

ENTUR

Hi!

My OSM username is **ENTUR Johan Wiklund**
and I'm working as **Data Manger** and
OpenStreetMap-guy at Entur in Oslo, Norway

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Backstory

1869 First publication of all timetables in a single publication.

1994 Digitalisation with database and journey planning

2005 Online journey-planner and electronic datasets

2016 Rail reform and creation of Entur

ENTUR

Norges Kommunikation

Reiseblad.

No. 1.
Lørdag d. 2. Januar.

eller
1869.
Første Aargang.

Dette Blad udkommer 3 Gange maanedlig. Avertissements fra Jernbanerne og Dampskibene optages efter 1 Skilling for hver Pettinde, enkelt Spalte. Andre Avertissements optages efter 5/16 Skilling pr. Pettinde, naar samme Avertissement indtrykkes afvekslende mindst 10 Gange paa et Aar. Indtryk af kortere Tid og betalt forholdsvis med 7/8 Skilling for et helt Aar, 40 Skilling for et halvt Aar, 30 Skilling for et Kvartal, for Udsalgene 84 Skilling, 56 Skilling og 35 Skilling.

Til Abonnenterne!

Det ved dette Blad Udgivelsen tilbringe Maas er at tilvejebringe fuldstændig og paaalidelig Underretning om de Maader, paa hvilke man ved regelmæssigt Befordringsmiddel kan besøge sine Værelser og reise fra et Sted til et andet i Landet.

Fra min side vil altid blive givet for at den Maas og for at skaffe Bladet saameget Udfærdigelse som mulig. Indholdet er det Hjelpe Sagens Natur nødvendigt, at jeg fra Jernbanerne for Landets Jernbaner og Dampskibene bliver indregnet ved Indførelsen af disse Maader, der saa uventet i hvert Nummer, saalænge Bladet er i Færd. Fra Landets Jernbaner har jeg modtaget Tællinger for Trainsen Afgang, som desværre er ikke fuldstændig.

Jeg skal tillade mig at bemærke til Jernbanerne og Dampskibene Betydninger til Fuldstændiggjærelse af disse Avertissements om muligt ogsaa at angive Priserne. Dette tror jeg for den Rejsende vilde være en værdifuld stor Bekvemmelighed.

Efter Oplysning og ethvert Raad, der kan bidrage til Bladets Fuldstændiggjærelse og praktiske Brugbarhed, modtages med Taknemmelighed.

Jeg tror at herde gøre de ærde Betydninger for Jernbanerne og Dampskibene opmærksomme paa, at naar disse Maader uventet fuldstændig i nærværende Blad, er dette nødvendigt i Dagbladet, hvor der da kan behøves at læses til disse. Bladet vil være udelukkende at fra Hjelpe i alle Landets Begjæder, paa Jernbanestationserne og de vigtigste Dampskibesteder.

Saafremt det skulde vise sig nødvendigt, vil Bladet udkomme uventet.

Nedensfor findes Portogælder over de Dampskibe, Damp-Lokomotiv og Dampskibe, der altid have givet Tilgang om sine Avertissements, efterom Salgssædler i Part. De Dampskibe, der endnu ikke have besvaret sine Hverendelse, holder jeg uvent at have den Åns at gøre det.

Fuldpartierne, der hertil der vil blive udelukkende Bladet "Dampskibe og Lokomotiv".

De fra Departementet udsendte Bekjendtgørelser om Dampskibe "Jernbaner".

Fuldpartierne Dampskibe.

Jens Mønsted i Christiania.

Stolt, Swang & Comp. i Christiania.

Jernbanestationserne i Oslo.

Dampskibene og de udsendte Statistikerne.

Nordre Bergenshus Aars Dampskibesteder.

Winge & Comp. i Christiania.

Bergenshus og de udsendte Statistikerne.

Nordre Bergenshus Aars Dampskibesteder.

Register over Jernbane- og Dampskibsstationer.

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Goals

Promote and support all public transport and sustainable mobility options in Norway.

- National Ticketing platform
- National Journey Planner services
- Open Data distribution

Move Norway from proprietary- to open systems and data.



After almost three years in OpenStreetMap *Entur*
has contributed roughly 6 million map changes.



...in Norway

- Open data government

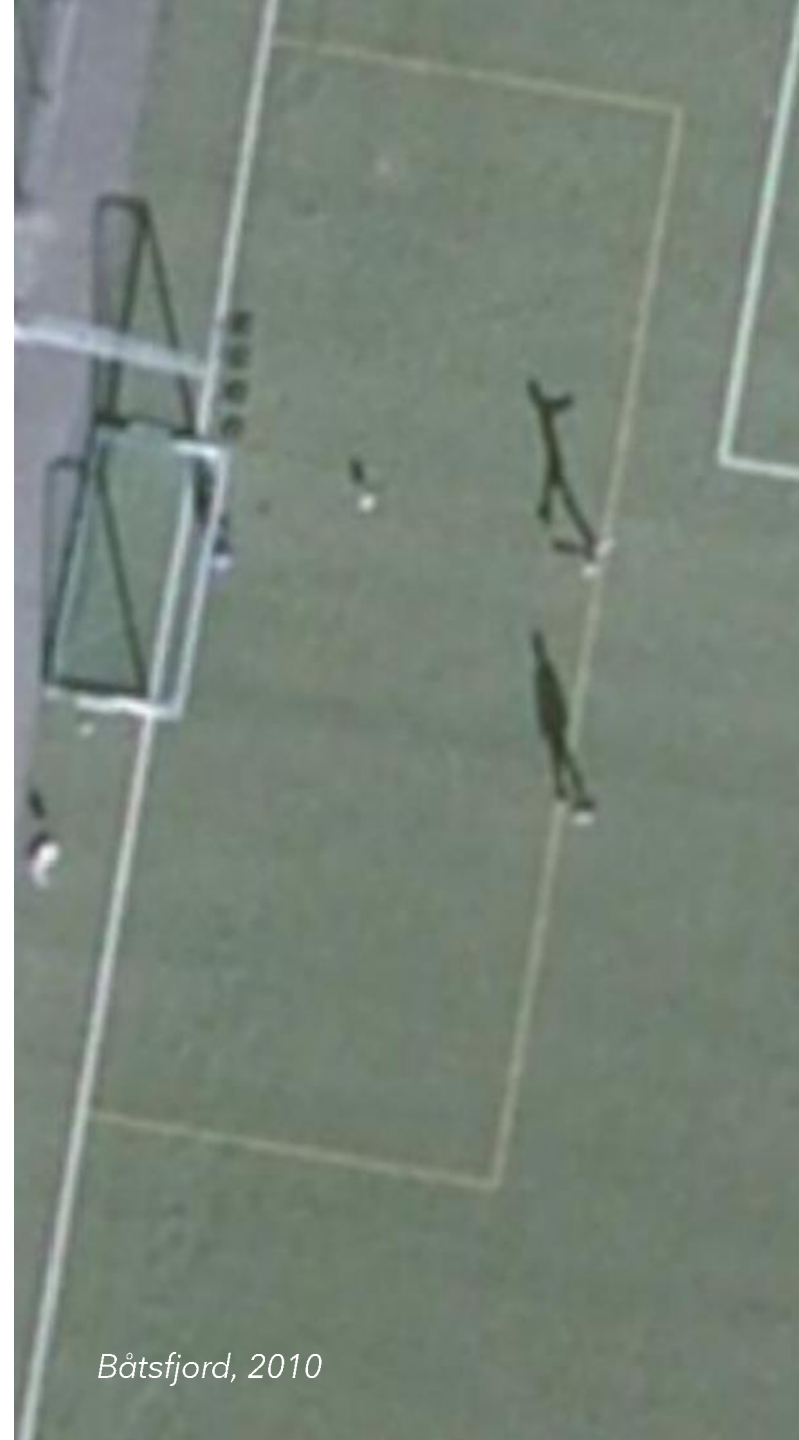
Many map related datasets and publications available for use in OSM.

- High quality orthophoto

High resolution with perfect georectification.

- Road Network import

In 2018 we employed two people for 10 weeks dedicated to this task only.



Detecting problems

On top of the **pre-emptive** mapping we also use our tools - and of course feedback from the public to quickly improve the map and see an **immediate improvement** in our journey planner.

- OTP report converted to OSM XML can visualise problems.
- *yes we are running straight off the nightly OSM exports.*

Det



The problems

- Complex areas

Routing across open spaces is a major source of bother. It causes unimpressive routing results and forces unfortunate mapping.

- Weighting path quality

It's really tricky to find a good middle ground for when and where to route pedestrians. Mostly due to lack of tagging, but also due to the non-local mapping standards, such as sac scale which does not translate well when used incorrectly.

- Discouraging routing

Getting routing off the roads and onto the sidewalks is hard than would be expected.

- Jumping between edges, platforms, sidewalks and cycleways

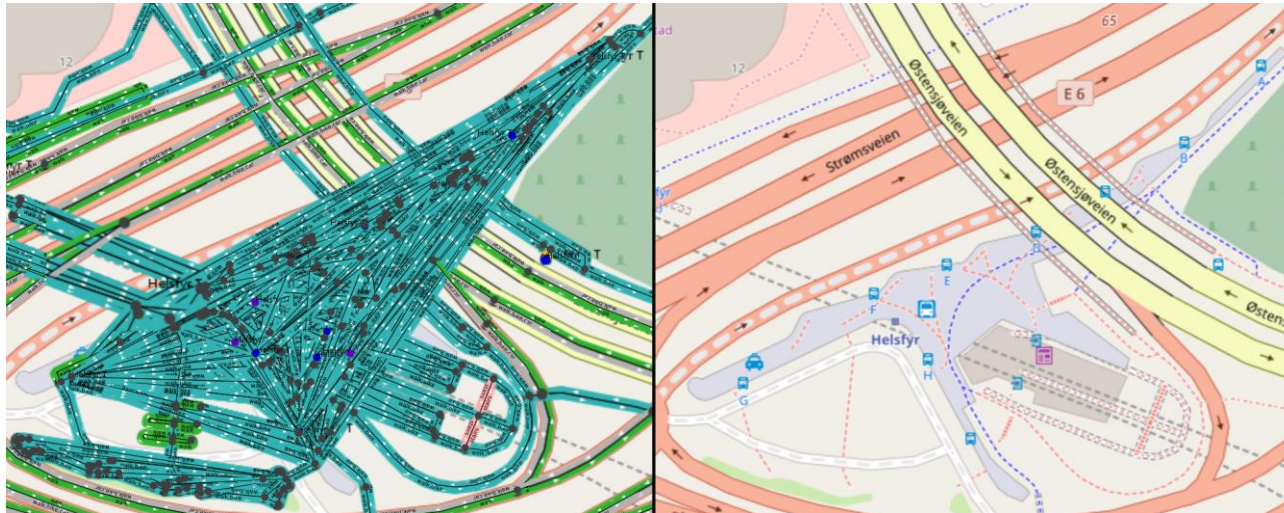
Parallel ways cause lots of trouble when you in reality can cross anywhere, but you cant map crossings.

- Layers in OSM

The way OSM uses layers doesnt exactly make things easier for routing. Especially when the origin position is generated externally.

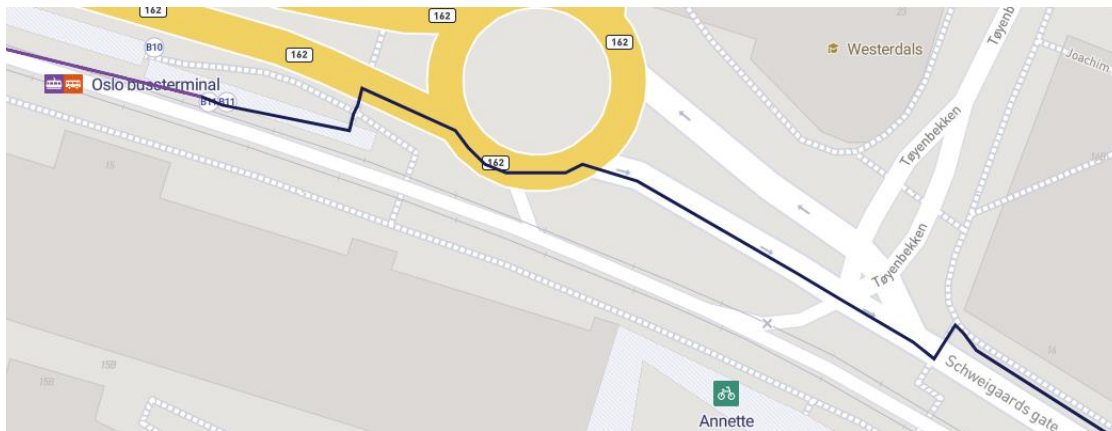
The problems

<https://www.openstreetmap.org/way/221524254>



The problems

<https://www.openstreetmap.org/way/4335661>



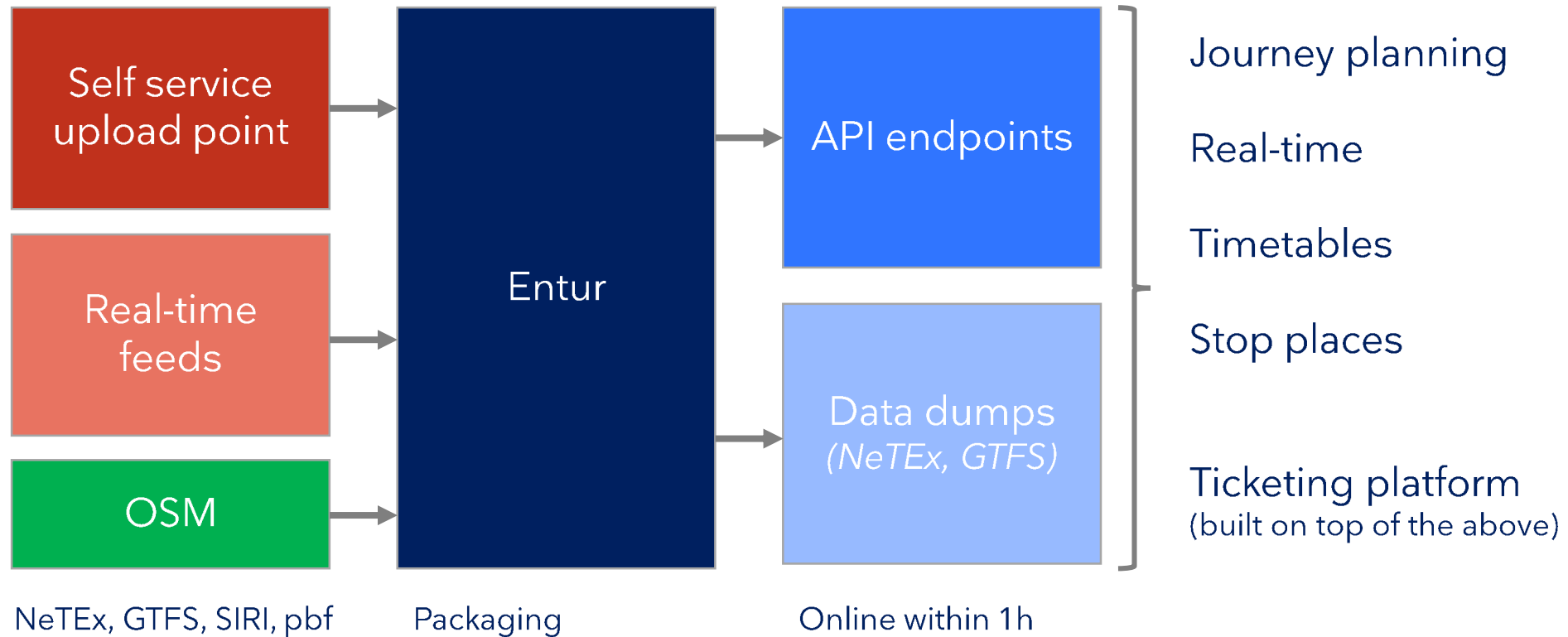
Reliability of OSM

- OSM gives freedom, but freedom also creates chaos.
- Chaos limits the potential of OSM. The lack of stable, reliable and accessible documentation deters businesses from relying on OSM.
- We would like to see more organised and effective efforts by OSM for unifying or reforming mapping and tagging standards.

The successful deployment of **Open Data** based **public transport** information in Norway and the sensible use of **public funds** for these purposes.



Overview



Stop places

- Single official database for referencing all stops in Norway administered and used by the local public transport agencies.
- Open data file exports and immediate API output ([try it](#))
- All our stops have already been imported into OSM with automated updates <https://github.com/osmno/nsr2osm>

Stop Place Register

Quay P+R Bike Parking

← Oslo bussterminal, Oslo (NSR:StopPlace:6505)

Belongs to multimodal stop place [NSR:StopPlace:58293](#)

Version 88

TAGS

Local reference:

RUT:StopPlace:03010618, MOR:StopPlace:3019900,
OPP:StopPlace:03010619, OPP:StopPlace:3010619,
RUT:StopPlace:3010618, BRA:StopPlace:3010619,
BRA:StopPlace:03010619, RUT:StopPlace:3010619-2,
OST:StopPlace:3010619, OST:StopPlace:03010619,
RUT:StopPlace:03010619-2, RUT:StopPlace:03010619

Group of stop places: [Oslo](#)

Name

Oslo bussterminal

Tz

Description for travellers

ACCESSIBILITY

FACILITIES

Has transport sign

Ticket machine

Bus shelter

WC available

Waiting room

QUAYS (35)

PARKING (0)

Platform **A2** 2 NSR:Quay:11972

Platform **B7** 41 NSR:Quay:11963

Platform **B9** 44 NSR:Quay:11961

Platform **A4** 4 NSR:Quay:11977

DISCARD

SAVE NEW VERSION

Alternative names

Translation

Oslo Bus

English

Add alternative name

Name type

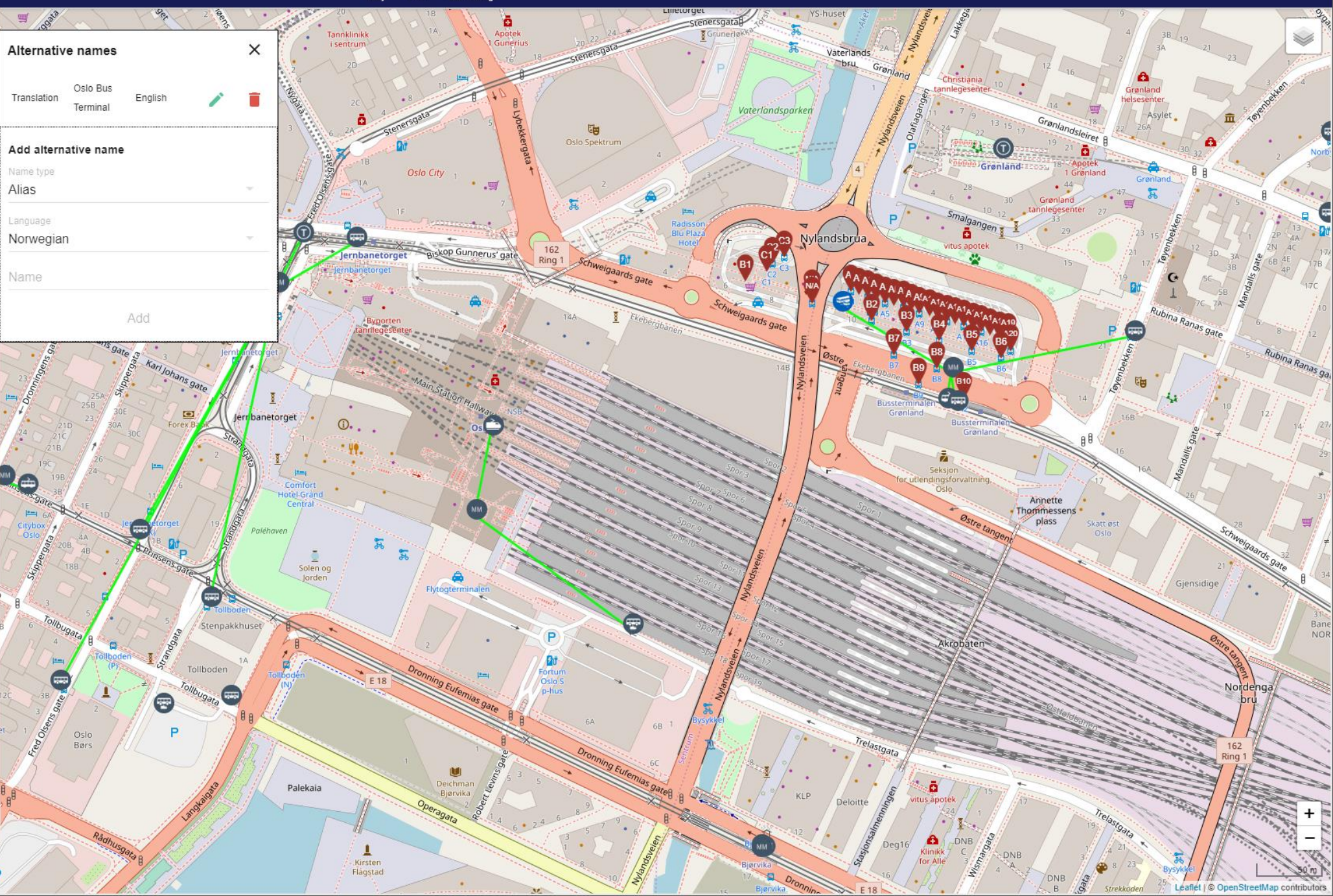
Alias

Language

Norwegian

Name

Add



OpenTripPlanner

- Open source software which consumes certain open data formats, such as OSM, GTFS and now NeTEx.
- We have become a major contributor to the project.
- We are currently working on OTP 2.0
 - NeTEx input support
 - New search algorithm (Raptor)

- <https://github.com/opentripplanner/OpenTripPlanner/commits/dev-2.x>
- <https://www.entur.org/otp-summit/>

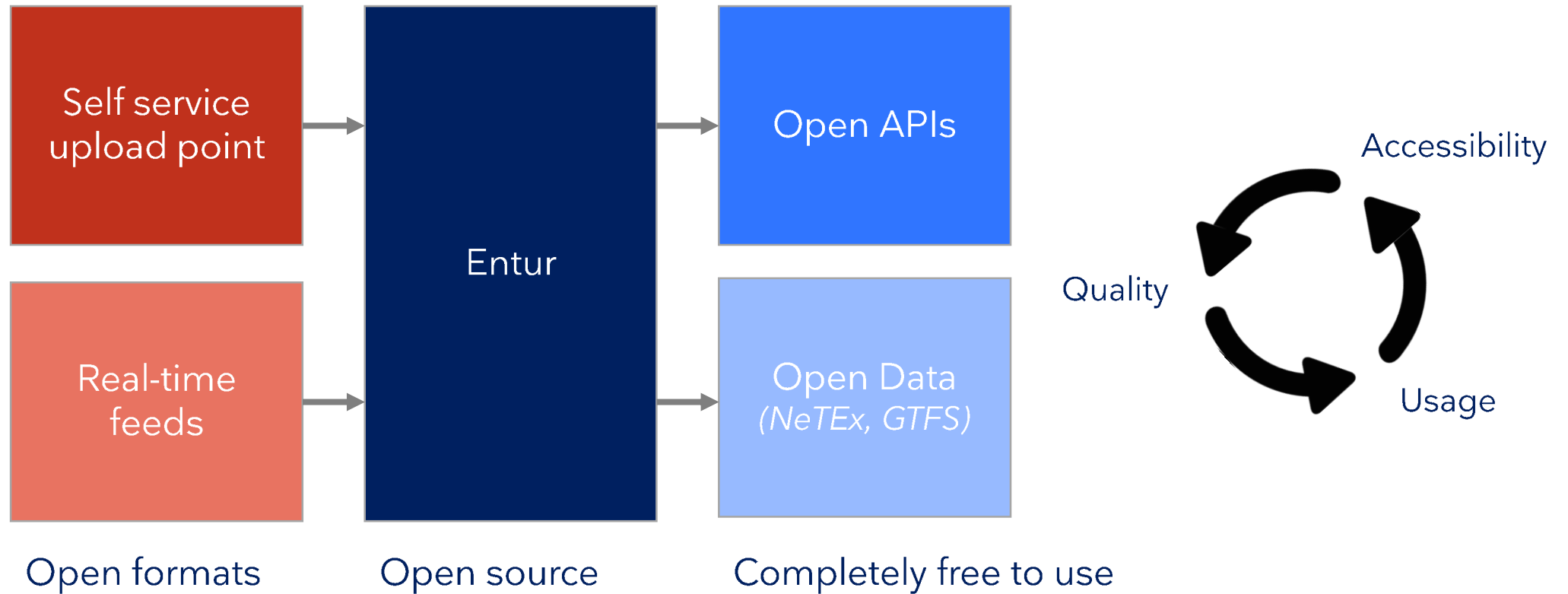
Money well spent

All this development is by no means free!

But the investment made by the state through us is absorbed when the local operators can lower their own development costs and focus more on their transport operations.

Currently we provide 300 million journey planner requests/month and the number is steadily rising.

Truly open



Join us!

Open source-developers, entrepreneurs,
governments or private citizens.

**We would really like to see more people join
us on the journey to making public transport
information more accessible, through open
data and open source.**

...thank you.



Find out more

Public journey planner app 'Entur' for iOS and Android. Web-journey-planner: <https://en-tur.no>, API IDE: <https://api.entur.io/journey-planner/v2/ide/>, proof of concept deployment of OTP 2.0: <https://raptor.en-tur.no> (contact us for access to our OTP-development channel on Slack), we hosted the 2019 OTP Summit <https://www.entur.org/otp-summit/>. OTP tools: <http://otpreport.entur.org>, <http://otpdebug.entur.org>. Stop Place registry: <https://stoppested.entur.org> (log in with guest/guest to view content), front-end: <https://github.com/entur/abzu>, back-end <https://github.com/entur/tiamat>, API-IDE: <https://api.entur.io/stop-places/v1/ide/>. NeTEx: <http://netex-cen.eu>, Nordic NeTEx profile: [Entur Public Wiki](#), Norwegian SIRI profile: [Entur Public Wiki](#). Enterprise website: <https://www.entur.org>, developer portal, API overview and documentation: <https://developer.entur.org>, technical questions: kollektivdata@entur.org. Entur OSM Wiki [organised editing page](#).

Entur is owned by [The Norwegian Ministry of Transport and Communications](#). Our API's are free to use under state terms of service, as well as our static file exports.

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