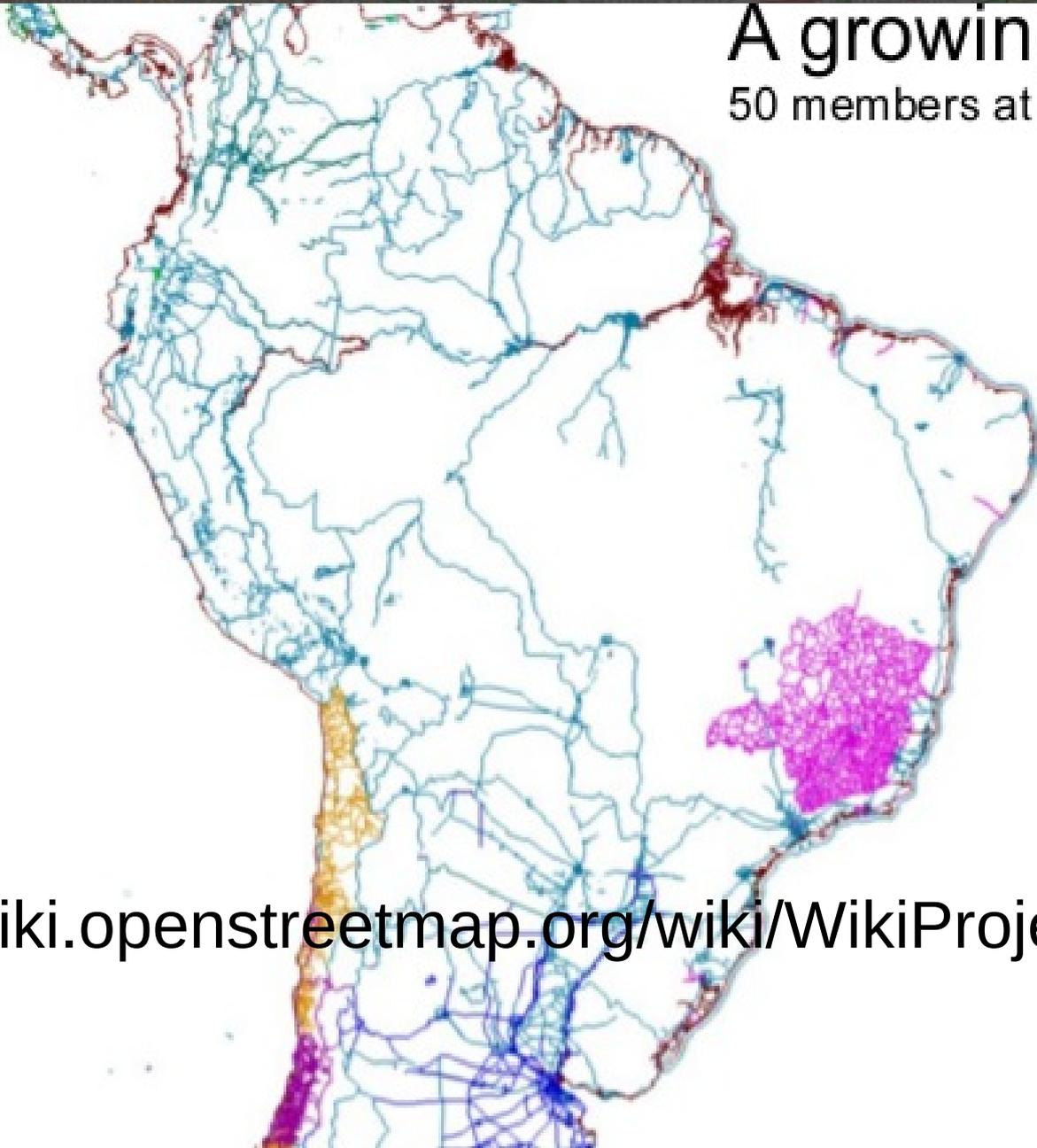


OpenStreetMap en Brasil

OSM en BRASIL

A growing community
50 members at talk-br mailing list

http://wiki.openstreetmap.org/wiki/WikiProject_Brazil



OSM en BRASIL

PROYECTO: Brasil 250
Cidades: tem por objetivo conectar 250 cidades brasileiras no OSM, a fim de melhorar a qualidade das informações de conectividade de rodovias e acessos.

| Data | Número de Cidades | Rotas Corretas | Total de Rotas | Percentual OK |
|------------|-------------------|----------------|----------------|---------------|
| 17-02-2010 | 276 | 28050 | 75900 | 36.96% |
| 25-02-2010 | 279 | 45234 | 77562 | 58.32% |
| 10-03-2010 | 279 | 47818 | 77562 | 61.65% |
| 16-03-2010 | 279 | 48328 | 77562 | 62.31% |
| 06-04-2010 | 279 | 50640 | 77562 | 65.29% |
| 14-04-2010 | 279 | 51779 | 77562 | 66.76% |
| 21-04-2010 | 279 | 51773 | 77562 | 66.75% |
| 27-04-2010 | 279 | 52229 | 77562 | 67.34% |
| 04-05-2010 | 279 | 52918 | 77562 | 68.23% |
| 14-05-2010 | 279 | 56173 | 77562 | 72.42% |
| 21-05-2010 | 279 | 57127 | 77562 | 73.65% |
| 29-05-2010 | 279 | 57874 | 77562 | 74.58% |
| 04-06-2010 | 279 | 58089 | 77562 | 74.89% |
| 12-06-2010 | 279 | 58572 | 77562 | 75.52% |
| 18-06-2010 | 279 | 58572 | 77562 | 75.52% |
| 25-07-2010 | 279 | 57848 | 77562 | 74.58% |

OSM en BRASIL

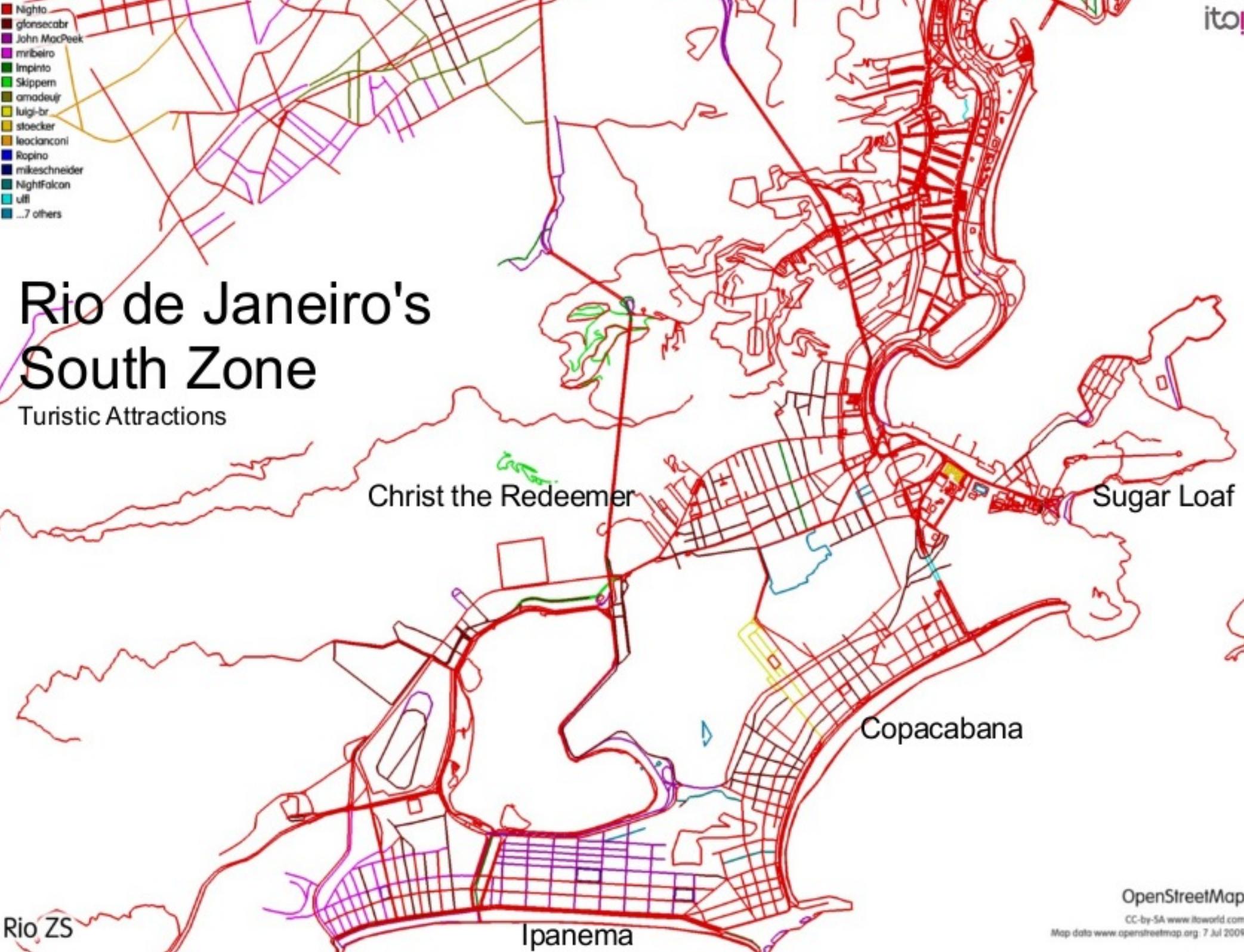
PROYECTO: 2010
Alagoas Flooding: Por causa de chuvas intensas em junho de 2010, Alagoas está sofrendo com grandes enchentes, causando a morte de dezenas de pessoas e desabrigando milhares.



- Nighto
- glonsecabr
- John MacPeck
- mlrbeiro
- Impinto
- Skippem
- amadeuir
- luigi-br
- stoecker
- leocianconi
- Ropino
- mikeschneider
- NightFalcon
- ull
- ...7 others

Rio de Janeiro's South Zone

Turistic Attractions



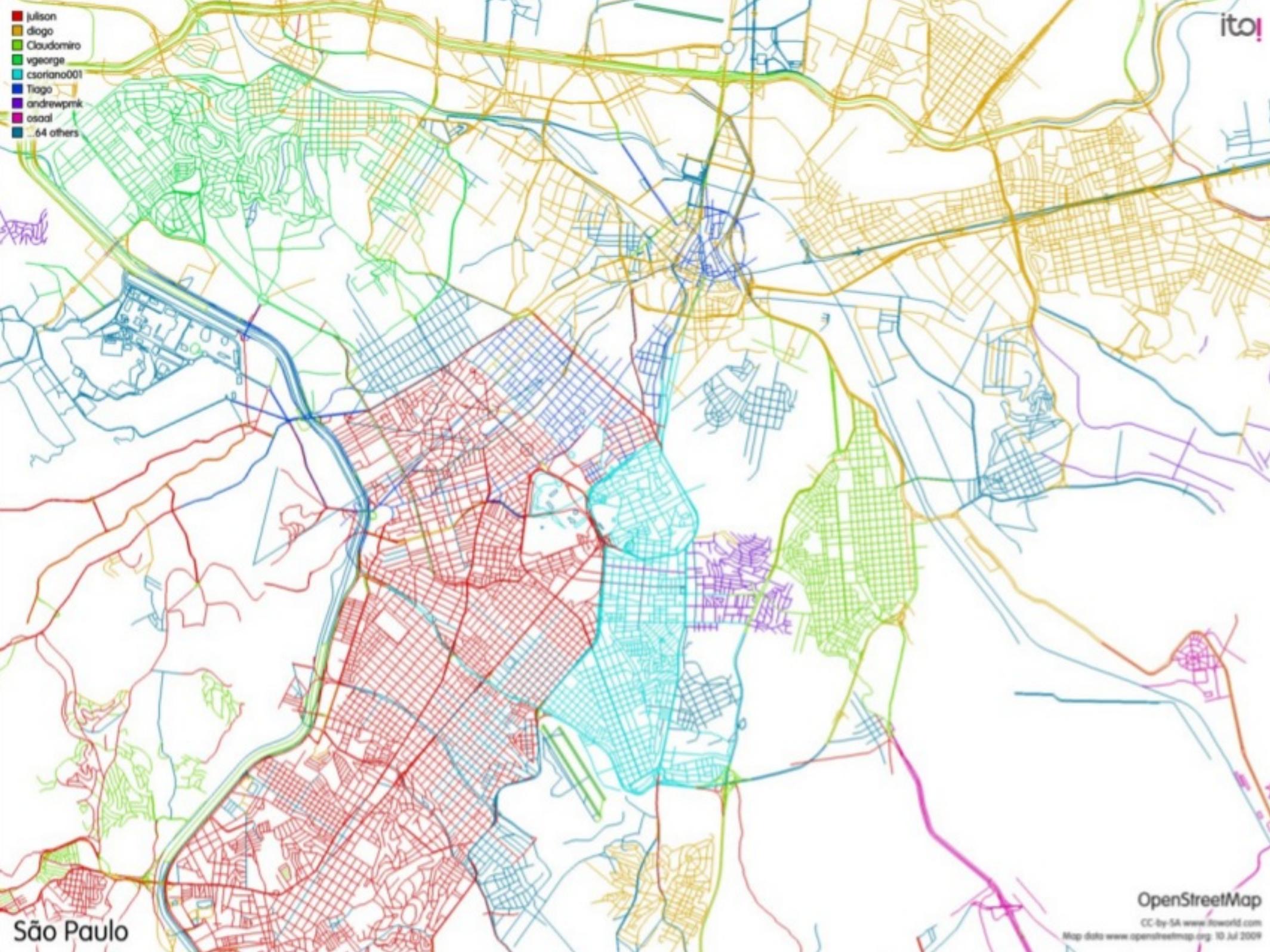
Christ the Redeemer

Sugar Loaf

Copacabana

Ipanema

Rio ZS



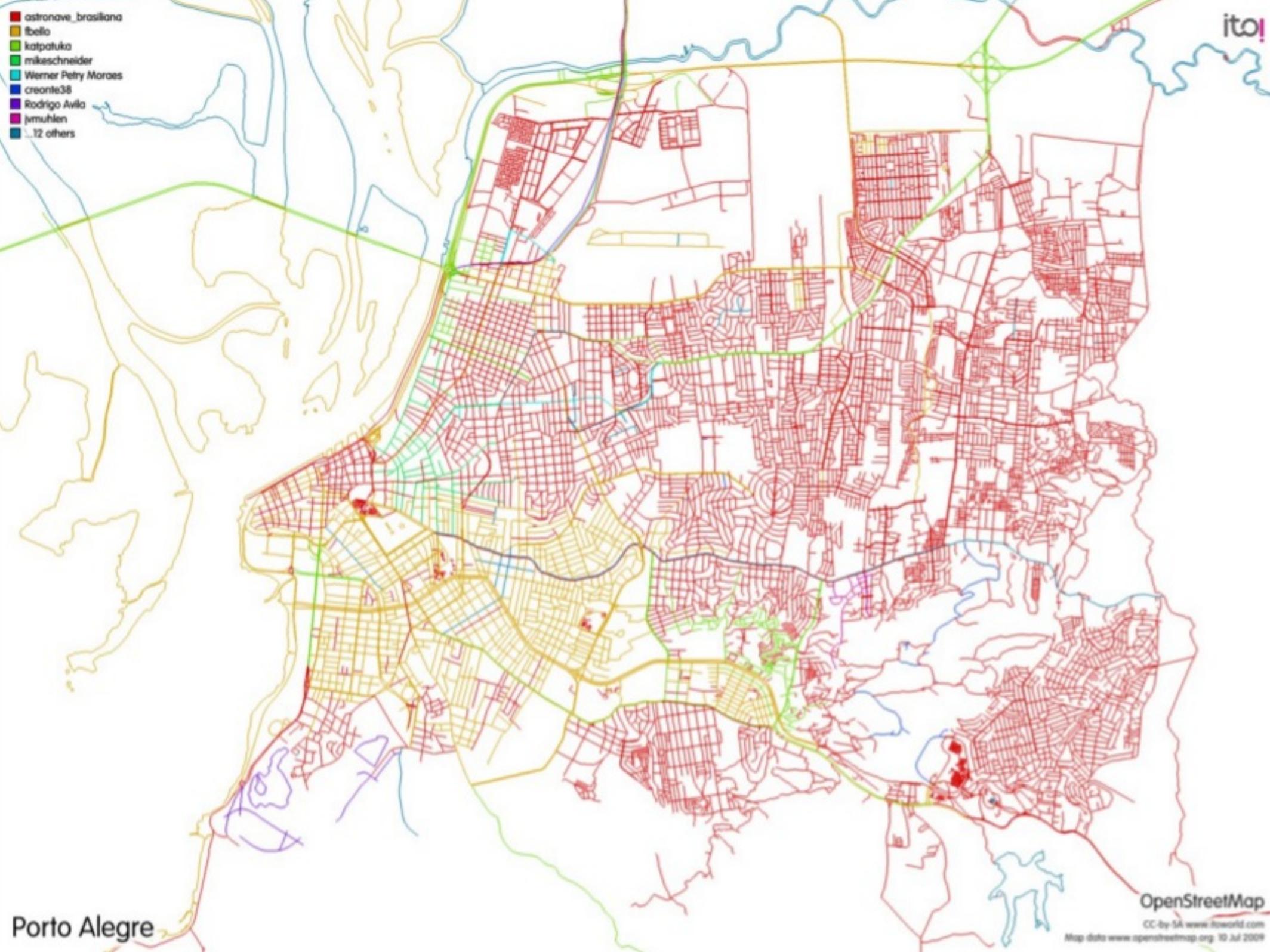
- julison
- diago
- Claudomiro
- vgeorge
- csoriano001
- Tiago
- andrewprmk
- osaal
- 64 others

ito!

São Paulo

OpenStreetMap

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Map data www.openstreetmap.org 10 Jul 2009



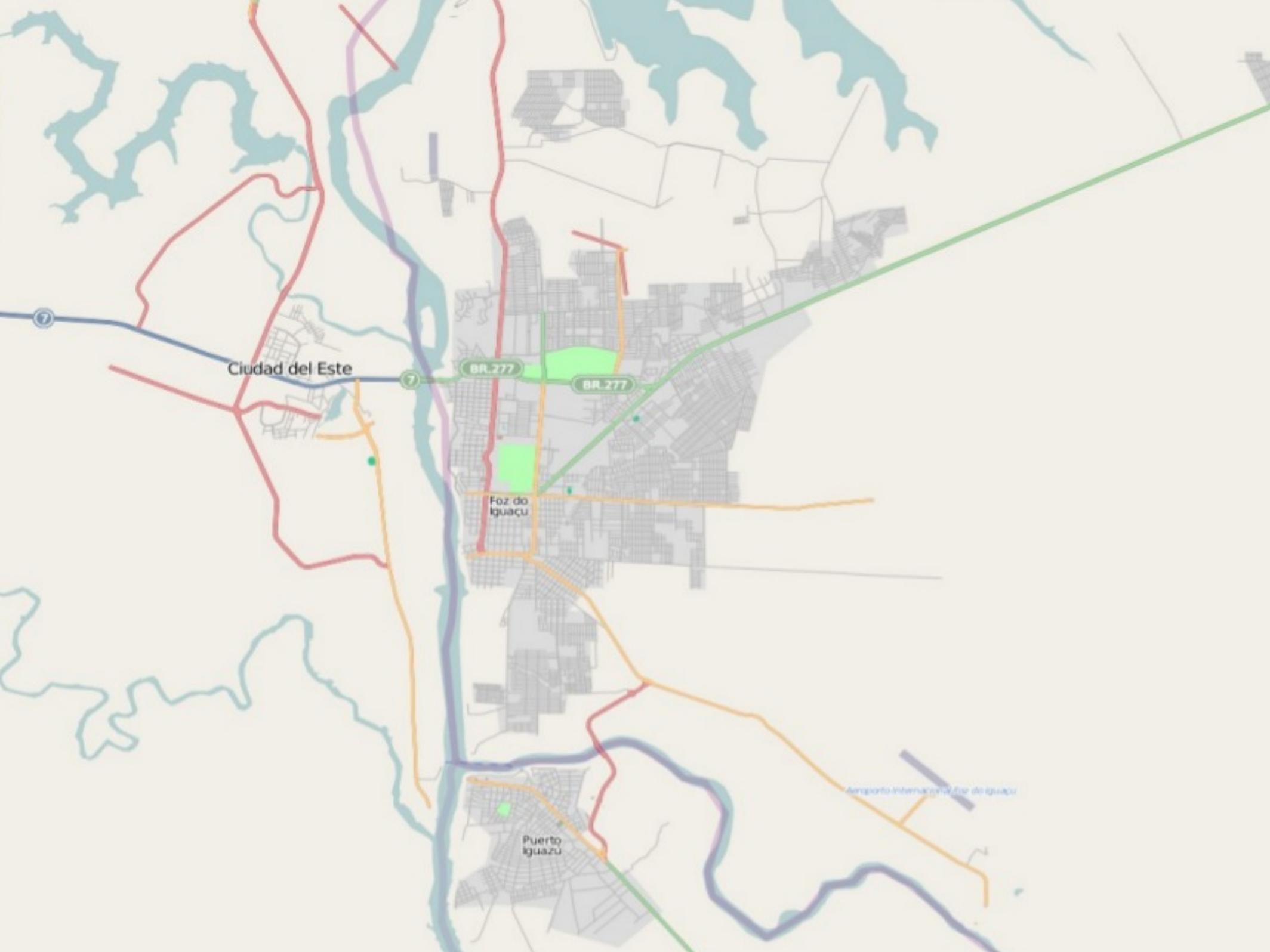
- astronave_brasiliana
- fbello
- katpatuka
- mikeschneider
- Werner Petry Moraes
- creonte38
- Rodrigo Avila
- jmhulen
- ...12 others

ito!

Porto Alegre

OpenStreetMap

CC-by-SA www.itoworld.com
Map data www.openstreetmap.org, 10 Jul 2009



Ciudad del Este

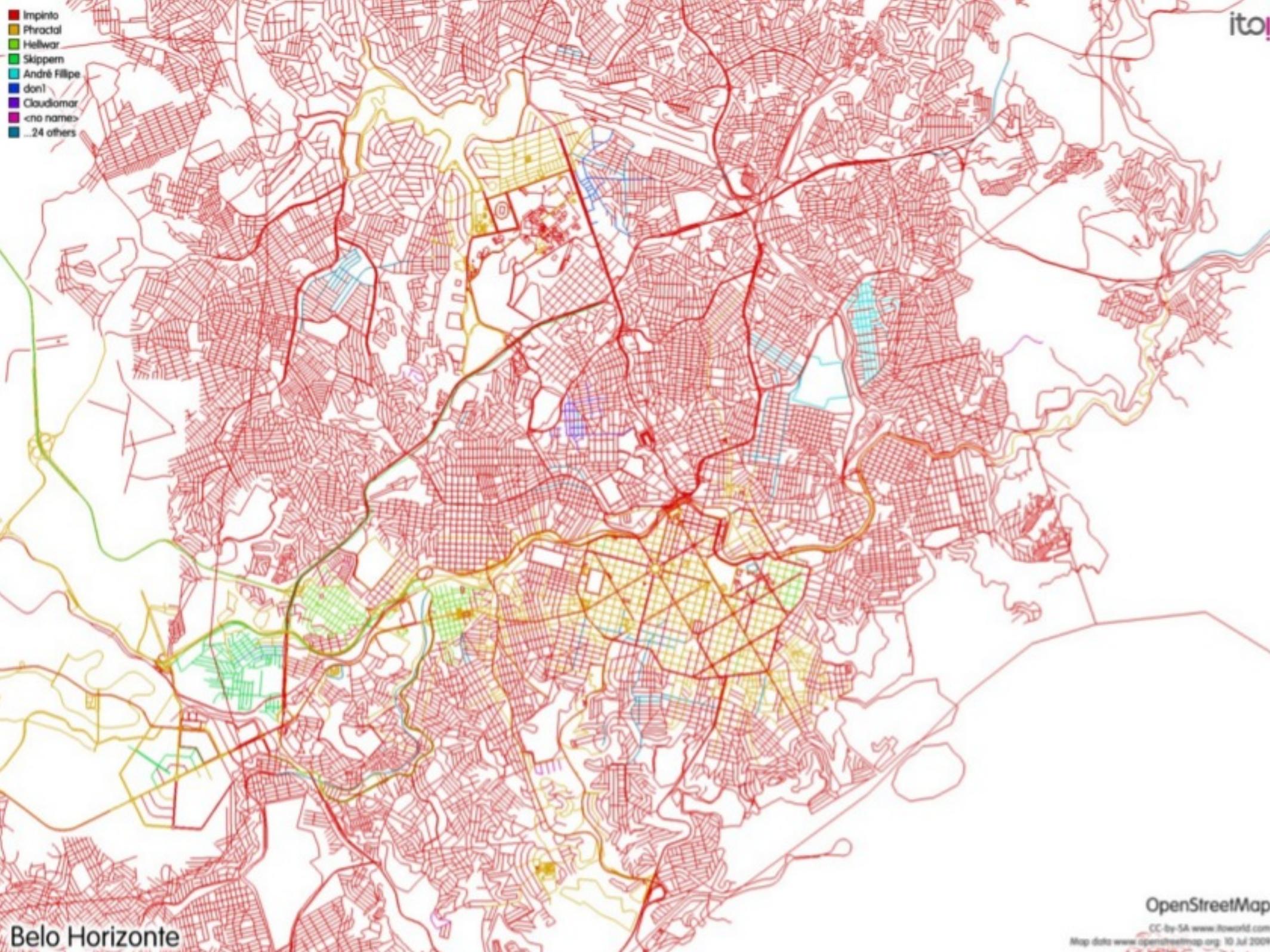
BR-277

BR-277

Foz do Iguaçu

Puerto Iguazu

Aeroporto Internacional de Foz de Iguaçu



- Império
- Fractal
- Hellwar
- Skippem
- André Filipe
- donl
- Claudiomar
- <no name>
- ...24 others

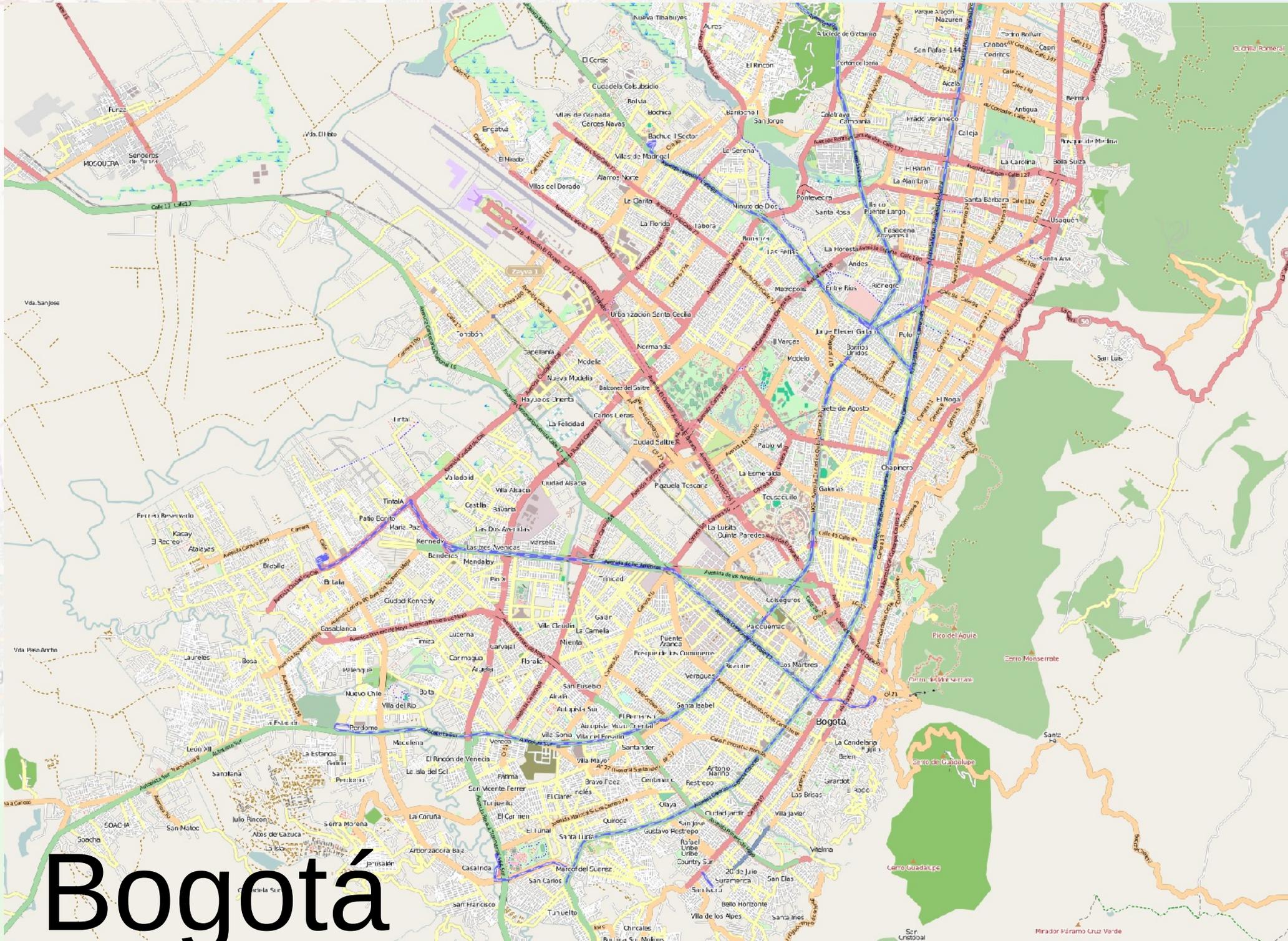
ito

Belo Horizonte

OpenStreetMap
CC-BY-SA www.itoworld.com
Map data www.openstreetmap.org 10 Jul 2009



Otros ejemplos de OSM en Latinoamérica



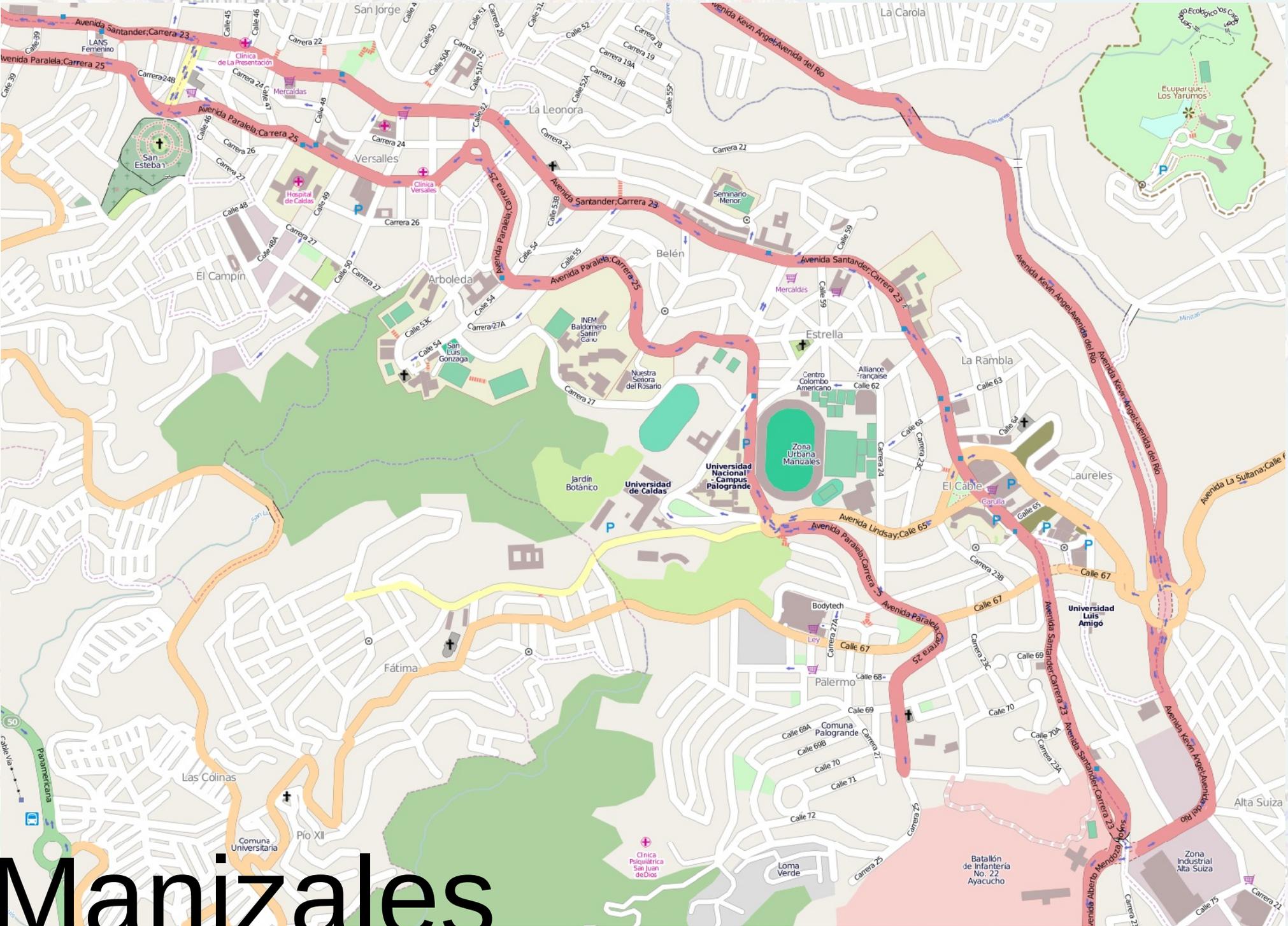
Bogotá



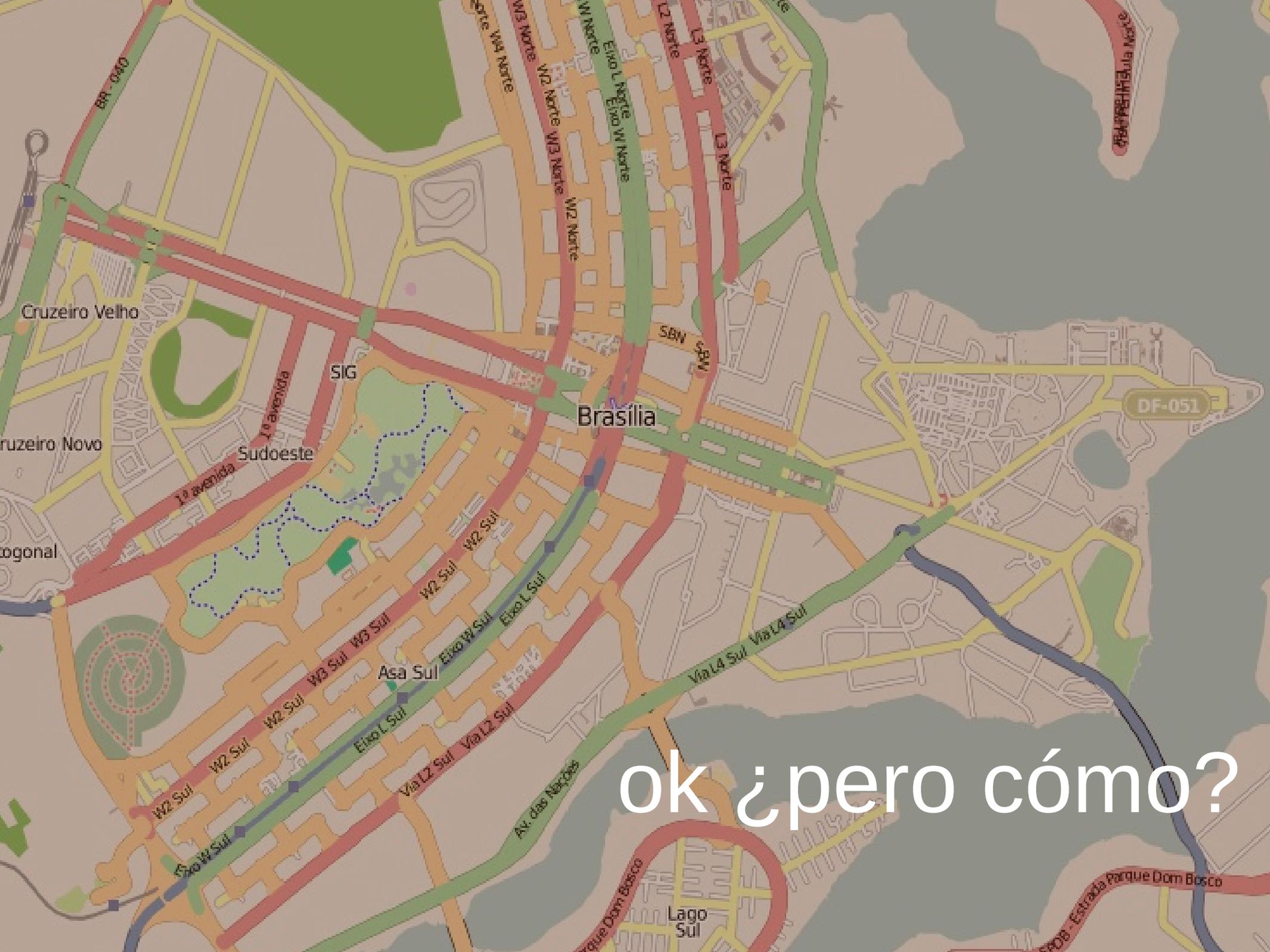
La Habana Vieja



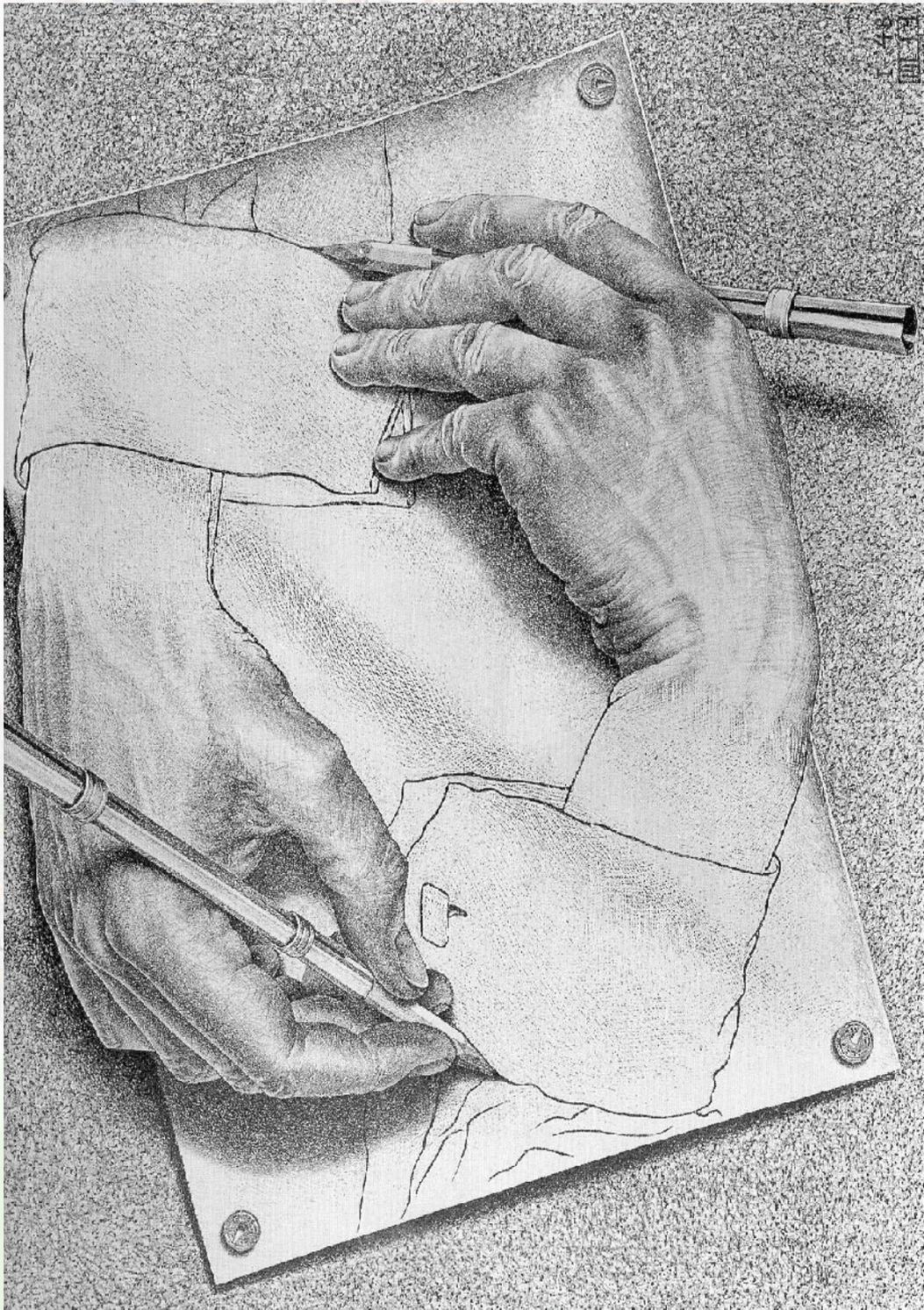
Buenos Aires



Manizales

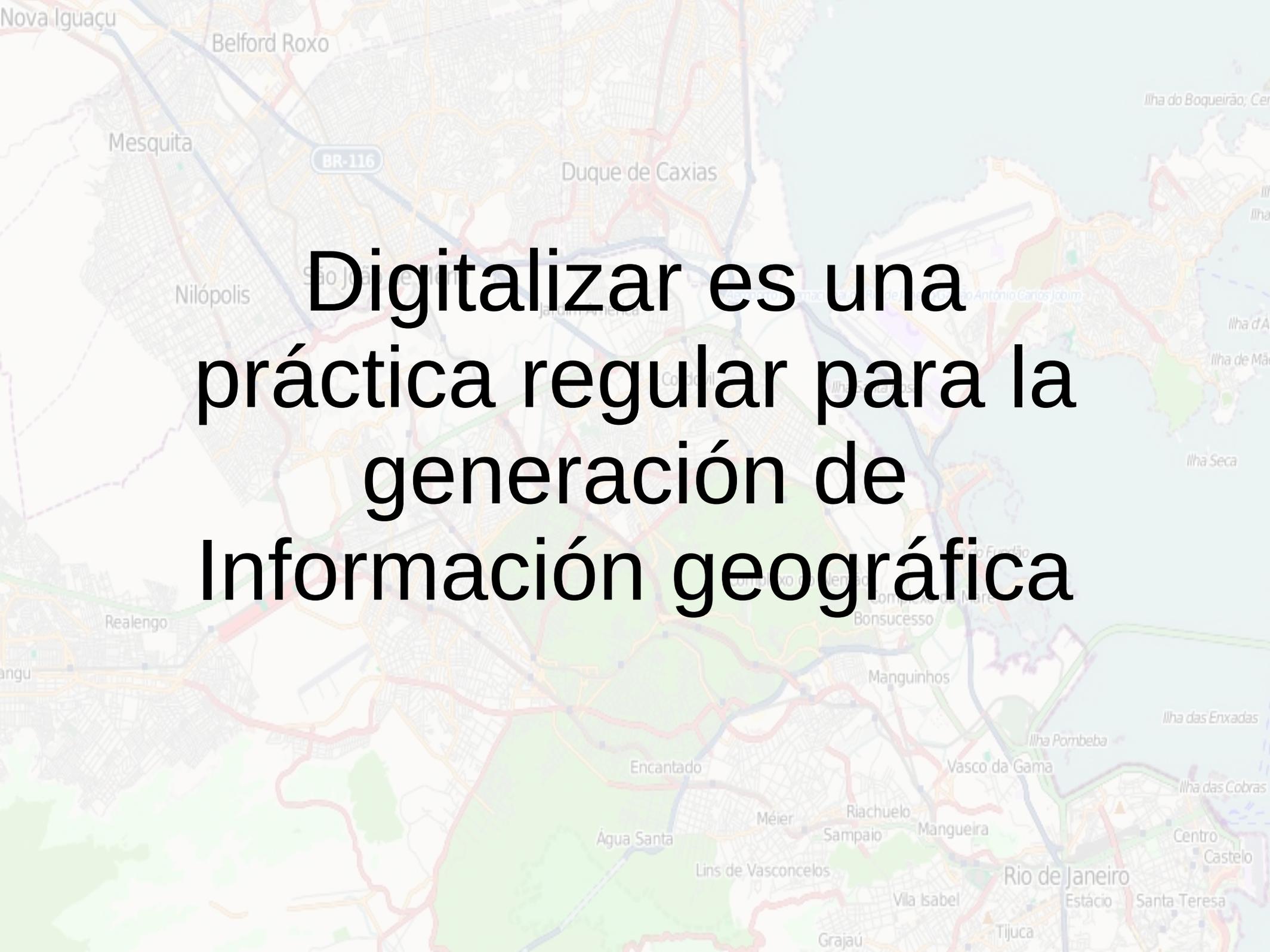


ok ¿pero cómo?

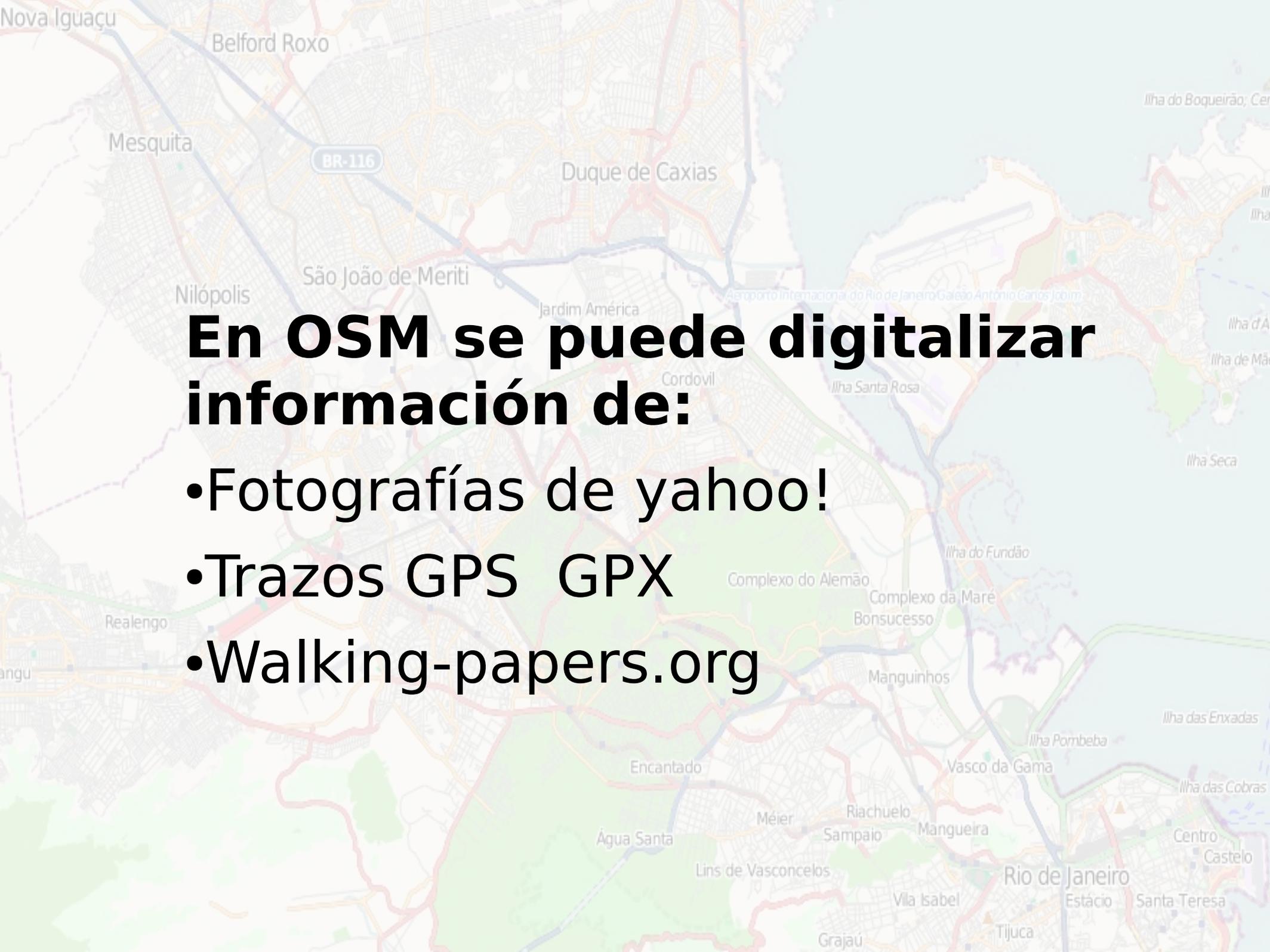


iCalcar
es
bueno!



A detailed map of Rio de Janeiro, Brazil, showing various neighborhoods and landmarks. The map is overlaid with a large, bold, black text box. The text reads: "Digitalizar es una práctica regular para la generación de Información geográfica". The map shows the city's layout, including the bay, hills, and major roads. Labels for neighborhoods include Nova Iguaçu, Belford Roxo, Mesquita, Duque de Caxias, Nilópolis, Realengo, Encantado, Méier, Riachuelo, Sampaio, Mangueira, Centro, Santa Teresa, Estácio, Vila Isabel, Grajaú, Tijuca, Lins de Vasconcelos, Água Santa, Manguinhos, Bonsucesso, and Vasco da Gama. The text is centered over the map, with the word "Información" in a larger font size than the other words.

**Digitalizar es una
práctica regular para la
generación de
Información geográfica**

A map of Rio de Janeiro, Brazil, showing various neighborhoods and landmarks. The map is overlaid with a semi-transparent white box containing text. The text is in Spanish and lists sources of information that can be digitized in OSM. The map shows the city's layout, including the bay, hills, and major roads. Labels on the map include Nova Iguaçu, Belford Roxo, Mesquita, BR-116, Duque de Caxias, São João de Meriti, Jardim América, Aeroporto Internacional do Rio de Janeiro Galeão Antonio Carlos Jobim, Nilópolis, Cordovil, Ilha Santa Rosa, Ilha do Fundão, Ilha do Boqueirão, Cer, Ilha d'A, Ilha de Mã, Ilha Seca, Realengo, Complexo do Alemão, Complexo da Mare, Bonsucesso, Manguinhos, Ilha das Enxadas, Ilha Pombeba, Ilha das Cobras, Encantado, Vasco da Gama, Centro, Castelo, Méier, Riachuelo, Mangueira, Água Santa, Sampaio, Lins de Vasconcelos, Vila Isabel, Rio de Janeiro, Estácio, Santa Teresa, Grajaú, and Tijuca.

En OSM se puede digitalizar información de:

- Fotografías de yahoo!
- Trazos GPS GPX
- Walking-papers.org



OpenStreetMap

Ver | Editar | Historial | Exportar | Trazas GPS | Diarios de usuario

Bienvenido, humano | inicio | **bandeja de entrada (1)** | Salir

Ayuda y Wiki
Blog y noticias
Tienda

Buscar ¿Dónde estoy?
Ir

ejemplos: 'Sora', 'Calle Mayor', 'Lugo', 'CB2 5AQ', o 'post offices near Lünen' más ejemplos...

Hacer una donación

CC BY SA

Pollatch 1.3 Drag and drop points of interest

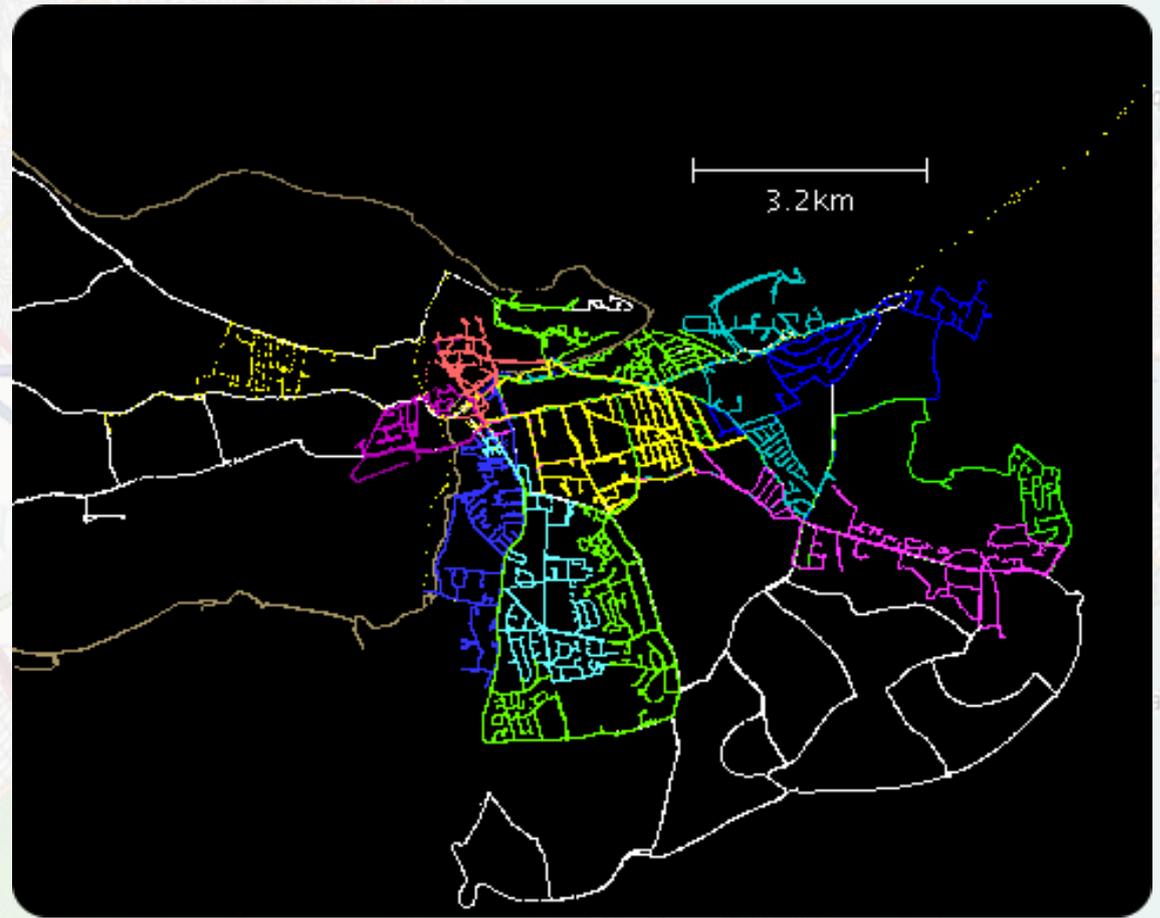
| | | | | | | |
|------------|--------------|---------------|---------------|---------------|--------------|--------------|
| Aeropuerto | Perada de bu | Transbordad | P Aparcamient | Estación de t | Parada de ta | Bar |
| Cafe:ería | Cine | Comida rápid | Pub | Restaurante | Teatro | Convenience |
| Hotel | Farmacia | Buzón de cor | Punto de rec | Supermercac | Teléfono | Parque de bc |
| Hospital | Ccmisaria de | Luqar de cult | Museo | Escuela | | |

Ayuda Avanzado

Editando en vivo

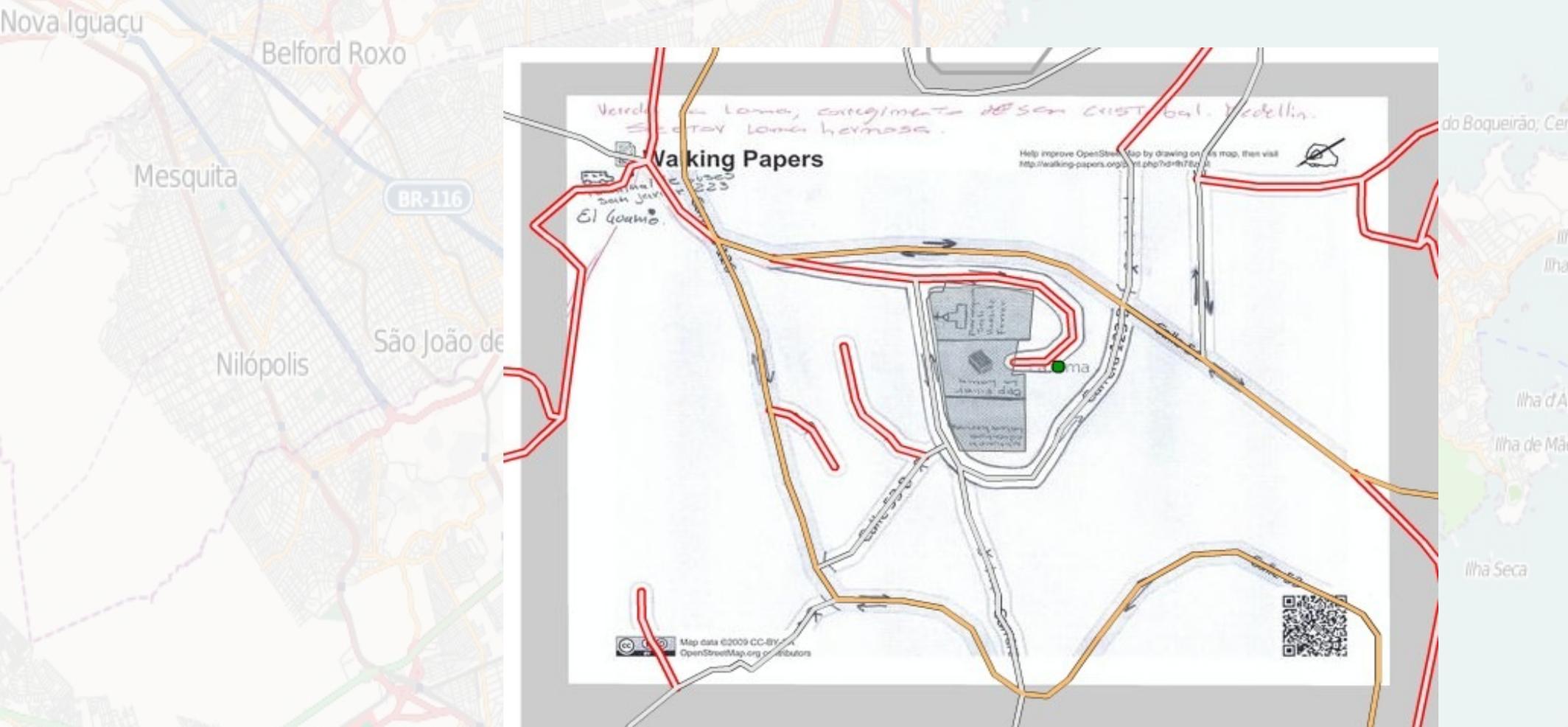
Fotografías de yahoo!

Yahoo permite para OSM generar obras derivadas de sus fotografías aéreas



Trazos GPS GPX

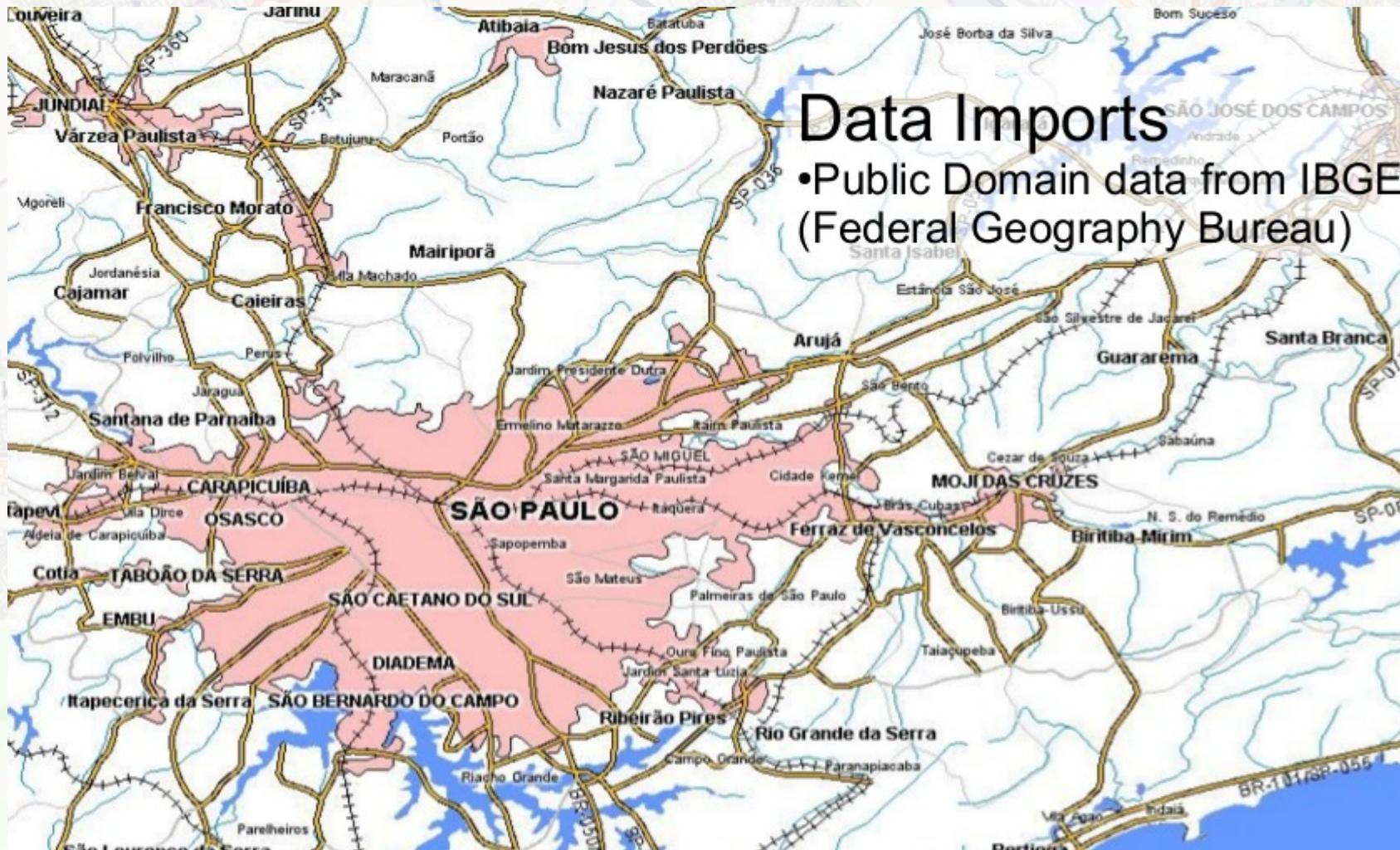
Colaboradores con aparatos GPS recorren el planeta y comparten la información registrada en sus travesías



Walking-papers.org

Imprime mapas, dibuja sobre ellos, vuelve e escanearlos y ayuda a OpenStreetMap a mejorar su cobertura de puntos de interés local y detalle a pie de calle.

OSM puede importar directamente información de otros sistemas de información geográfica





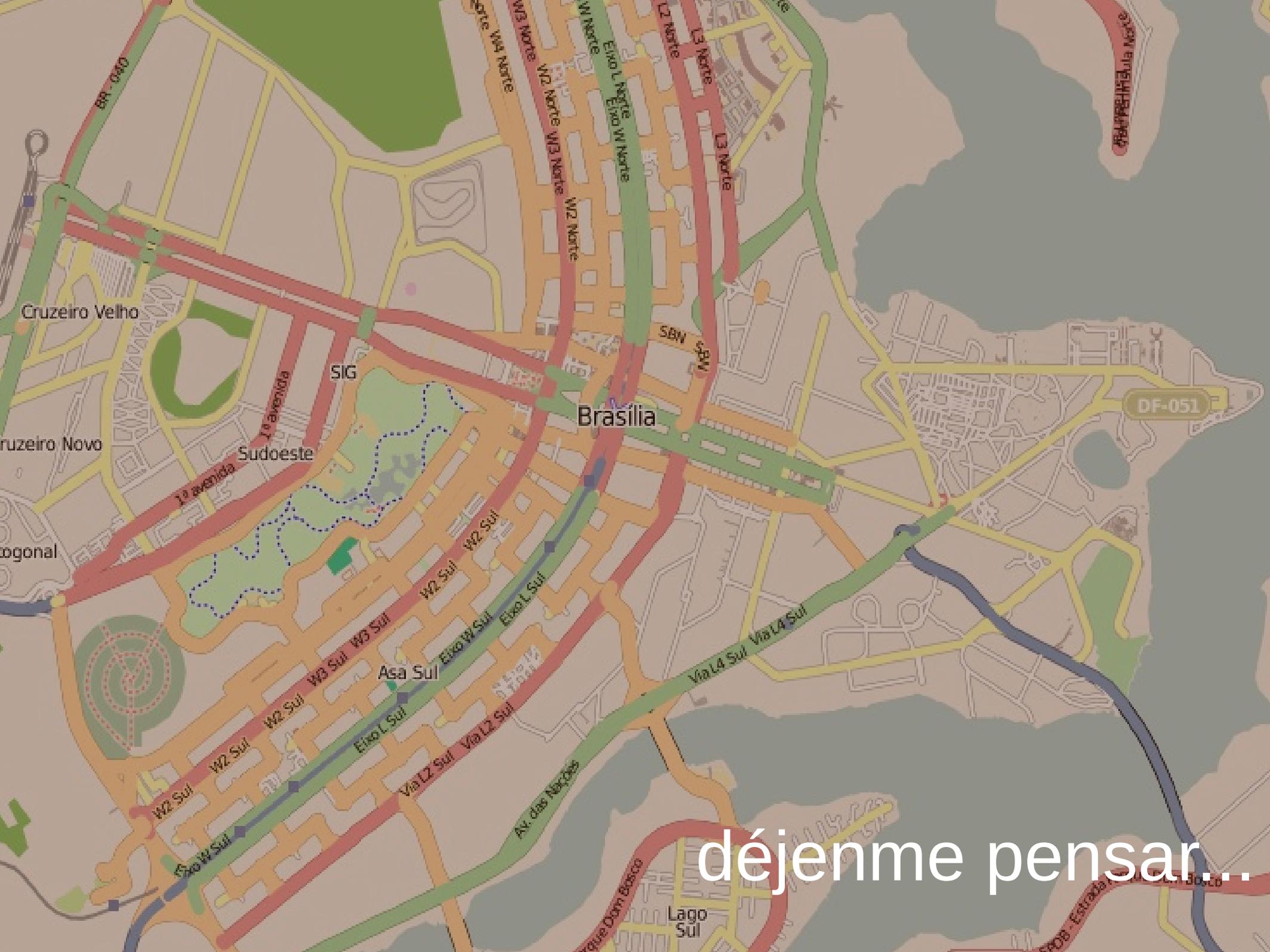
¿Qué se puede hacer con la información de OSM?

R.: Lo que quieras, se permiten obras derivadas y uso comercial

- Descarga
- Redistribución
- Uso comercial
- Sin aviso



Por ejemplo....



Cruzeiro Velho

Cruzeiro Novo

Logonal

Sudoeste

SIG

Brasília

DF-051

W2 Sul

W3 Sul

W4 Sul

W5 Sul

W6 Sul

W7 Sul

W8 Sul

W9 Sul

déjenme penser...

Lago Sul

Estrada

Av. das Nações

Parque Dom Bosco

Est. W4 Norte

W4 Norte

W3 Norte

W2 Norte

W1 Norte

W0 Norte

W-1 Norte

W-2 Norte

W-3 Norte

W-4 Norte

Est. W3 Norte

W3 Norte

W2 Norte

W1 Norte

W0 Norte

W-1 Norte

W-2 Norte

W-3 Norte

W-4 Norte

W-5 Norte

Est. W2 Norte

W2 Norte

W1 Norte

W0 Norte

W-1 Norte

W-2 Norte

W-3 Norte

W-4 Norte

W-5 Norte

W-6 Norte

Est. W1 Norte

W1 Norte

W0 Norte

W-1 Norte

W-2 Norte

W-3 Norte

W-4 Norte

W-5 Norte

W-6 Norte

W-7 Norte

Est. W0 Norte

W0 Norte

W-1 Norte

W-2 Norte

W-3 Norte

W-4 Norte

W-5 Norte

W-6 Norte

W-7 Norte

W-8 Norte

Est. W-1 Norte

W-1 Norte

W-2 Norte

W-3 Norte

W-4 Norte

W-5 Norte

W-6 Norte

W-7 Norte

W-8 Norte

W-9 Norte

Vincular a este mapa

Mapa Híbrido Satélite

Buscar mi ubicación

22382 elementos con geotiquetas

Ordenar por: **Interesante** Recientes

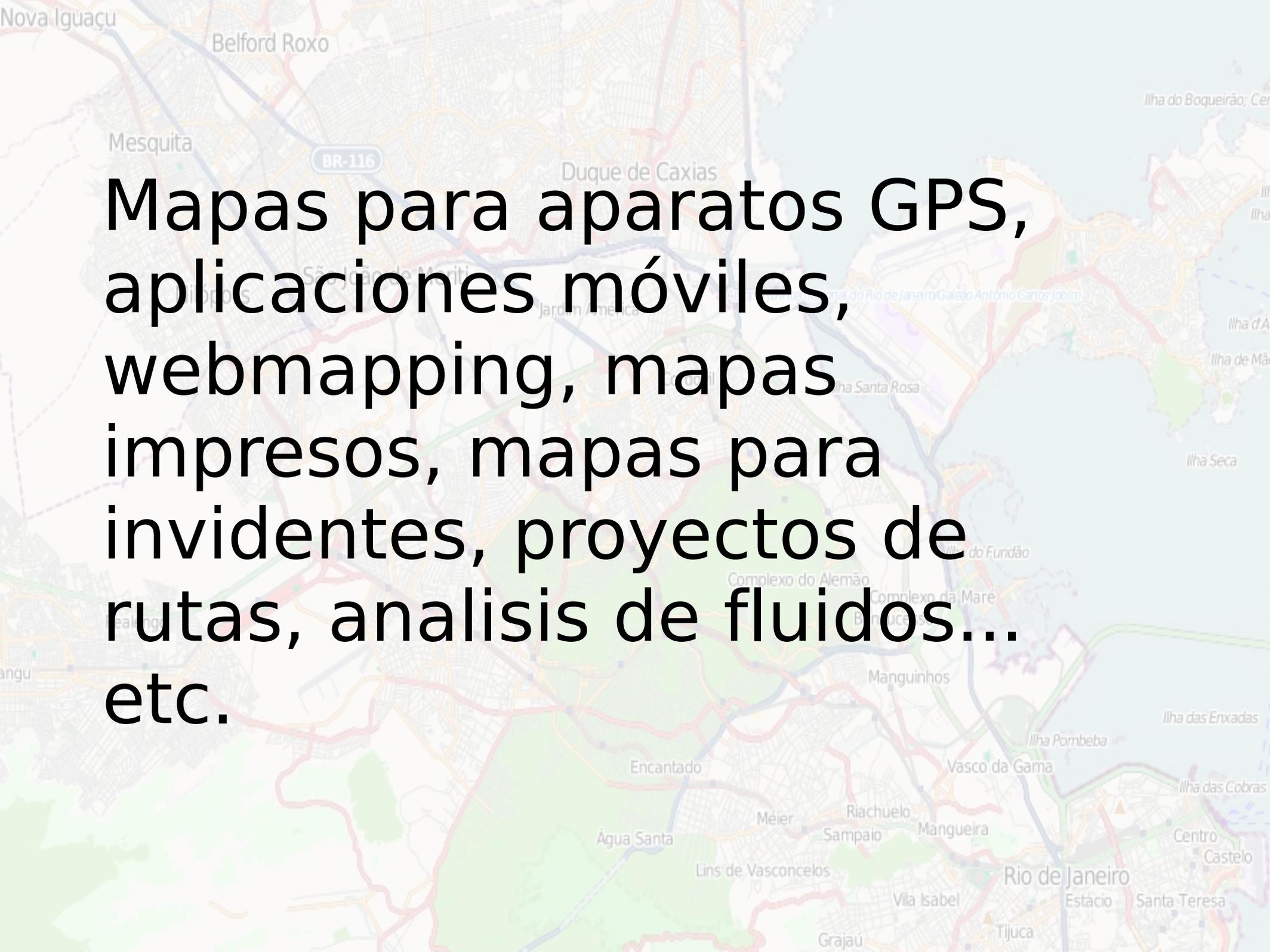
Buscar en el mapa

Map data © OpenStreetMap contributors

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- Tú [Tu galería](#) | [Organizar](#) | [Subir fotos](#) | [Tu cuenta](#)
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- Blog de Flickr [Acerca de Flickr](#) | [Condiciones de servicio](#) | [Tu privacidad](#) | [Propiedad Intelectual](#) | [Reportar abusos](#)

iNegocios!





Mapas para aparatos GPS,
aplicaciones móviles,
webmapping, mapas
impresos, mapas para
invidentes, proyectos de
rutas, analisis de fluidos...
etc.



Home

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Journey planner

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CycleStreets

Cycling intelligence for the UK

- Journey Planner lets you plan a cycle journey
- Photomap has 16,636 photos of cycling infrastr

CycleStreets in your area: All UK or ...

Journey Planner - plan a cycle journey

<http://www.cyclestreets.net/>

<http://ssiti.uv.es/valencia/>

Share your current view of the map! (Permalink)
 Edit OpenStreetMap data here
 All maps cc-by-sa OpenStreetMap contributors

OpenCycleMap.org - the OpenStreetMap Cycle Map
 Key and More Info | Help | GPS
 Created by Andy Allan and Dave Stubbs
 Sponsored by CloudMade

<http://www.opencyclemap.org/>

ELECCIONES TRANSPARENTES

Participación ciudadana por la transparencia electoral

+ REPORTAR INCIDENTE



INICIO

INFORMES

REPORTAR INCIDENTE

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BLOG

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ACERCA DE

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FILTROS
TODO

INFORMES

NOTICIAS

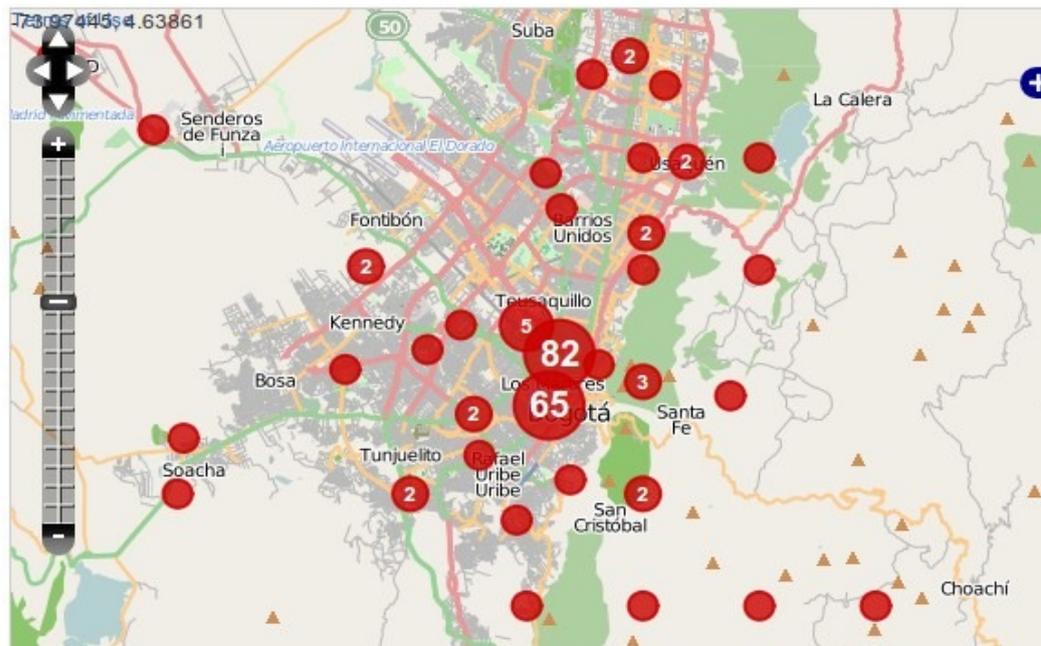
IMÁGENES

VIDEO

VISTAS
TIME

CLUSTERS

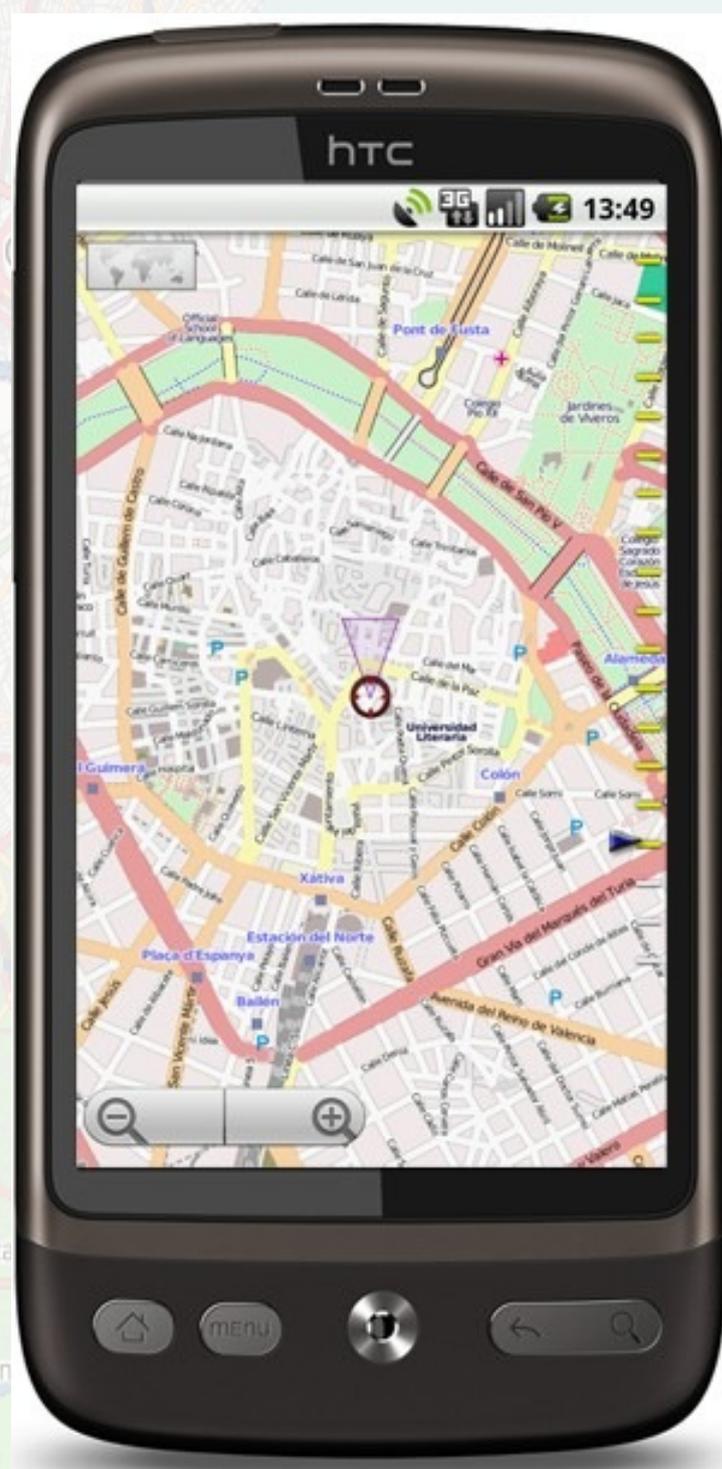
FILTROS POR CATEGORÍA



From: Apr 2010 To: Dec 2010

PLAY

<http://eleccionestransparentes.com/>



iHasta Tortas!



Conclusiones

- OSM es un proyecto global y maduro
- Los datos disponibles son abundantes
- La calidad de los productos generados es muy respetable
- Podemos hacer cartografía colaborativa
- Podemos explotar esa información de múltiples modos



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