

# GIS in Transit Conference

September 6-8, 2017 | Washington, DC

## Publishing + evaluating + querying GTFS with the Transitland platform

Drew Dara-Abrams + Ian Rees

Mapzen

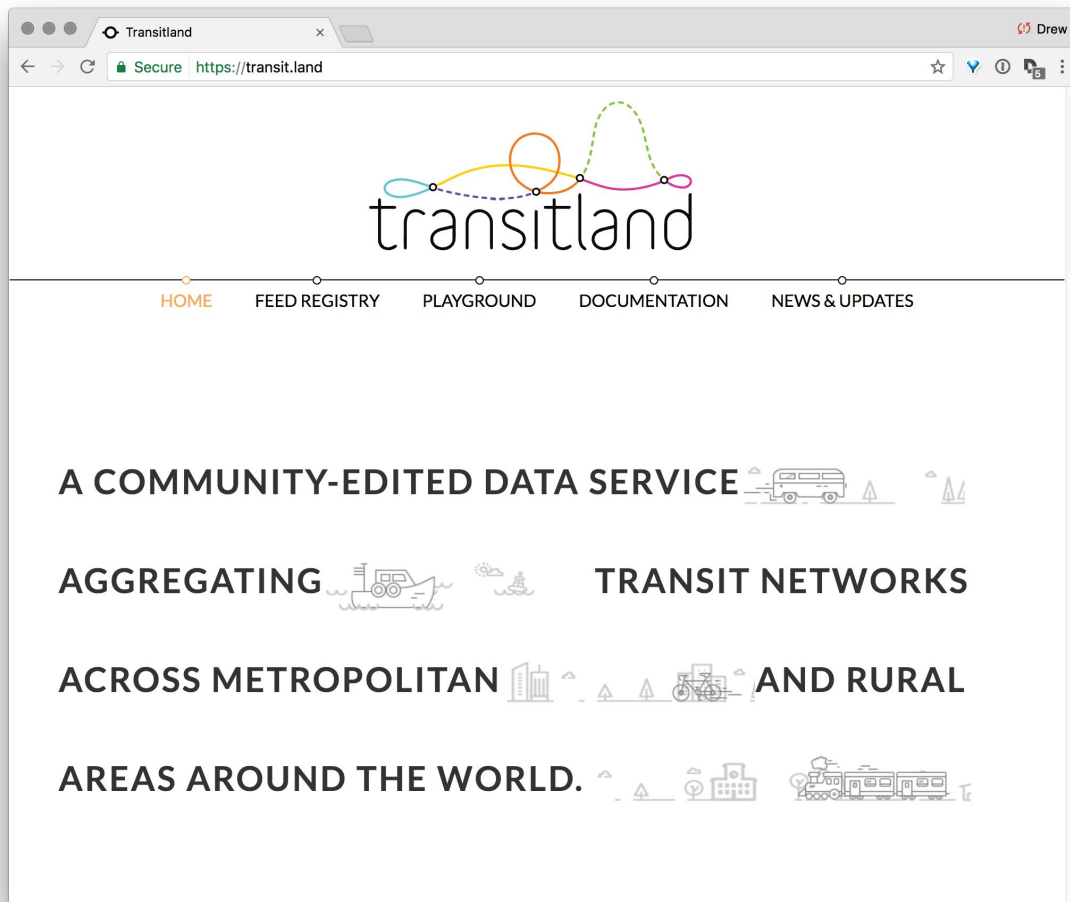


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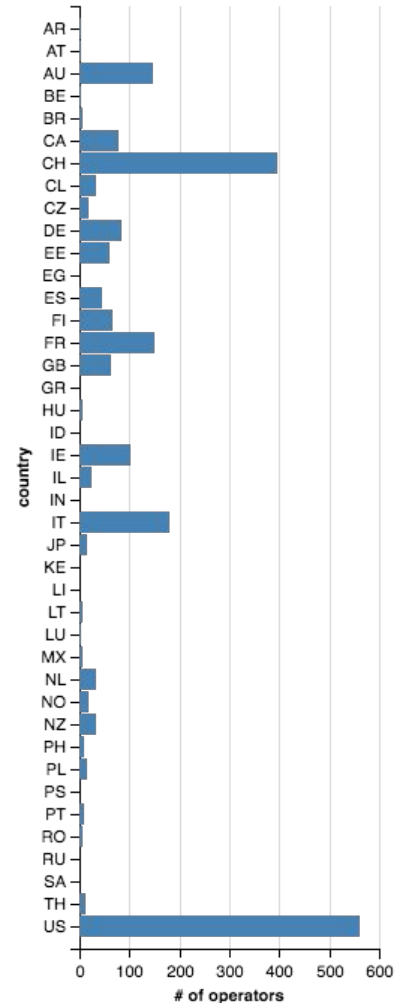
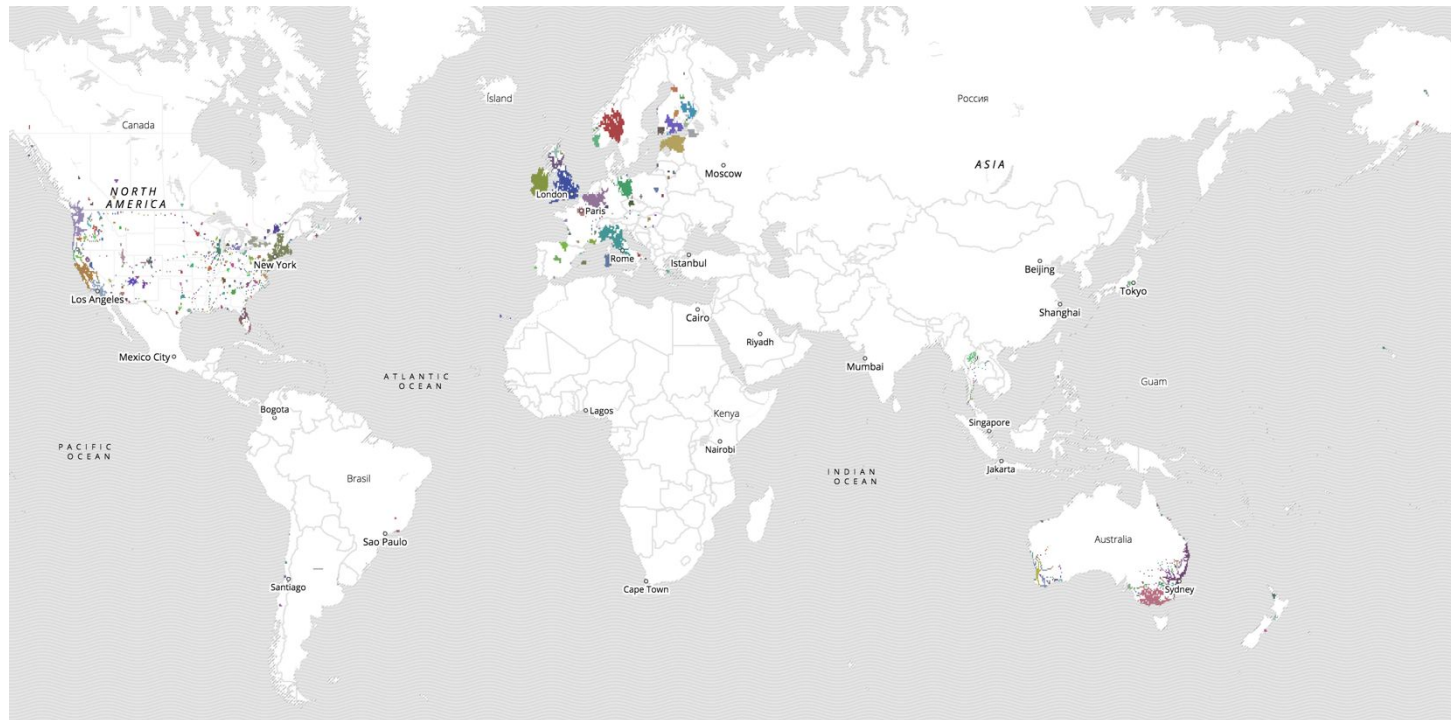
# Outline

1. **Introducing** the Transitland Platform
2. **Publishing** feeds to Transitland
3. **Evaluating** progress on GTFS Best Practices using Transitland
4. **Evaluating** feed transition practices using Transitland
5. **Querying** Transitland for GTFS contents
6. **Participating** in Transitland yourself!

# Introducing the Transitland Platform



# Transitland covers **2,196** operators in **41** countries




# Publishing Feeds to Transitland

Feed Registry · Transitland

Secure | https://transit.land/feed-registry/

Drew


























# transitland

[HOME](#)[FEED REGISTRY](#)[PLAYGROUND](#)[DOCUMENTATION](#)[NEWS & UPDATES](#)

## FEED REGISTRY

The Feed Registry lists all the transit operators and feeds included in Transitland. See what each feed's license will allow you to do with it and click through to get more details about feeds associated with each operator.

Search by operator name or location

Operator Name	Metro	State or Province	Country	License	License Details
128 Business Council	Waltham	Massachusetts	United States		  
360 Discovery	Auckland	Auckland	New Zealand		  
9 Town Transit	Centerbrook	Connecticut	United States		  
Aachener Verkehrsverbund (AVV)	Aachen	Nordrhein-Westfalen	Germany		  
Aachener Verkehrsverbund - West (AVV)		Nordrhein-Westfalen	Germany		  
Aare Seeland mobil (ASM)	Biel/Bienne	Bern	Switzerland		  
Aare Seeland Mobil (ASM)	Langenthal	Bern	Switzerland		  

# Publishing Feeds to Transitland

## Requirements

- Stable URL (same directory, same filename)
- Publicly accessible (no password)
- Machine downloadable (no “clicking”)
- Open license

## Benefits

- “Source of truth” continues to live with each public transit agency/operator
- Transitland overlays Onestop IDs (globally unique, stable IDs provided by Transitland)



# Evaluating progress on GTFS Best Practices using Transitland

## Google feedvalidator.py validation report

[View results](#)

### GTFS validation results for feed:

/www/transitland/releases/20170418191657/public/uploads/tmp/1493389826-10642-0828-8439/eb0cbe5ab41c9cfde0ebae42471ab5b3f712b008.zip

FeedValidator extension used: None

Agencies: [Chicago Transit Authority](#)

Routes: 134

Stops: 11473

Trips: 47057

Shapes: 872

Effective: April 14, 2017 to June 30, 2017

During the upcoming service dates Fri Apr 28 to Mon Jun 26:

Average trips per date: 18148

Most trips on a date: 20528, on 24 service dates (Fri Apr 28, Tue May 02, Thu May 04, ...)

Least trips on a date: 11773, on 1 service date (Mon May 29)

### Found these problems:

1166 warnings

454 [Invalid Values](#)

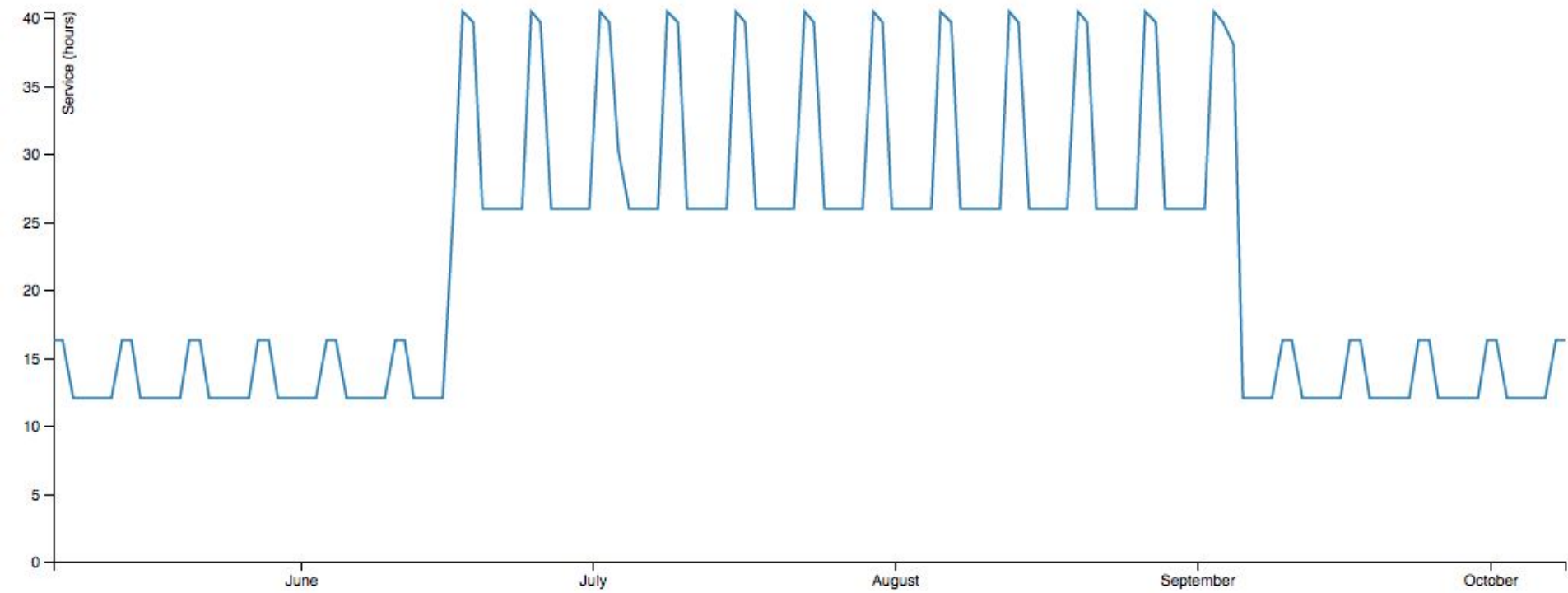
routes.txt

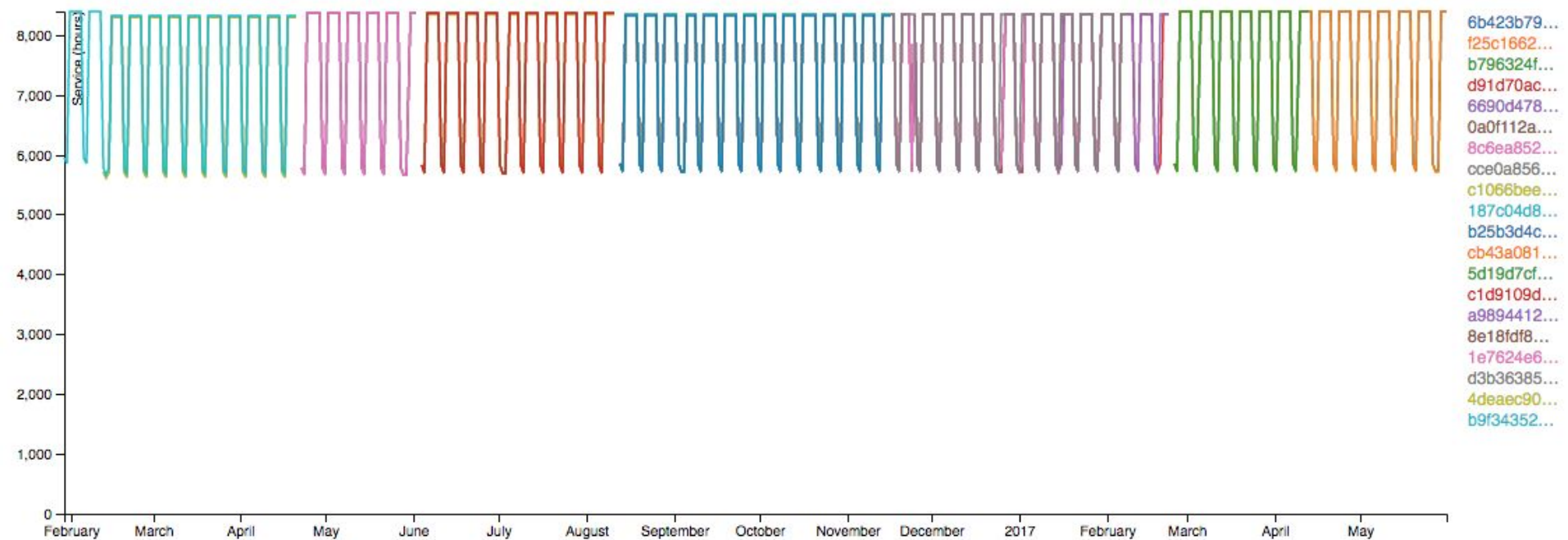
[🔗 GTFS spec about routes.txt](#) [🔗 GTFS Best Practices about on routes.txt](#)

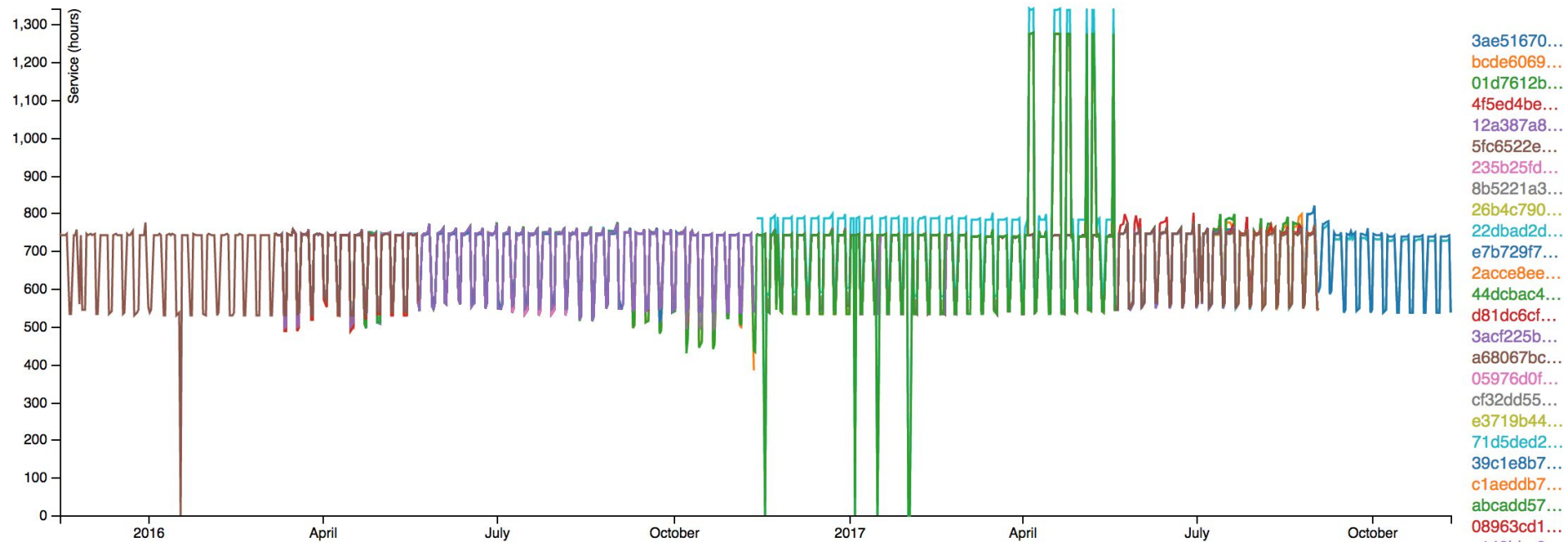
Column heading	# of total rows	# of unique row values	Minimum row value	Maximum row value
route_id	134	134	1	Y
route_short_name	126	126	1	X98
route_long_name	134	134	111th/King Drive	Yellow Line
route_type	134	2	1	3
route_url	134	134	http://www.transitchicago.com/bus/11/	http://www.transitchicago.com/riding_cta/systemguide/yellowline.aspx
route_color	8	8	009B3A	F9E300
route_text_color	8	2	000000	FFFFFF

<http://gtfs.org/best-practices/>

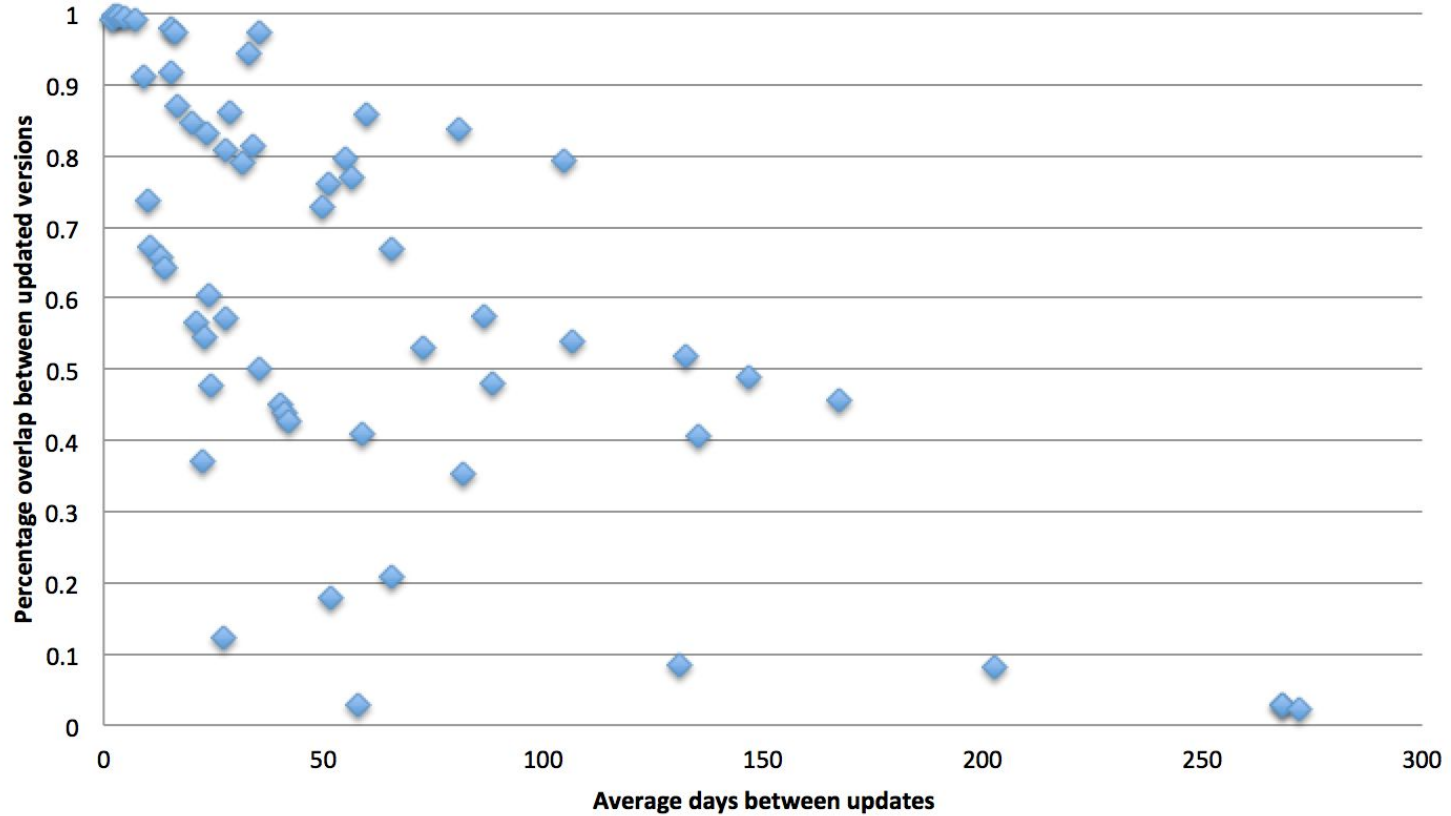
# Evaluating Feed Transition Practices using Transitland







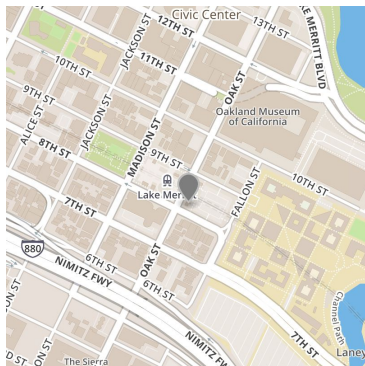
## Update Frequency and Overlap





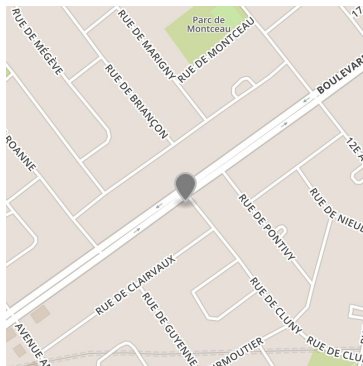
# Querying Transitland for GTFS contents

## Stable & unstable GTFS identifiers



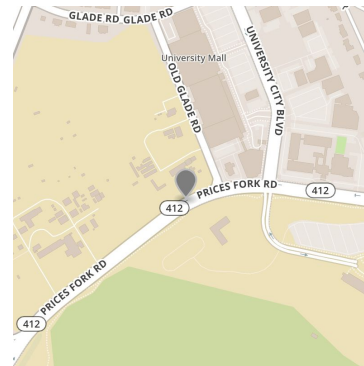
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LAKE  
LAKE  
LAKE



s-f25e4y9fyy-delaconcorde~decluny

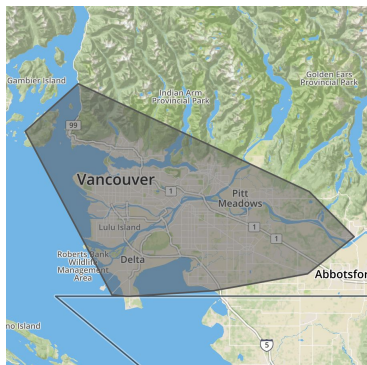
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MARS1741325  
JUIN1741325



s-dnwg9c9v0de-pricesfork~oldgladewbnd

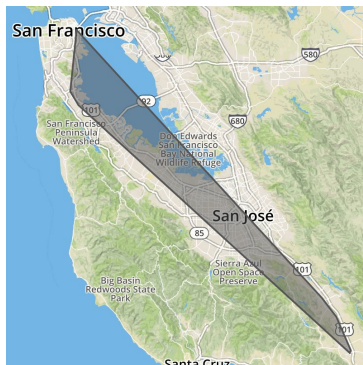
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4bf1325e-3408-47c8-9468-371533d9d5e3  
1d221ec2-0923-42b2-a448-54960742f63a

# Stable & unstable GTFS identifiers



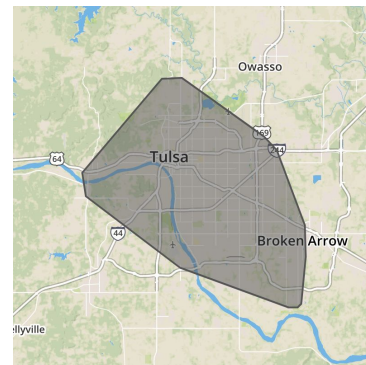
o-c28-translink

CMBC  
CMBC



o-9q9-caltrain

CT  
caltrain-ca-us



o-9y7v-metropolitantulsatransitauthority

Tulsa  
201702

Feed Registry · Transitland

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Secure | https://transit.land/feed-registry/operators/o-9q9-caltrain

All Operators

Caltrain

Onestop ID ⓘ

o-9q9-caltrain

Metro region

San Francisco Bay Area ⓘ

State/Province

California (US-CA) ⓘ

Country

United States (US) ⓘ

Website

<http://www.caltrain.com/>

Timezone

America/Los\_Angeles

Tags

- us\_ntd\_id: 9134

Data available in Transitland Datastore

- operator service area ✓
- stops ✓
- routes ✓
- schedule ✓

Operator service area

- [View as an interactive map in Mapzen Mobility Explorer](#)
- [JSON from Transitland Datastore API](#)
- [GeoJSON from Transitland Datastore API](#)
- [View as a map using geojson.io](#)

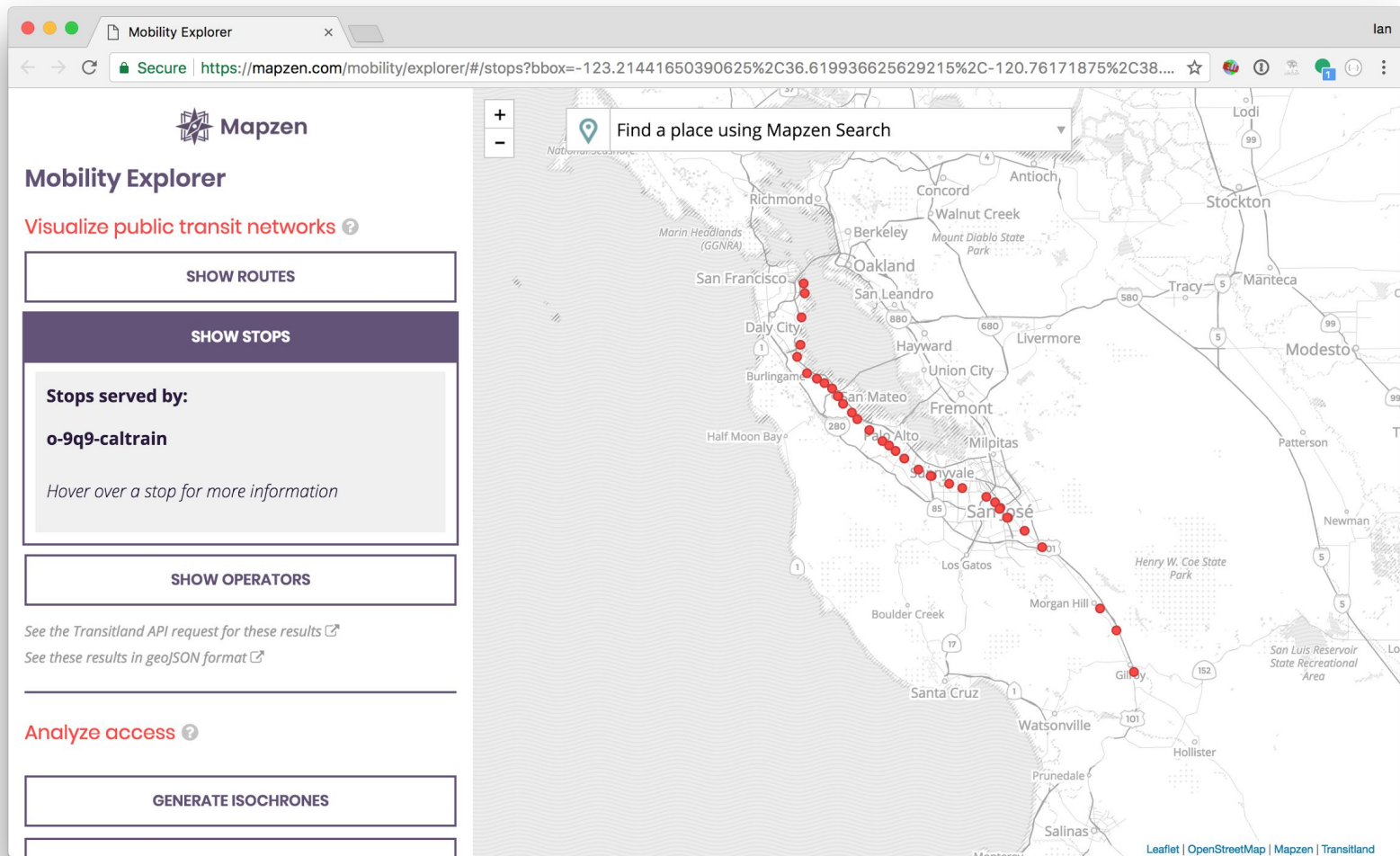
Routes

- [View as an interactive map in Mapzen Mobility Explorer](#)
- [JSON from Transitland Datastore API](#)
- [GeoJSON from Transitland Datastore API](#)
- [View as a map using geojson.io](#)

Stops

- [View as an interactive map in Mapzen Mobility Explorer](#)
- [JSON from Transitland Datastore API](#)







lan

Secure https://mapzen.com/mobility/explorer/#/stops?bbox=-123.21441650390625%2C36.619936625629215%2C-120.76171875%2C38....

Find a place using Mapzen Search

Mapzen

Mobility Explorer

Visualize public transit networks ?

SHOW ROUTES

SHOW STOPS

Stop details:

**Name:** San Francisco Caltrain

**Onestop ID:** s-9q8yyugptw-sanfranciscocaltrain<70012 ?

**Zone ID:** 1

**Nearest street in OpenStreetMap:** **Way #255330047** ?

**Wheelchair boarding:** 1

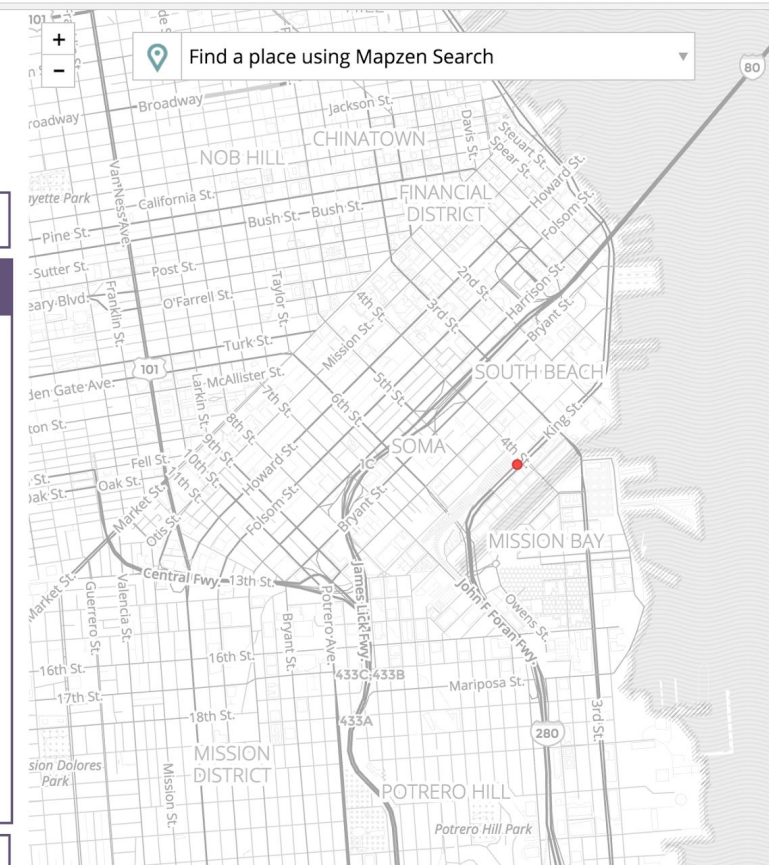
**Served by:**

- Local (Caltrain)
- Limited (Caltrain)
- Baby Bullet (Caltrain)

View routes serving this stop

View isochrones for this stop

SHOW OPERATORS



Leaflet | OpenStreetMap | Mapzen | Transland

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https://transit.land/api/v1/stops x

Secure https://transit.land/api/v1/stops.geojson?bbox=-123.21441650390625,36.619936625629215,-120.76171875,38.153997218446... ☆

Raw Parsed

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          ]
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          {
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```



# Participating in Transitland Yourself!

Please go to <https://transit.land> to

- Add your agency's GTFS feed
- View feed validation reports, statistics, and service-level histograms
- Query transit data across your entire metro region

**We welcome your questions and ideas:**

- [hello@transit.land](mailto:hello@transit.land)
- [hello@mapzen.com](mailto:hello@mapzen.com)
- @transitland
- @mapzen

