

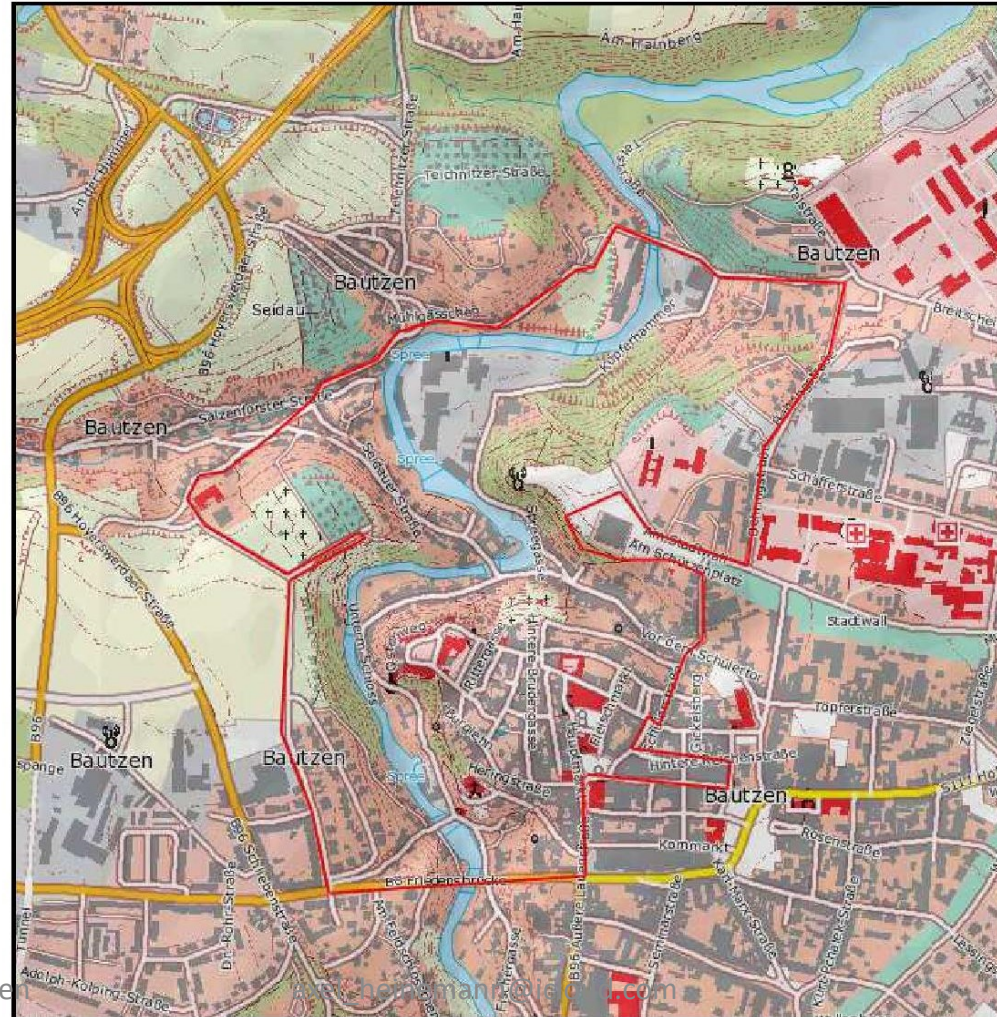
# Erstellung von Karten mit OSM-Daten

Vortrag bei der  
FOSSGIS Konferenz 2017  
von Axel Heinemann

# Zusammenspiel Overlay und Basemap Karte aus der Raumnutzungsplanung



# Zusammenspiel Overlay und Basemap Streckenkarte- DAK Firmenlauf Bautzen



gut gelöst ??

# Zielstellung Streckenkarte

Thema

**Streckenverlauf und  
Wettkampfinfrastruktur**

**→ Overlay**

Soll sich vom Hintergrund  
abheben

Hintergrund

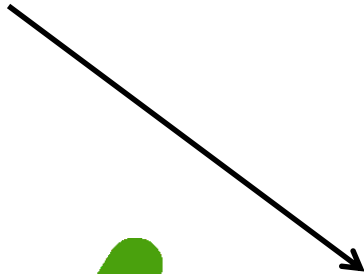
**Landnutzung vereinfacht,  
Gebäude und Spree**

**→ Basemap**

Aufgeräumt, übersichtlich,  
ansprechend, reduzierte  
Informationsdichte für bessere  
Informationshierarchie

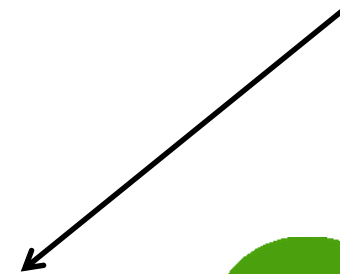
# Zielstellung Streckenkarte

**Overlay-Thema**

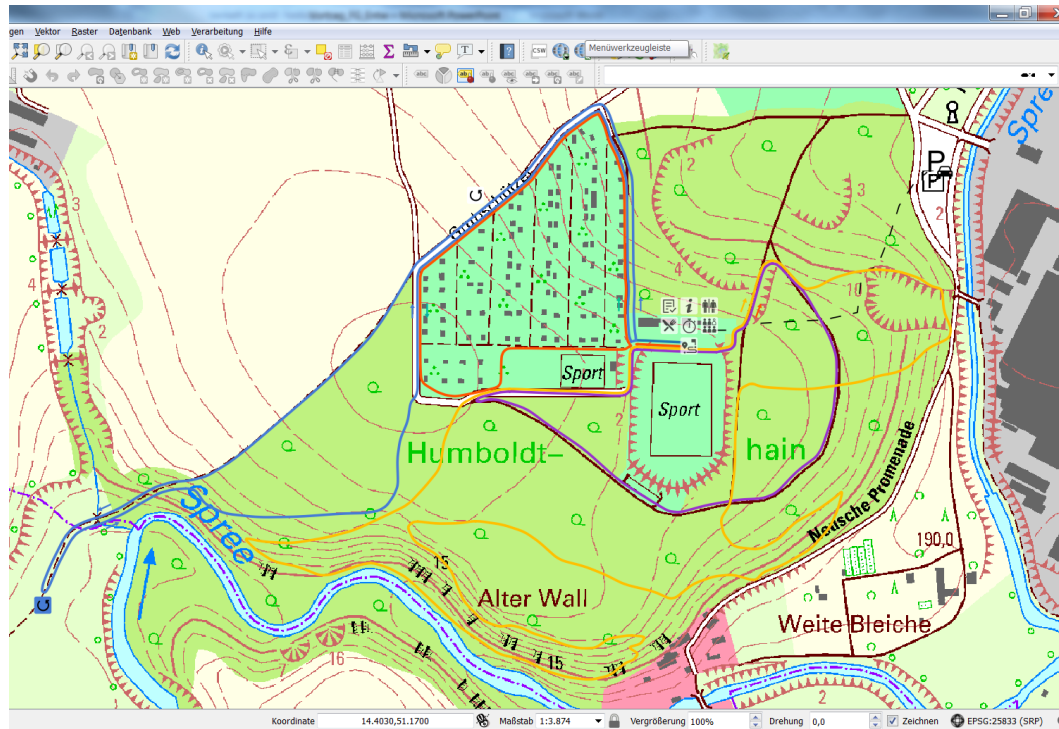


Karte

**Basemap-Hintergrund**

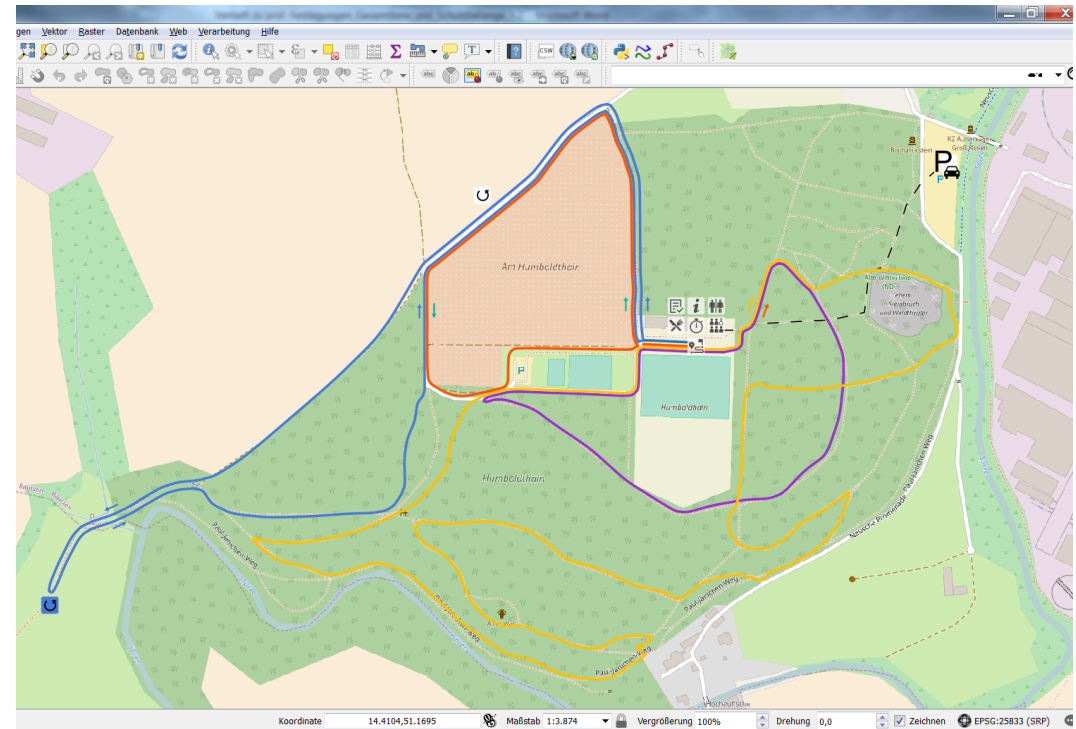


# Amtliche Geobasisdaten Basis DLM, DTK 10



- Zu viel Information, keine handhabbare bzw. editierbare Datenstruktur

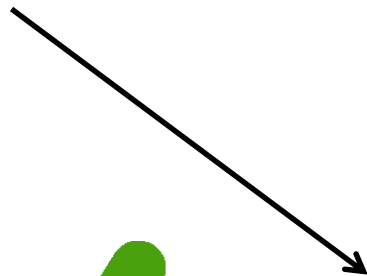
# OSM Mapnik QGIS Plugin QuickMapService



- Basemap Farben, Annotations etc. anpassen damit Overlay-Thema besser hervortritt

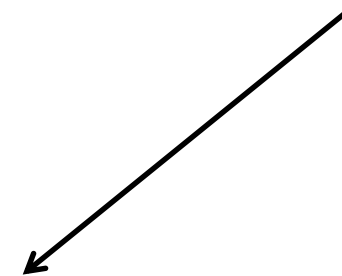
# Zielstellung Streckenkarte

**Overlay-Thema**



Karte

**Basemap-Hintergrund im QGIS anpassen**



**OSM-Datenbank**

# Geofabrik Server

## <http://download.geofabrik.de>

### OpenStreetMap Data Extracts

Welcome to Geofabrik's free download server. This server has data extracts from the [OpenStreetMap project](#) which are organized by continent and then your country of interest from the list below. (If you have been directed to this page from elsewhere we highly recommend that you read up on OSM before you use the data.) This download service is offered for free by

Willkommen auf dem Geofabrik-Downloadserver. Hier gibt es Daten-Auszüge aus dem [OpenStreetMap-Projekt](#), die nach Kontinent und Land unterteilt sind. Wählen Sie aus dem Verzeichnis unten den Kontinent und ggf. das Land, für die Sie Daten benötigen. (Wenn Sie von OpenStreetMap nichts wissen, dann ist es empfehlenswert, sich mit dem Projekt vertraut zu machen, bevor Sie heruntergeladene Daten verwenden werden von der Geofabrik GmbH kostenlos angeboten.

Click on the region name to see the overview page for that region, or select one of the file extension links for quick access.

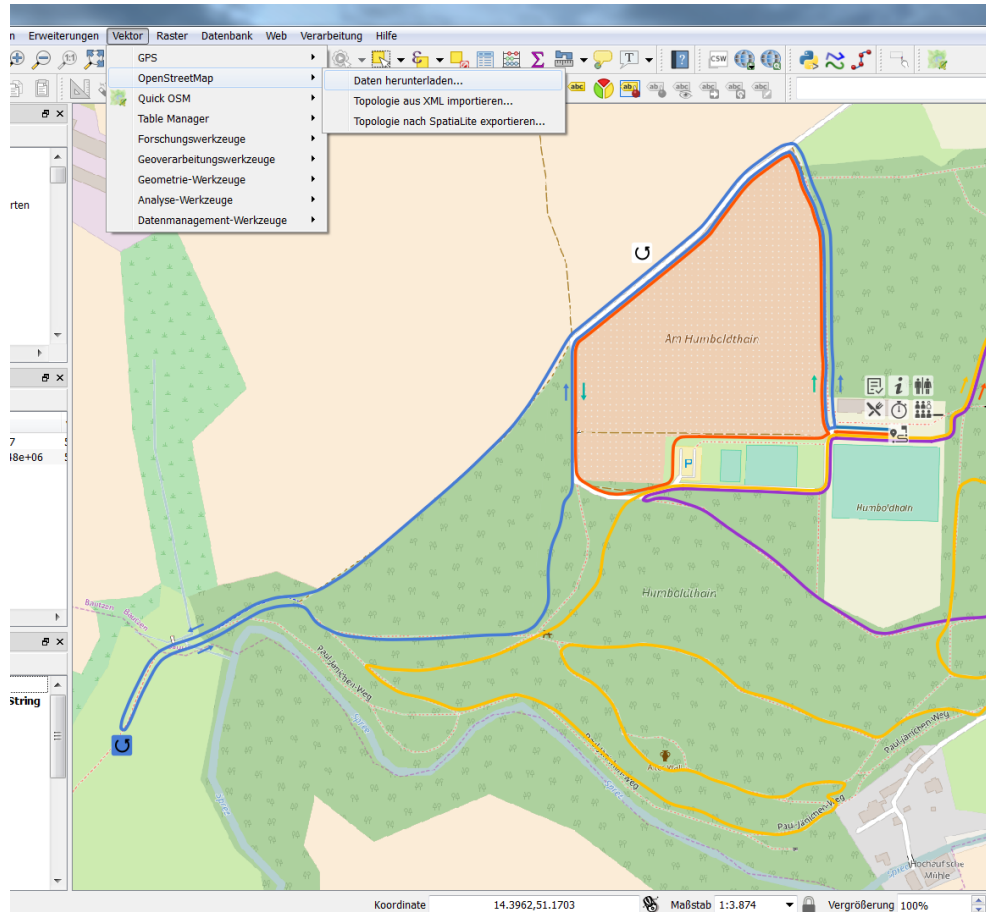
Sub-Region	Quick Links		
	.osm.pbf	.shp.zip	.osm.bz2
<a href="#">Africa</a>	<a href="#">[.osm.pbf]</a>	×	<a href="#">[.osm.bz2]</a>
<a href="#">Antarctica</a>	<a href="#">[.osm.pbf]</a>	<a href="#">[.shp.zip]</a>	<a href="#">[.osm.bz2]</a>
<a href="#">Asia</a>	<a href="#">[.osm.pbf]</a>	×	<a href="#">[.osm.bz2]</a>
<a href="#">Australia and Oceania</a>	<a href="#">[.osm.pbf]</a>	×	<a href="#">[.osm.bz2]</a>
<a href="#">Central America</a>	<a href="#">[.osm.pbf]</a>	×	<a href="#">[.osm.bz2]</a>
<a href="#">Europe</a>	<a href="#">[.osm.pbf]</a>	×	<a href="#">[.osm.bz2]</a>
<a href="#">North America</a>	<a href="#">[.osm.pbf]</a>	×	<a href="#">[.osm.bz2]</a>
<a href="#">South America</a>	<a href="#">[.osm.pbf]</a>	×	<a href="#">[.osm.bz2]</a>

[Technical details](#) about this download service.

- Regionalisierte Datensätze  
downloadbar (Bundesländer)
- Zu groß für Projektzweck
- Nur 1,6 km<sup>2</sup> Kartengebiet



# QGIS integrierte Downloadfunktion



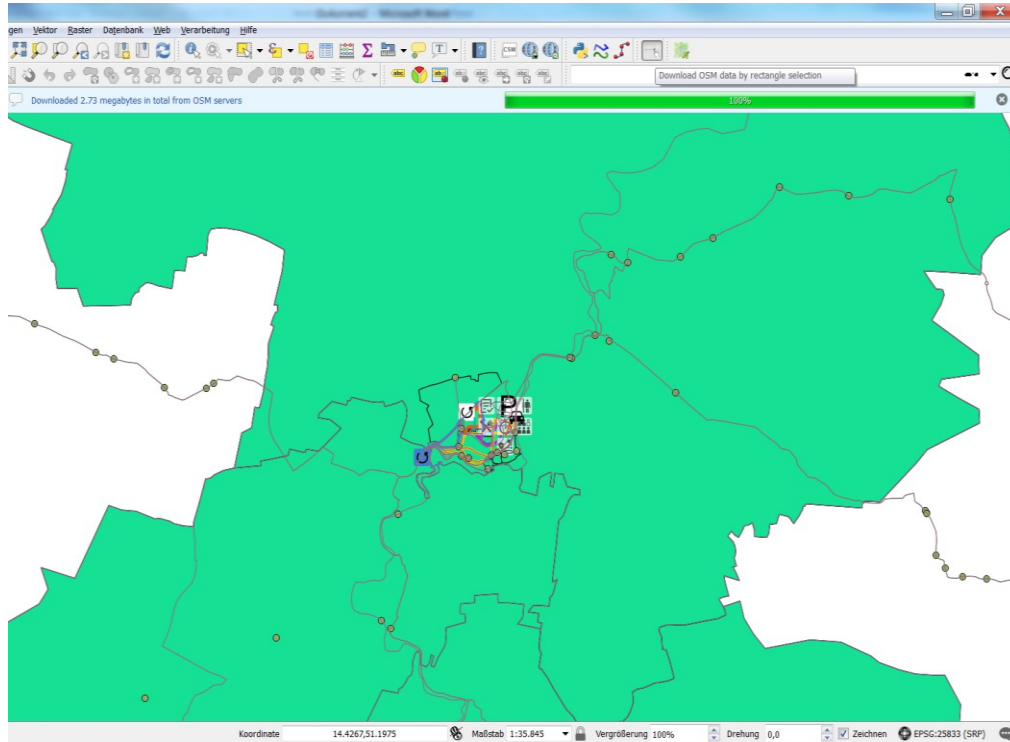
- Zu viele Zwischenschritte notwendig vom Download bis zur Bearbeitung in QGIS

# Search QGIS Plugin tag „openstreetmap“

The screenshot shows the QGIS Python Plugins Repository website. The header includes navigation links: QGIS HOME, ABOUT PLUGINS, PLUGINS, PLANET, USER MAP, LOGIN. A search bar is visible on the right. The main content area is titled "QGIS Python Plugins Repository" and "Plugins tagged with: openstreetmap". It indicates "14 records found" and provides a link to "toggle descriptions". A table lists the plugins with columns for Name, stars, downloads, Author, Created on, Stars (votes), Stable, and Exp. The table includes plugins like Lat Lon Tools, OSM route, OSMDownloader, OSMEditorRemoteControl, OSMInfo, Open Aerial Map (OAM), Qgis Web Connector, Quick Finder, QuickMapServices, and QuickOSM.

Name	★	↓	Author	Created on	Stars (votes)	Stable	Exp.
Lat Lon Tools	—	17250	C Hamilton	June 9, 2016	★★★★★(59)	0.6.1	—
OSM route	—	39377	Riccardo Klinger, Geolicious	June 20, 2015	★★★★★(34)	0.6	0.3
OSMDownloader	—	70998	Luiz Andrade	April 9, 2015	★★★★★(49)	0.5	0.1
OSMEditorRemoteControl	—	34290	Jochen Topf	Sept. 6, 2012	★★★★★(30)	2.0	—
OSMInfo	—	17386	NextGIS	Dec. 21, 2015	★★★★★(12)	0.5	0.6.0
Open Aerial Map (OAM)	—	7181	Humanitarian OpenStreetMap Team	Sept. 12, 2015	★★★★★(3)	—	0.1-alpha.3.4
Qgis Web Connector	—	23829	Enrico Ferreguti	May 13, 2014	★★★★★(8)	1.20	—
Quick Finder	✓	71252	Denis Rouzaud, Arnaud Morvan	April 12, 2012	★★★★★(49)	3.3.1	—
QuickMapServices	✓	173816	NextGIS	Jan. 11, 2015	★★★★★(215)	0.18.4	—
QuickOSM	—	91992	Etienne Trimaille	July 31, 2014	★★★★★(101)	1.4.6	1.4.2
Tile Map Scale Plugin	—	33092	Matthias Ludwig, Database Solutions	March 12, 2013	★★★★★(46)	1.0	—

# OSMDownloader



- + Einfache Auswahl mit Rechteck im QGIS Hauptfenster
- + Schneller Download
- Zu viel Objekte, da keine Selektion mittels keys-values
- Attributtabelle schwer abfragbar

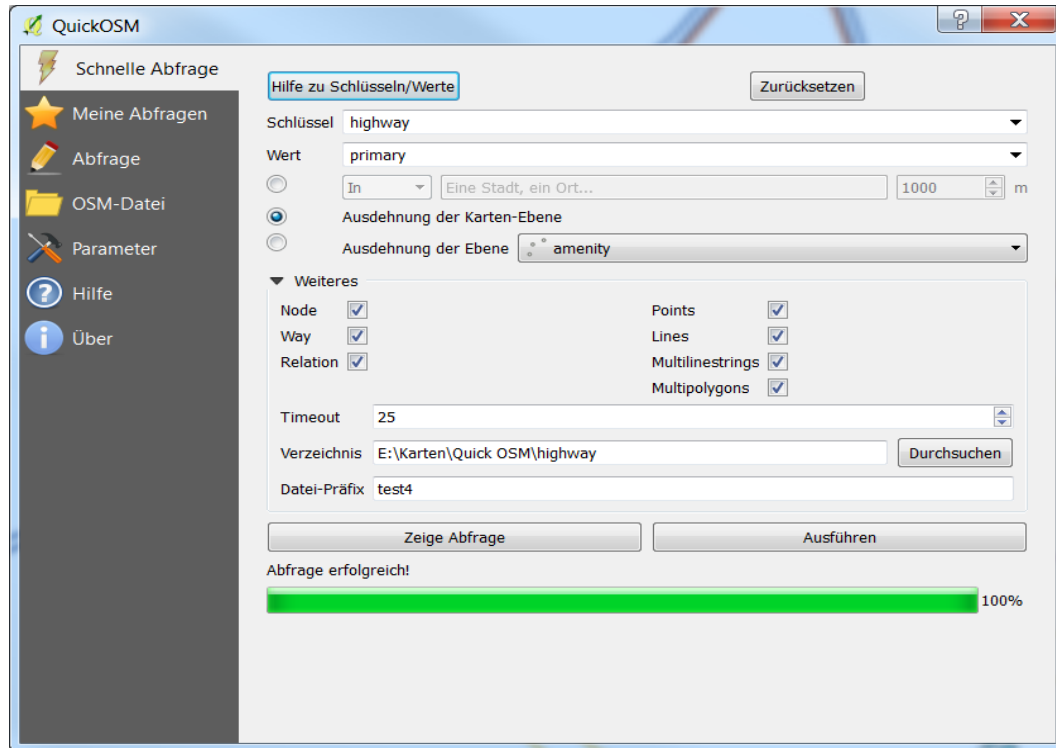
# Attributtabelle "Primitive Lines"

testosmdownload lines :: Objekte gesamt:682, gefiltert: 682, gewählt: 0

	osm_id	other_tags
1	4446691	"CEMT"=>"III","alt_name"=>"MÄ¼ggelspree","boat"=>"yes","draft"=>"1.75","have_riverbank"=>"yes","maxspeed"=>"25","name"=>"Spree","name:pl"=>"Sprewa","waterway"=>"river"
2	4841366	"boat"=>"yes","canoe"=>"yes","maxlength"=>"9.5","maxwidth"=>"1.9","motorboat"=>"privat","name"=>"Hauptspree","waterway"=>"river"
3	4972279	"name"=>"Spree","name:hsb"=>"Sprjewja","name:pl"=>"Sprewa","waterway"=>"river"
4	5058894	"CEMT"=>"III","boat"=>"yes","maxspeed"=>"10","name"=>"FÄ¼rstenwalder Spree","waterway"=>"river"
5	7953404	"cycleway"=>"shared_lane","cycleway:left"=>"no","cycleway:right"=>"shared_lane","highway"=>"residential","maxspeed"=>"50","name"=>"Tzschirnerstraÿe","name:hsb"=>"Tzschirnerowa","sidewalk"=>"both","smoothness"=>"excellent","surface"=>"asphalt"
6	10426022	"boat"=>"yes","canoe"=>"yes","maxlength"=>"9.5","maxwidth"=>"1.9","motorboat"=>"yes","name"=>"Spree","name:pl"=>"Sprewa","navigable"=>"yes","operator"=>"Land Brandenburg","waterway"=>"river","waterway:maxspeed"=>"12"
7	10479244	"CEMT"=>"I","boat"=>"yes","canoe"=>"yes","motorboat"=>"yes","name"=>"Spree","name:pl"=>"Sprewa","navigable"=>"yes","operator"=>"Land Brandenburg","waterway"=>"river","waterway:maxspeed"=>"12","width"=>"12"
8	13214875	"highway"=>"residential","name"=>"Bahnhofstraÿe"
9	13214878	"foot"=>"yes","highway"=>"residential","maxspeed"=>"30","name"=>"Gerichtsstraÿe"
10	13519419	"highway"=>"footway"
11	13869902	"highway"=>"tertiary","name"=>"Medewitzer Straÿe"
12	13869909	"highway"=>"tertiary","maxspeed"=>"100","ref"=>"K 7256"
13	18347088	"highway"=>"pedestrian"
14	18492832	"alt_name"=>"Doktor-Peter-Jordan-Straÿe","cycleway"=>"shared_lane","highway"=>"residential","lanes"=>"2","maxspeed"=>"50","name"=>"Dr.-Peter-Jordan-Straÿe","name:hsb"=>"Dr. PÄ¼tra Jordanowa drÄ¼ha","sidewalk"=>"both","smoothness"=>"excellent","surface"=>"asphalt"
15	21244593	"bridge"=>"yes","highway"=>"footway","layer"=>"1"
16	21244596	"highway"=>"footway"
17	23020789	"highway"=>"track","surface"=>"gravel"
18	23054830	"layer"=>"-1","name"=>"Spree","name:hsb"=>"Sprjewja","name:pl"=>"Sprewa","waterway"=>"river"
19	23087581	"highway"=>"track","name"=>"Hutbergstraÿe","tracktype"=>"grade2"
20	23087586	"highway"=>"track","horse"=>"yes","motor_vehicle"=>"forestry","tracktype"=>"grade3"
21	23087589	"highway"=>"track","tracktype"=>"grade3"
22	23124818	"CEMT"=>"I","boat"=>"yes","motorboat"=>"yes","name"=>"Drahendorfer Spree","waterway"=>"river"
23	23135055	"highway"=>"residential","maxspeed"=>"20","name"=>"Kirchstraÿe","oneway"=>"yes"

Alle Objekte anzeigen

# QuickOSM



- + Selektion über key/value
- + Räumlicher Umgriff festlegbar
- + Sehr schnell
- Etwas User Experience erforderlich
- Datenspeicherung der Abfrage ins Temp-Verzeichnis mgl.

# <https://overpass-turbo.eu/>

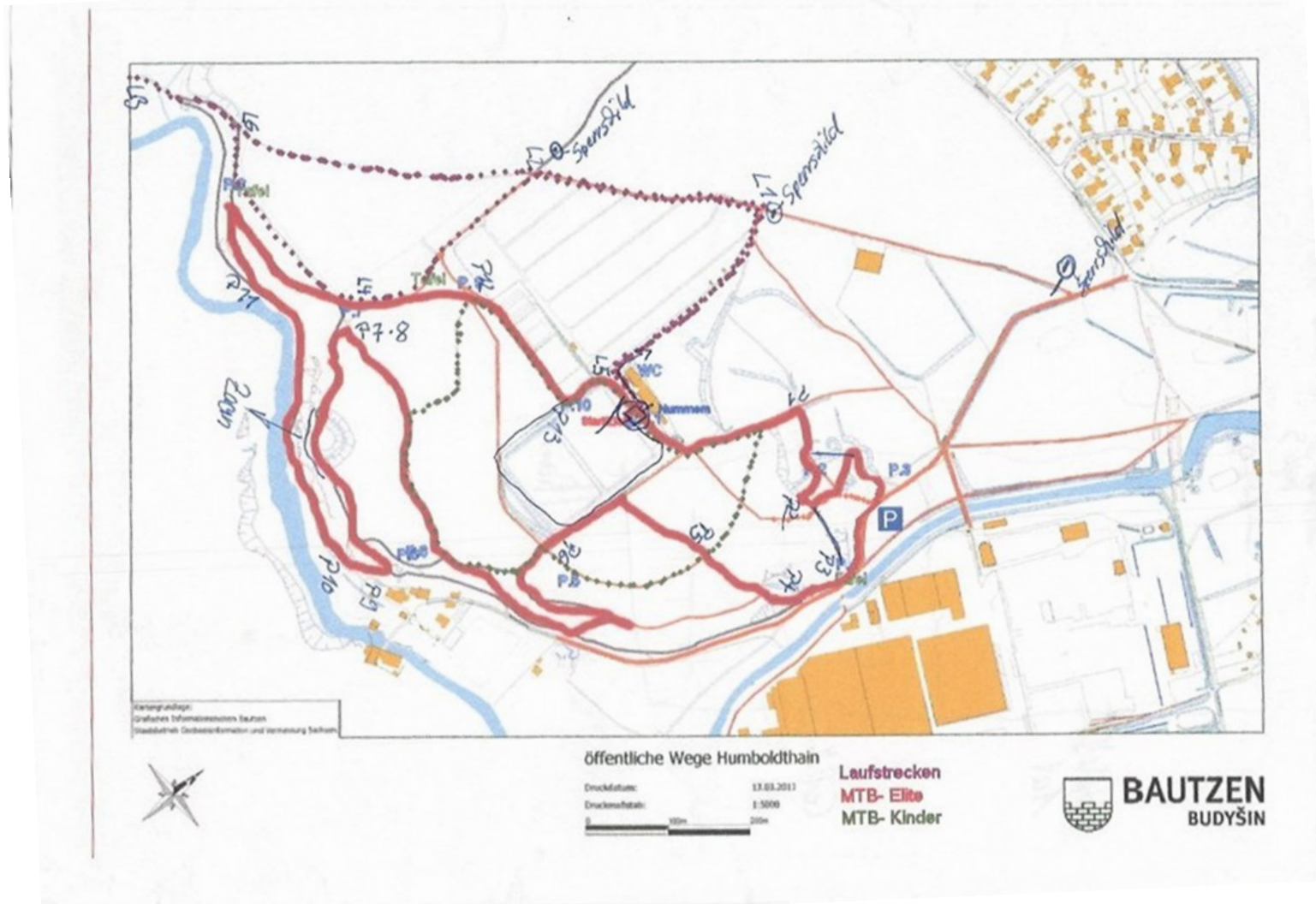
Ausführen Teilen Export Wizard Speichern Laden Einstellungen Hilfe overpass turbo Flattr this! Karte Daten

```
1 /*
2 This has been generated by the overpass-turbo wizard.
3 The original search was:
4 "path"
5 */
6 [out:json][timeout:25];
7 // gather results
8 (
9 // query part for: "path"
10 way["highway"="path"]>{{bbox}};
11 );
12 // print results
13 out body;
14 >;
15 out skel qt;
```

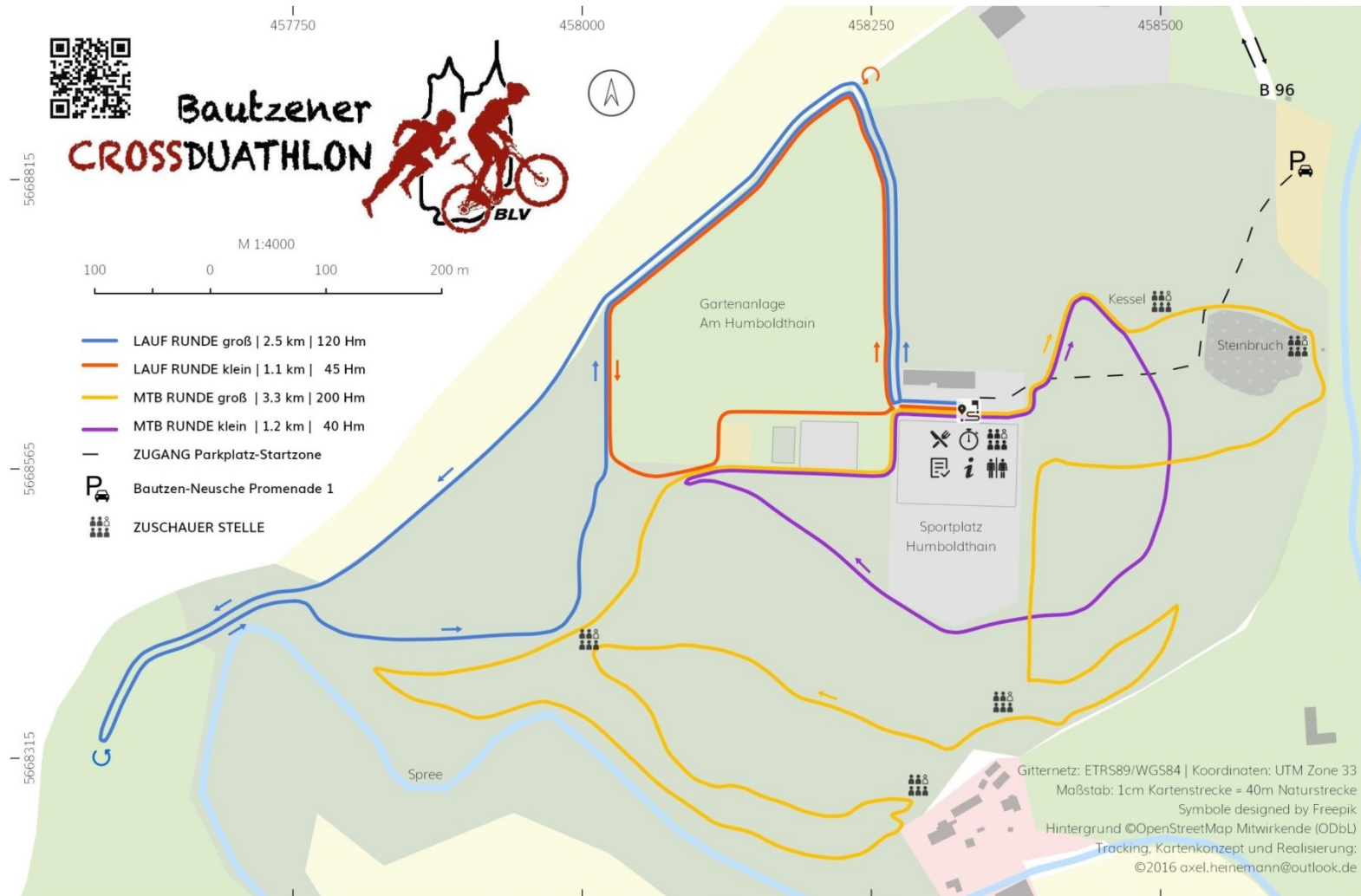
+ Syntax und Karte  
+ UX Design sehr gelungen  
+ Wizard  
Auf englisch umstellen?  
**Hilfreich:** tagfinder, taginfo,  
OSM Wiki Mapfeatures

geladen - Nodes: 292, Ways: 49, Relations: 0  
angezeigt - POIs: 0, Linien: 49, Polygone: 0

# Streckenkarte Vorher



# Streckenkarte Nachher





# Fazit-Nutzung von OSM Daten im QGIS

- + Attributierung key-value i.V.m. overpass turbo oder QuickOSM ermöglicht individuellen, selektiven Export aus OSM Datenbank (GeoJSON, GPX, KML)
- Passende Lösungssuche sehr zeitaufwendig, da Vielzahl an Möglichkeiten

Links:

<https://taginfo.openstreetmap.org>

<http://tagfinder.herokuapp.com>

[http://wiki.openstreetmap.org/wiki/Map\\_Features](http://wiki.openstreetmap.org/wiki/Map_Features)

<https://gis.stackexchange.com>

<https://plugins.qgis.org/plugins>