

# Abra seu transporte público com OpenStreetMap e Transportr

Torsten Grote <t@grobox.de>



2016-07-14

15º Fórum Internacional  
SOFTWARE LIVRE  
A tecnologia que libera  
7 a 10 de Maio de 2011



FISL15

PUCRS | Porto Alegre | Brasil

#eufui





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# Writing and Improving Apps Yourself




Duration: 0:57

Date: 11/27/2013

11:19 PM 52.39306/13.13070

 7 min

11:26 PM S Griebnitzsee Bhf

11:26 PM  > S Anhalter Bahnhof

1 

11:55 PM S Schöneberg

2

11:59 PM  > Ringbahn S 42

12 

12:00 AM

S Südkreuz Bhf

12:01 AM

12:03 AM

S+U Tempelhof

12:04 AM


12:07 AM

S+U Hermannstr.

12:07 AM

12:08 AM S+U Neukölln

2

12:15 AM  > S+U Rathaus Spandau

12:16 AM U Karl-Marx-Str.





Florianópolis  
SIM



Direções



Viagens Recentes



Partidas



Estações Próximas



Configurações



Novidades



Sobre





De



Para

DE

22:48

+15

06/07/16

PESQUISAR



TILAG - Terminal de I... Lagoa da Conceição



TICEN - Terminal Centro



Bola de Neve Church



TICEN - Terminal Centro



Rodovia Admar Gonzaga (10)



Rodovia Jornalista Manoel de Menezes (02)






# Transportr

Florianópolis



23:16 Rua Tomaz Ramos  
↓    1:25



00:42 TICEN - Terminal Centro



00:12 Rua Tomaz Ramos  
↓    1:24



01:37 TICEN - Terminal Centro



01:51 Rua Tomaz Ramos  
↓   0:45

02:37 TICEN - Terminal Centro



03:51 Rua Tomaz Ramos  
↓   0:45

04:37 TICEN - Terminal Centro



23:16 Rua Tomaz Ramos



67 m

0:01

23:17 Rua Altamiro Barcelos Dutra (12)

23:17 Rua Altamiro Barcelos Dutra (12)



Barra da Lagoa

23:41 TILAG - Terminal de Integração da Lagoa da Conceição

00:00 TILAG - Terminal de Integração da Lagoa da Conceição



TILAG - TICEN via Mauro Ramos

00:42 TICEN - Terminal Centro



# Partidas

Florianópolis

## ★ TICEN - Terminal Centro





13:37


+15


07/07/16




13:39  138 Volta ao Morro Pantanal Sul  
> Rodovia Gustavo Richard

13:39  135 Volta ao Morro Carvoeira Norte  
> TICEN - Terminal Centro

13:40  460 Porto da Lagoa  
> Rodovia Antônio Luiz Moura Gonzaga (18)

13:40  630 Corredor Continente  
> TICEN - Terminal Centro

13:40  184 UDESC via Beira Mar  
> Celesc - Itacurubi

13:41  185 UFSC - Semidireto  
> TICEN - Terminal Centro





TIRIO

Terminal  
Rio Tavares



Atenção



O passageiro de ônibus deve parar e esperar o ônibus parar antes de descer.

Bilhetaria

430 VIA-COSTEIRA

45174

RHC 2497



Marcopolo

630

ENTRADA



**Pantana**  
**AUTO-PEÇAS**  
(48) 3234-4445  
**OFICINA**  
(48) 3233-6180

**ALHETAS ORIGINAIS**

**IPIRANGA**  
**SUPER TROCA DE ÓLEO**

**AR CONDICIONADO**

**GARAGEM**  
**PARTICULAR**  
**1000m²**







Products > Transit > Static Transit > Guides

# What is GTFS?

## Contents

[How do I start?](#)

[Overview of a GTFS feed](#)

[Making a Transit Feed Publicly Available](#)

[Submitting a Transit Feed to Google](#)

The General Transit Feed Specification (GTFS) defines a common format for public transportation schedules and associated geographic information. GTFS "feeds" allow public transit agencies to publish their transit data and developers to write applications that consume that data in an interoperable way.

## How do I start?

---

## From

## To

[Get Directions](#)

## Options

Any transit mode ▾

Best route ▾

If you provide a transportation service that is open to the public, and operates with fixed schedules and routes, we welcome your participation - it is simple and free.

[Join Transit Partner Program](#)



## Re: Dados abertos GTFS



From: [SAC - Consórcio Fênix <sac@consorciofenix.com.br>](mailto:sac@consorciofenix.com.br)

To: [Torsten Grote <t@grobox.de>](mailto:t@grobox.de)

Date: 24.11.15 09:21

Prezado,

Não, ainda não existe relação de horários, junto com pontos de partidas e rotas em formato GTFS - o que seria um investimento, uma vez que a hospedagem no Google Transit é cobrada. Ainda sim, o Consórcio terá sua própria base de apoio com estas informações com a criação do Sistema de Ajuda à Operação (SAO), que funcionará nas instalações do Centro de Controle Operacional (CCO). O SAO será o cérebro do sistema, fornecendo informações em tempo real para os smart phones, tablets e computadores pessoais dos usuários.

As principais informações serão:

- a) em que ponto está o ônibus que o usuário está interessado;
- b) que horas o ônibus irá passar no ponto desejado e
- c) as condições de tráfego

O SAO depende da construção do CCO para sua instalação e os projetos já foram encaminhados à Prefeitura. O Consórcio Fênix aguarda a concessão dos alvarás e licenças para iniciar a obra, cujo prazo de conclusão é de 360 dias. Uma vez concluída a obra, entra em operação um projeto-piloto e depois será estendido para toda a frota.

Estamos à disposição para maiores informações.

Att.,

Filename	Required	Defines
<a href="#">agency.txt</a>	<b>Required</b>	One or more transit agencies that provide the data in this feed.
<a href="#">stops.txt</a>	<b>Required</b>	Individual locations where vehicles pick up or drop off passengers.
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## buscar horário e itinerário da linha



## horários

### Linhas Alimentadora TIKAN

- > 276 - Balneário Canasvieiras
- > 277 - Balneário Ingleses
- > 280 - Cachoeira - TIKAN
- > 260 - Cachoeira do Bom Jesus
- > 291 - Canasvieiras/Jurerê
- > 261 - Capivari via Graciliano Gomes
- > 262 - Circular Canasvieiras
- > 285 - Circular Moçambique
- > 281 - Costa do Moçambique
- > 250 - Forte/Canasvieiras
- > 263 - Gaivotas
- > 264 - Ingleses
- > 265 - Ponta das Canas
- > 266 - Praia Brava
- > 267 - Rio Vermelho
- > 274 - Rio Vermelho via Muquém
- > 268 - Sítio de Baixo
- > 269 - Travessão via Rua Alzira Rosa Aguiar
- > 284 - Travessão via Rua da Intendência
- > 283 - Vargem do Bom Jesus
- > 270 - Vargem Grande
- > 282 - Vargem Pequena

### Linhas Alimentadora TICEN

- > 665 - Abraão
- > 762 - Angelo Laporta
- > 660 - Aracy Vaz Callado
- > 844 - Bairro de Fátima
- > 661 - Balneário
- > 763 - Caieira do Saco dos Limões
- > 631 - Capoeiras
- > 632 - Capoeiras via Ivo Silveira
- > 151 - Centro Administrativo via Beira Mar Norte
- > 156 - Centro Administrativo via Mauro Ramos
- > 772 - Chico Mendes
- > 101 - Circular Centro
- > 663 - Coloninha
- > 630 - Corredor Continente
- > 183 - Corredor Sudoeste
- > 186 - Corredor Sudoeste Semidireto
- > 153 - Costeira do Pirajubáé
- > 664 - Itaguaçu
- > 670 - Monte Cristo
- > 764 - Monte Serrat
- > 160 - Morro da Cruz
- > 161 - Morro da Penitenciária
- > 765 - Morro da Queimada
- > 766 - Morro do 25
- > 760 - Morro do Geraldo
- > 768 - Morro do Horário via Mauro Ramos
- > 769 - Morro Nova Trento
- > 460 - Porto da Lagoa
- > 667 - Promorar

### Linhas Alimentadora TILAG

- > 360 - Barra da Lagoa
- > 362 - Canto dos Araças
- > 363 - Joaquina
- > 364 - Osni Ortiga

### Linhas Alimentadora TIRIO

- > 561 - Caieira da Barra do Sul
- > 566 - Caieira via Tapera
- > 462 - Campeche
- > 472 - Campeche via Capela
- > 463 - Castanheiras via Eucaliptos
- > 464 - Castanheiras via Gramal
- > 562 - Costa de Cima
- > 563 - Costa de Dentro
- > 473 - Morro das Pedras via Eucaliptos
- > 474 - Morro das Pedras via Gramal
- > 564 - Pantano do Sul
- > 565 - Ribeirão da Ilha
- > 469 - Tapera / Rio Tavares

### Linhas Alimentadora TISAN

- > 181 - Cacupé/João Paulo
- > 940 - Canasvieiras Santo Antônio via Jurerê
- > 273 - Circular Ratones
- > 271 - Daniela
- > 272 - Jurerê
- > 365 - Sambagui

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## Domingo - Saída TIRIO - Terminal Integração Rio Tavares

---

05:50	06:25	07:00
09:45	10:30	11:15
14:15	15:00	15:45
18:45	19:33	20:15
22:55	23:40	00:20 <b>R</b>

## Itinerário

---

1. TIRIO - TERMINAL DE INTEGRAÇÃO DO RIO TAVARES
2. ROD. GOVERNADOR ADERBAL RAMOS DA SILVA (SC 405)
3. AV. PEQUENO PRÍNCIPE
4. AV. CAMPECHE
5. ROD. DOUTOR ANTÔNIO LUIZ MOURA GONZAGA (SC 406)
6. RUA SILVIO LOPES ARAÚJO (PONTO FINAL)

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## Domingo - Saída TIRIO - Terminal Integração Rio Tavares

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## Itinerário

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6. RUA SILVIO LOPES ARAÚJO (PONTO FINAL)

stop_name	Required	The <b>stop_name</b> field contains the name of a stop or station. Please use a name that people will understand in the local and tourist vernacular.
stop_desc	Optional	The <b>stop_desc</b> field contains a description of a stop. Please provide useful, quality information. Do not simply duplicate name of the stop.
stop_lat	Required	The <b>stop_lat</b> field contains the latitude of a stop or station. The field value must be a valid WGS 84 latitude.
stop_lon	Required	The <b>stop_lon</b> field contains the longitude of a stop or station. The field value must be a valid WGS 84 longitude value from -180 to 180.
zone_id	Optional	The <b>zone_id</b> field defines the fare zone for a stop ID. Zone ID is required if you want to provide fare information using <a href="#">fare_rules.txt</a> . If this stop ID represents a station, the zone ID is ignored.
stop_url	Optional	The <b>stop_url</b> field contains the URL of a web page about a stop or station. This should be different from the

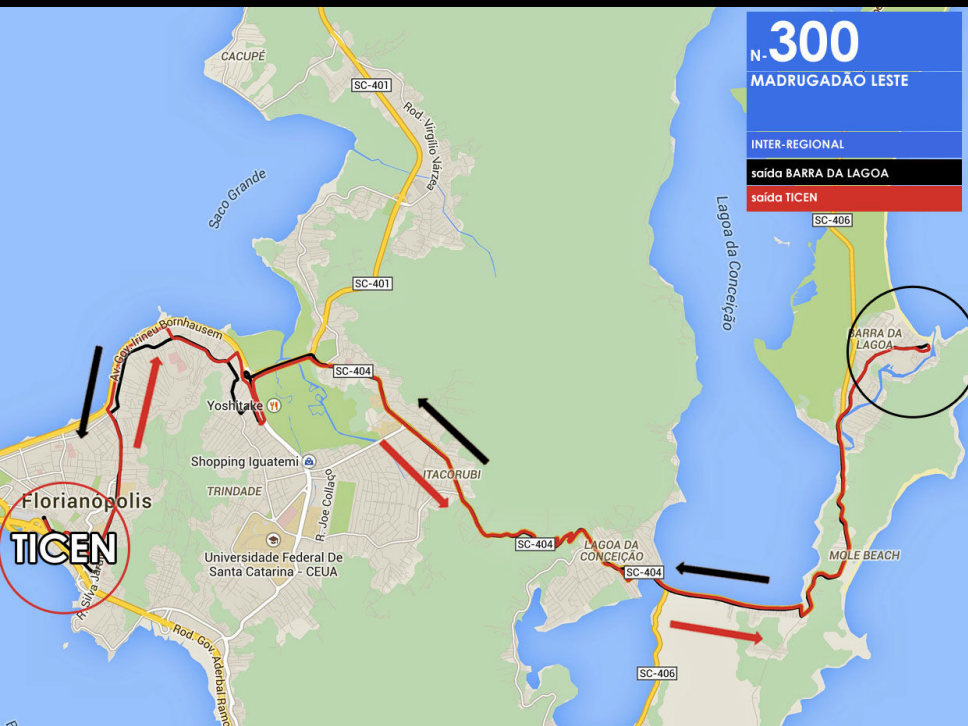
# N-300

## MADRUGADÃO LESTE

INTER-REGIONAL

saída BARRA DA LAGOA

saída TICEN



Florianópolis  
**TICEN**

BARRA DA LAGOA



Edit feature

Bus Stop

All fields

All tags (4)

bench	yes		i
highway	bus_stop		i
name	Rua Deputado Ant...		i
shelter	yes		i

+

All relations (5)

Bus Route: Ônibus 138: Volta ao Morro Pantanal Sul  
platform

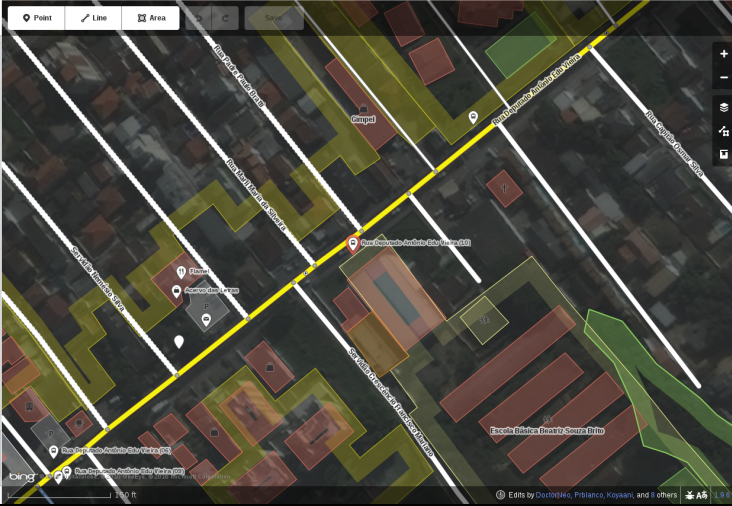
Bus Route: Ônibus 847: TIPIÓ => TITPI  
platform

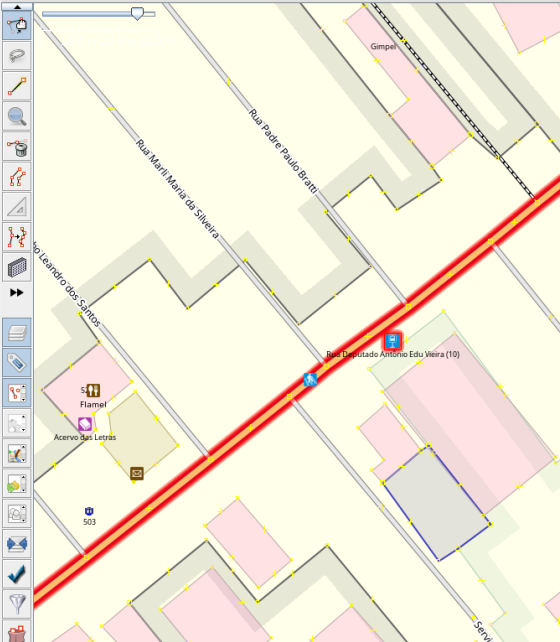
Bus Route: Ônibus 943: Saco dos Limões-Trindade  
platform

Bus Route: Ônibus 154: UFSC Semidireto - Saída Sul  
platform

Bus Route: Ônibus 944: Saco dos Limões-Trindade via Madre Benvenuta

View on openstreetmap.org





## Layers

Data Layer 1



Tags: 4 / Memberships: 5

Transport/Public Transport (Legacy)/Bus Stop ...

Key	Value
bench	yes
highway	bus stop
name	Rua Deputado Antônio Edu ...
shelter	yes

Member Of	Role	Position
route ("Ônibus 138: Volta ao Morro ...	platform	17
route ("Ônibus 154: UFSC Semidiret...	platform	6
route ("Ônibus 847: TIRIO => TITRI", ...	platform	26
route ("Ônibus 943: Saco dos Limõ...	platform	23
route ("Ônibus 944: Saco dos Limõ...	platform	29

+ Add

Edit

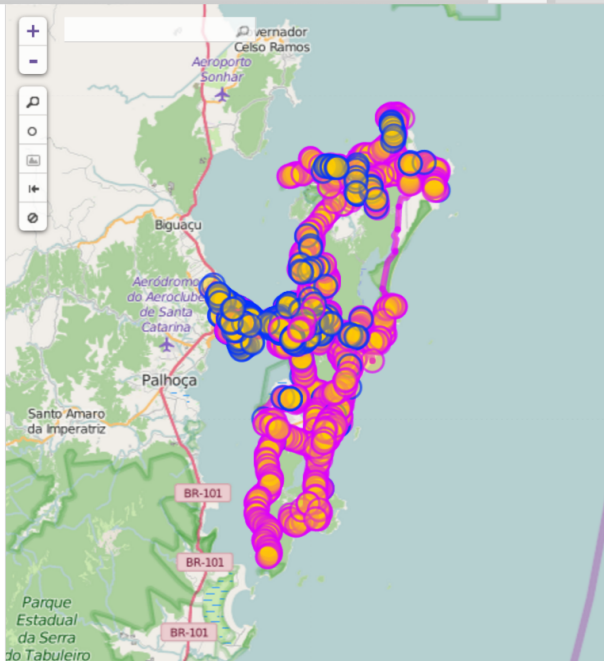
Delete

Sel.: Rel.:0 / Ways:0 / Nodes:1

Rua Deputado Antônio Edu Vieira (10) (-27.60993,



```
1 <query type="relation">
2   <has-kv k="route" v="bus" />
3   <bbox-query
4     e="-48.27" n="-27.21"
5     s="-27.94" w="-49.01" />
6 </query>
7 <union>
8   <recurse type="down" />
9 </union>
<print/>
```





google / transitfeed

Code

Issues 144

Pull requests 4

Wiki

Pulse

Graphs

A Python library for reading, validating, and writing transit schedule information in the GTFS format.

372 commits

1 branch

30 releases

Branch: master

New pull request



**bdferris** Bump version to 1.2.15 for new release.

[examples](#) Remove references to code.google.com and googletransitdatafeed.

[extensions](#) Remove references to code.google.com and googletransitdatafeed.

[gtfsscheduleviewer](#) Fix bug in stop marker position update code introduced in move from v

[misc](#) Remove references to code.google.com and googletransitdatafeed.



ANDROID APP ON

Google play



Available on the iPhone

App Store



Download from  
Windows Phone Store

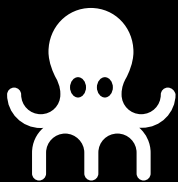
Operadora integrante do SIM

**sim** SISTEMA  
INTEGRADO DE  
MOBILIDADE

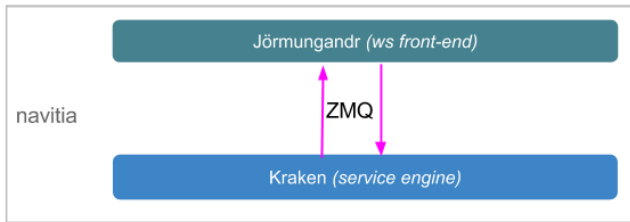
 **consórcio.fênix**  
região

# osm2gtfs

<https://github.com/grote/osm2gtfs>



navitia



Key:

web service

service

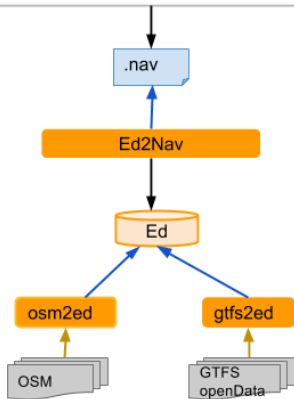
runnable

execute

write

read

communicate



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# 185 - UFSC - Semidireto

**Característica:** Alimentadora TICEN

**Tempo de percurso :** 00:46aproximado

**Alterada em:** 14/03/2016

Exibir Itinerário

**Tarifa - Região Única**

**Cartão:** R\$ 3,34

**Dinheiro:** R\$ 3,50

Exibir Mapa

**Legenda**

**D** Veículo Adaptado para Cadeirante

Próximo horário

**Dias Úteis - Saída TICEN - Plataforma A lado 2**

06:00

06:09

06:18**D**

06:27

06:34

06:42






## Transportr

Florianópolis



23:16 Rua Tomaz Ramos  
↓    1:25



00:42 TICEN - Terminal Centro



00:12 Rua Tomaz Ramos  
↓    1:24



01:37 TICEN - Terminal Centro



01:51 Rua Tomaz Ramos  
↓   0:45

02:37 TICEN - Terminal Centro



03:51 Rua Tomaz Ramos  
↓   0:45

04:37 TICEN - Terminal Centro





23:16 Rua Tomaz Ramos



67 m

0:01

23:17 Rua Altamiro Barcelos Dutra (12)

23:17 Rua Altamiro Barcelos Dutra (12)



Barra da Lagoa

23:41 TILAG - Terminal de Integração da Lagoa da Conceição

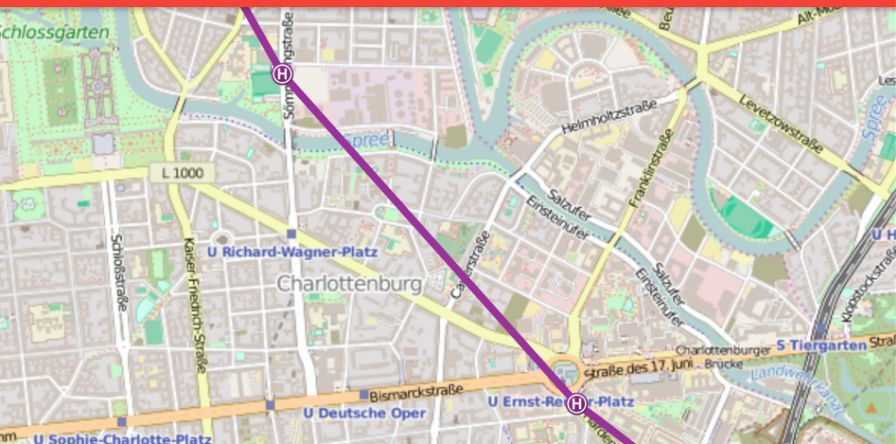
00:00 TILAG - Terminal de Integração da Lagoa da Conceição

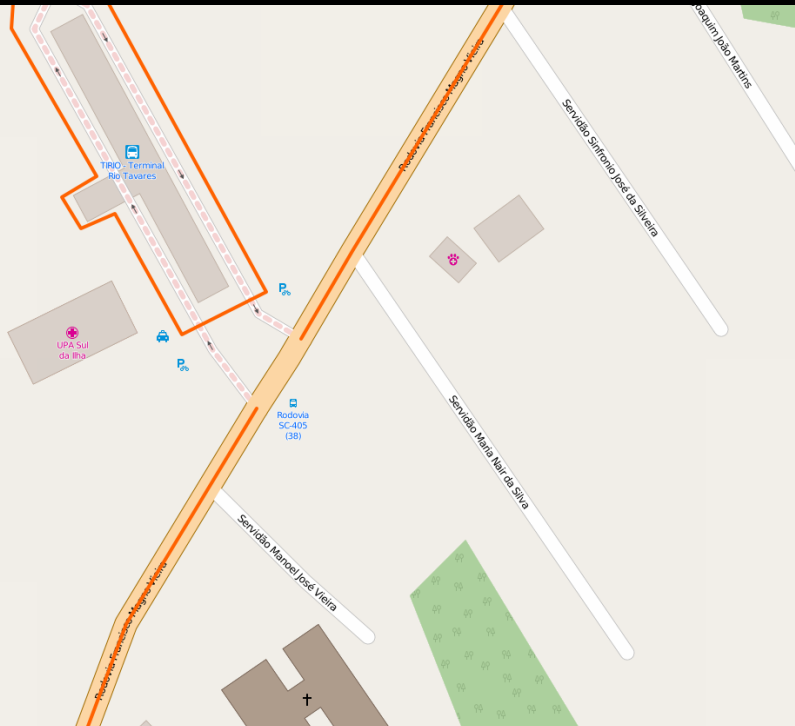


TILAG - TICEN via Mauro Ramos

00:42 TICEN - Terminal Centro

<a href="#">calendar_dates.txt</a>	Optional	Exceptions for the service IDs defined in the calendar.txt file. If calendar_dates.txt includes ALL dates of service, this file may be specified instead of calendar.txt.
<a href="#">fare_attributes.txt</a>	Optional	Fare information for a transit organization's routes.
<a href="#">fare_rules.txt</a>	Optional	Rules for applying fare information for a transit organization's routes.
<a href="#">shapes.txt</a>	Optional	Rules for drawing lines on a map to represent a transit organization's routes.
<a href="#">frequencies.txt</a>	Optional	Headway (time between trips) for routes with variable frequency of service.
<a href="#">transfers.txt</a>	Optional	Rules for making connections at transfer points between routes.
<a href="#">feed_info.txt</a>	Optional	Additional information about the feed itself, including publisher version





TRIO - Terminal  
Rio Tavares

UPA Sul  
da Ilha

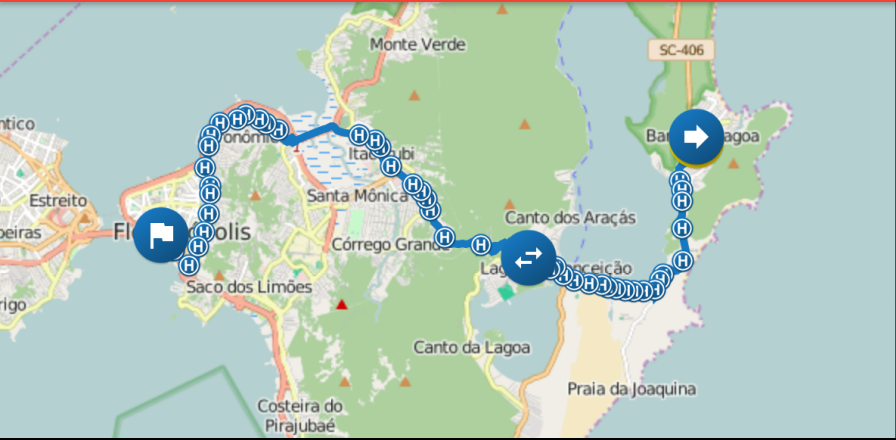
Rodovia  
SC-405  
(38)

Serviço Manoel José Vieira

Serviço Maria Nair da Silva

Serviço Siffrônio José da Silveira

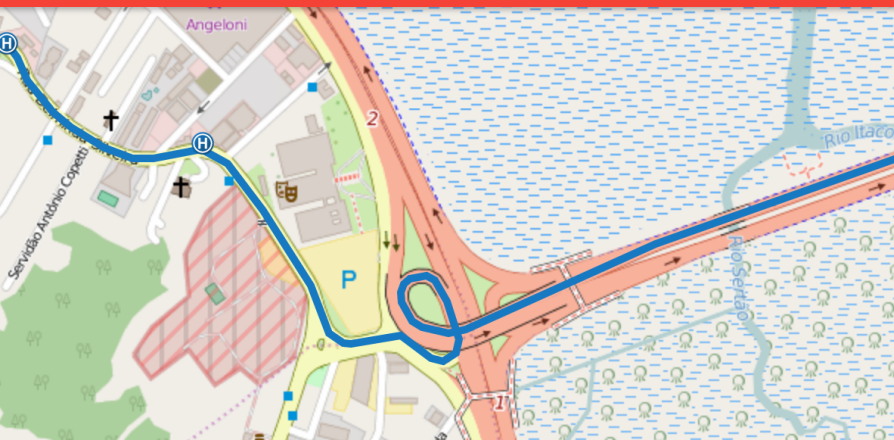
Serviço João Mantis





# Transportr

Florianópolis



# Take Home

1. Ask

2. Reuse

3. Persist



# Take Home

1. Ask

2. Reuse

3. Persist

# Take Home

1. Ask

2. Reuse

3. Persist

# Take Home

1. Ask

2. Reuse

3. Persist



<https://transportr.grobox.de>

<https://github.com/grote/osm2gtfs>

# Oficina

**Abra seu transporte público**

**com OpenStreetMap e Transportr**

**Sexta-feira 15/07 12:00**

**Oficina Luiz Osório Waldow**

**Obrigado!**

Perguntas?

**Obrigado!**

**Perguntas?**