

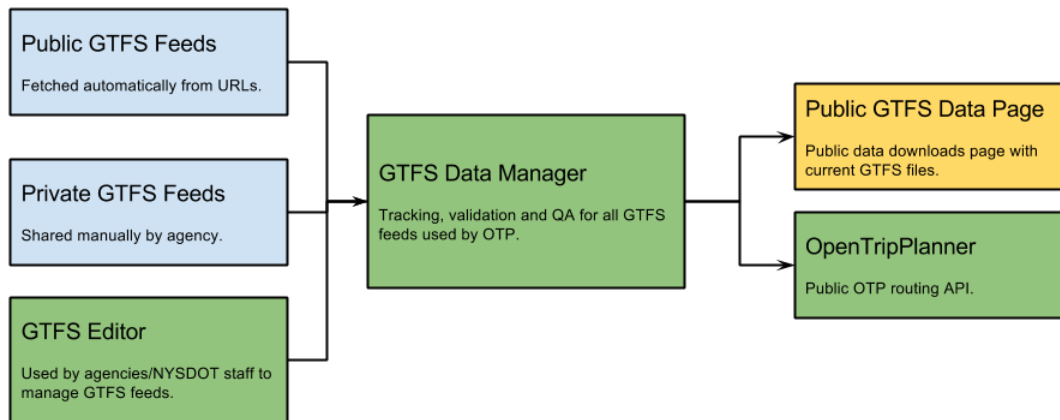
Data Manager

User Manual

Version 3
Updated 2/26/2015

GTFS Data Manager

Concept



The GTFS Data Manager enables exchange and coordination of data creation, updates, validation and deployment.

The platform allows GTFS producers (transit operators, local governments, etc.) to share existing feeds or utilize the built in GTFS Editor to create and maintain feeds. GTFS creators can use the built in validator to check for potential issues and deploy data sets to sandbox instances of OpenTripPlanner for testing.

Administrative users can coordinate with feed producers to validate and deploy feeds to production OpenTripPlanner servers.

Data Manager Concepts

Feed Sources

Feed sources define the locations or upstream sources of GTFS feeds. These can be:

1. Manually collected/managed feeds provided directly by an external source.
2. Public available feeds that can be fetch from a URL
3. Internally managed/created feeds produced by GTFS Editor

Feed Versions

Feed versions store specific instances of GTFS files for a given feed source as published over time.

Deployments

Deployments are collections of one or more transit feed sources bundled for deployment to test or production servers. While it is possible to deploy one agency at a time to production, it is not recommended. Production deployments should be

done as bundles of all agencies that are ready for production. Feed versions can be updated and re-deployed as the same deployment version.

Projects

Projects are collections of feed sources and deployments. In most cases an instance of GTFS Data Manager only contains a single project.

Managing Feed Sources and Versions

GTFS Data Manager [Home](#) / [NYSDOT](#) Logged in as ibi [Log out](#) [My account](#) [Manage users](#)

[Manage deployments](#)

[+ New feed source](#) [Update feeds available for public download](#)

Name	Public	Deployable	Retrieval method	URL/GTFS Editor Agency	Last updated	Loaded successfully	Error count	Route count	Trip count	Stop time count	Valid from	Expires
Academy Express	<input type="checkbox"/>	<input type="checkbox"/>	Produced in house	Academy Express	3 months ago	Yes	256	2	128	4192	3 months ago	a month ago
Access Allegany	<input type="checkbox"/>	<input type="checkbox"/>	Produced in house	Access Allegany	3 months ago	Yes	126	5	60	605	3 months ago	a month ago
Adirondack Trailways	<input type="checkbox"/>	<input type="checkbox"/>	Produced in house	Adirondack Trailways	3 months ago	Yes	155	4	75	175	3 months ago	a month ago
Amtrak NY Only	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Produced in house	Amtrak	3 months ago	Yes	0	2	32	275	3 months ago	20 days ago
Birmie Bus	<input type="checkbox"/>	<input type="checkbox"/>	Produced in house	Birmie Bus	3 months ago	Yes	541	37	270	3396	3 months ago	a month ago
Bronx Bus	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Fetches automatically	http://web.mta.info/developers/dat...	a month ago	Yes	15	240	49190	1652345	2 months ago	in a month

Fig 1: List of project *feed sources*

Central to each project is a list of *feed sources* (fig 1). Administrative users can create manage and deploy sources, and non-admin users can update and test feed sources.

- **Public** - Sources marked as ‘Public’ will be made available on the 511NY Developer Page once the ‘Update feeds available for public download’ button is clicked.
- **Deployable** - Sources marked as ‘Deployable’ will be deployed to the production version of OTP.
- **Add a feed source** - A feed source can be added by an administrator by clicking ‘+New feed source’. The administrator should enter the name and select whether it should be made public and deployable, the retrieval method, and the URL/GTFS Editor Agency as appropriate.

Each source’s retrieval method can be defined as being “fetched automatically,” from a public URL; “manually updated,” by uploading files; or “produced in-house” via the built-in GTFS Editor. Depending on which setting is selected each feed source presents additional options for linking to public feed URLs or existing feed sources managed via the GTFS Editor.

- Produced In-House requires a GTFS Editor Agency be selected from the drop-down list. If there is a new agency being created whose data is produced in-house, the agency should first be created in GTFS Editor (described in the GTFS Editor User Manual v3) and then created in Data Manager.
- Fetched automatically requires a URL of the location where the GTFS file can be fetched directly from the URL when the “Update feed”

button is pressed. This URL can be edited later by clicking on the pencil icon, editing the URL, and then clicking the check button to save.

- Manually uploaded has a place within the feed details page for the feed to be manually uploaded

The screenshot shows a web interface for managing deployments. At the top, there are two buttons: 'Manage deployments' and 'Update feeds available for public download'. Below these is a table with the following columns: Name, Public, Deployable, Retrieval method, URL/GTFS Editor Agency, Last updated, Loaded successfully, Error count, Route count, Trip count, and Stop time count. A single row is visible in the table with the following values: 'Untitled feed source', a checkbox, a checkbox, 'Manually uploaded', and empty cells for the remaining columns. A checkmark is visible at the bottom left of the table.

- **Edit an agency name** - The agency name can be edited by clicking on the pencil icon next to the name, editing the text, and then clicking the check mark to save.

Feed sources contain one or more feed versions, which can be reviewed and compared for changes. Each feed version provides statistics on data in the feed as well as a validation report of potential problems. The feed source detail page (fig. 2-4) allows you to review feed versions and create new versions, either automatically from public URLs or the editor, or by uploading new GTFS files.

Details for each type of feed source are provided in the next sections

Fetches Automatically Feed Source

Feeds that are fetched automatically are publicly available feeds that can be fetched from a URL. The details page for a feed source that is fetched automatically is shown below in Figure 2.

Bronx Bus

[Share](#) [Deploy](#)

Name	Bronx Bus
Public	Yes
URL/GTFS Editor Agency	http://web.mta.info/developers/data/nyct/bus/google_transit_bronx.zip
Last updated	4 days ago

Comments on this feed

[Comment](#)

[← Previous version](#) [Version 3](#) [Show all versions](#) [Update feed](#) [Next version →](#)

Load status	SUCCESS
Agency count	1
Route count	240
Trip count	49190
Stop time count	1652345
Service Range	16 days ago to in 2 months

Route warnings

ValidateRouteShortNamesTooLong (10 warnings) ▾

Stop warnings

DuplicateStops (1 warnings) ▾

Fig 2: Feed Source in detail for Fetched automatically feed source

- **Share** –The feed source can be shared by clicking the ‘Share’ button which creates a URL that can be sent to users to allow them to view the detail page and upload new versions of the feed.
- **Deploy** – The feed can be deployed to a test version by clicking the ‘Deploy’ button. This will show information for the feed source and allows a user to deploy to OpenTripPlanner test servers as part of the review process.
- **Update feed** – Clicking ‘Update feed’ will fetch the GTFS feed using the URL. If the file has not changed from the last time it was fetched no new version will be created. If the file has changed from the last time it was fetched a new version will be created.
- **Comments** – Users can leave comments on the feed source or on specific feed versions to help manage data updates. Comments can be viewed by other users and provide a mechanism for sharing and recording information about feed sources and versions.

- **Versions** – the details page shows information (load status, agency count, route count, trip count, stop time count, service range) about the current version of the feed with the option to show and select all previous versions.
- **Warnings** – A list of common warnings and how to address them is included in Appendix A.

Produced In House Feed Source

Feeds that are produced in house are internally managed/created feeds that are produced in GTFS Editor. The details page for a feed source that is produced in house is shown below in Figure 3.

Birnie Bus

[Share](#)
[Deploy](#)
[Edit feed source](#)

Name	Birnie Bus
Public	No
URL/GTFS Editor Agency	
Last updated	3 months ago

Comments on this feed

Notes from review (2014-11-10): Not all routes are found in GTFS (hard to match routes found on website with those in GTFS) From routes that were able to be matched and checked, some are same as schedule (Ex: Dolgeville - Little Falls), some have missing trips (Ex: Route 545) and missing or wrong stop times (Ex: Route 406)

by ibi, 3 months ago

[Comment](#)

[< Previous version](#)
[Version 8](#)
[Show all versions](#)
[Update feed](#)
[Next version >](#)

Load status	SUCCESS
Agency count	1
Route count	37
Trip count	270
Stop time count	3396
Service Range	3 months ago to a month ago

Route warnings

Stop warnings

Fig 3: Feed Source in detail for Produced in house feed source

- **Share** –The feed source can be shared by clicking the ‘Share’ button which creates a URL that can be sent to users to allow them to view the detail page and upload new versions of the feed.
- **Deploy** – The feed can be deployed by clicking the ‘Deploy’ button which shows information for the feed source to be deployed and allows a user to

select whether to deploy to production or to OpenTripPlanner test servers as part of the review process. Additional pop-ups will confirm the user's selection.

Name	Version	Date retrieved	Loaded successfully	Error count	Route count	Trip count	Stop time count	Valid from	Expires
Brooklyn Bus	Version 2	a month ago	Yes	55	240	72619	3226052	2 months ago	in a month

Feed sources with no valid version

Name	Public	Deployable	Retrieval method	URL/GTFS Editor Agency	Last updated	Loaded successfully	Error count	Route count	Trip count	Stop time count	Valid from	Expires
------	--------	------------	------------------	------------------------	--------------	---------------------	-------------	-------------	------------	-----------------	------------	---------

- **Edit Feed Source** – The ‘Edit Feed Source’ button takes you to the agency’s version of GTFS Editor where the feed source data can be edited and created. There is a separate user manual for GTFS Editor. Once the feed source is edited, saved, marked as Approved and Publicly Visible in GTFS Editor, the user must click ‘Update feed’ here
- **Update feed** – Clicking ‘Update feed’ will fetch the GTFS feed currently saved, Approved and Publicly Visible in GTFS Editor and create a new version of the feed
- **Comments** – Users can leave comments on the feed source or on specific feed versions to help manage data updates. Comments can be viewed by other users and provide a mechanism for sharing and recording information about feed sources and versions.
- **Versions** – the details page shows information (load status, agency count, route count, trip count, stop time count, service range) about the current version of the feed with the option to show and select all previous versions.
- **Warnings** – A list of common warnings and how to address them is included in Appendix A.

Manually Uploaded Feed Source

Feeds that are manually uploaded are manually collected/managed feeds provided directly by an external source. The details page for a feed source that is manually uploaded is shown below in Figure 4.

CNY Centro, Inc. A Division of CNYRTA - Cayuga County

Share ↗

Deploy

Name	CNY Centro, Inc. A Division of CNYRTA - Cayuga County
Public	No
URL/GTFS Editor Agency	
Last updated	5 days ago

Comments on this feed

New comment

Comment

← Previous version

Version 3

Show all versions

ⓘ Upload new version

Next version →

Load status	SUCCESS
Agency count	1
Route count	9
Trip count	336
Stop time count	12813
Service Range	in 5 days to in 4 months

Route warnings

Stop warnings

Trip warnings

Shape warnings


Comments on this version of this feed

New comment

Comment

Fig 4: Feed Source in detail for Manually Uploaded feed source

- **Share** –The feed source can be shared by clicking the ‘Share’ button which creates a URL that can be sent to users to allow them to view the detail page and upload new versions of the feed.
- **Deploy** – The feed can be deployed by clicking the ‘Deploy’ button which shows information for the feed source to be deployed and allows a user to select whether to deploy to production or to OpenTripPlanner test servers as part of the review process. Additional pop-ups will confirm the user’s selection.

Brooklyn_Bus_20150224 										
Name	Version	Date retrieved	Loaded successfully	Error count	Route count	Trip count	Stop time count	Valid from	Expires	Deploy
Brooklyn Bus	Version 2	a month ago	Yes	55	240	72619	3226052	2 months ago	in a month	Production Testing

Feed sources with no valid version

Name	Public	Deployable	Retrieval method	URL/GTFS Editor Agency	Last updated	Loaded successfully	Error count	Route count	Trip count	Stop time count	Valid from	Expires
------	--------	------------	------------------	------------------------	--------------	---------------------	-------------	-------------	------------	-----------------	------------	---------

- **Upload new version** – Clicking ‘Upload new version’ will prompt the user to select a file for upload and then click to ‘Upload feed’. This creates a new version of the feed
- **Comments** – Users can leave comments on the feed source or on specific feed versions to help manage data updates. Comments can be viewed by other users and provide a mechanism for sharing and recording information about feed sources and versions.
- **Versions** – the details page shows information (load status, agency count, route count, trip count, stop time count, service range) about the current version of the feed with the option to show and select all previous versions.
- **Warnings** – A list of common warnings and how to address them is included in Appendix A.

Managing Deployments

Production deployments of OpenTripPlanner contain multiple agency feeds. Clicking ‘Manage deployments’ on the home screen takes you to the ‘Manage Deployments’ screen (fig 5). This screen allows you to create named deployments that group one or more feeds which can then be deployed to both testing and production OTP servers. While it is possible to deploy one agency at a time to production, it is not recommended. Production deployments should be done as bundles of all agencies that are ready for production.

The deployment that is current deployed in Production is indicated with a ‘Production’ call-out next to the Deployment Name, as shown below.

NYSDOT GTFS Data Manager [Home](#) / [NYSDOT](#) / [Deployments](#) Logged in as conveyal [Log out](#) [My account](#)


[+ New deployment](#)

Name	Creation date	Number of feeds
nysdot-20150106	13 days ago	15
nysdot-20150102	18 days ago	15
511ny-launch-dataset	a month ago	25
nysdot-20141205	a month ago	25
nysdot-20141205	a month ago	23
nysdot-test1-dataset	a month ago	24
nysdot-20141204	2 months ago	32
jfk+nyct test	2 months ago	2
nysdot-20141203	2 months ago	29
nysdot-20141202	2 months ago	29
nysdot-20141126	2 months ago	28
nysdot-state-wide-dataset	2 months ago	29
NYSDOT-Complete	2 months ago	64
nysdot-20141120	2 months ago	63
Albany Production	2 months ago	1
Rochester Production	2 months ago	1
nysdot-20141113	2 months ago	62
New York City	2 months ago	20
Rochester	2 months ago	1
LIRR	2 months ago	1

Fig 5: List of named deployments, showing current production deployment group.

- **New Deployment** – Clicking ‘New deployment’ allows you to name the deployment and select the feeds you would like to include in the deployment. The feeds can be deployed by clicking the ‘Deploy’ button which allows a user to select whether to deploy to production or to OpenTripPlanner test servers as part of the review process. Additional pop-ups will confirm the user’s selection.
- **Update Feed Sources** – Once deployed, feed versions can be changed for each agency within a deployment. The arrows on the right-hand side of the deployment feed sources list (fig 6) allow you to select new or older versions for each source. Feed sources with newer available versions will display error notices until the latest version is selected. Once the correct versions are selected for all feeds within the deployment, the deployment can be deployed to testing and production servers as a bundle by clicking ‘Deploy’ again and follow same steps as above to deploy to test or production.

Note: Deploying all agencies to production OpenTripPlanner typically takes 30 – 40 minutes.

511ny-launch-dataset  Production Deploy

Name	Version	Date retrieved	Loaded successfully	Error count	Route count	Trip count	Stop time count	Valid from	Expires	
Amtrak NY Only	Version 12	a month ago	Yes	0	2	32	275	a month ago	in 16 days	<div>revert to previous</div>
Bronx Bus	Version 3	4 days ago	Yes	15	240	49190	1652345	16 days ago	in 2 months	<div>← →</div>
Brooklyn Bus	Version 2	4 days ago	Yes	55	240	72619	3226052	17 days ago	in 2 months	<div>← →</div>
CDTA	Version 3	8 days ago	Yes	1	115	15491	575510	2 months ago	in 3 months	<div>← →</div>
CNY Centro, Inc. A Division of CNYRTA - Cayuga County	Version 1	6 months ago	Yes	3	11	335	13852	5 months ago	19 days ago	<div>← →</div>
CNY Centro, Inc. A Division of CNYRTA - City of Rome	Version 1	6 months ago	Yes	0	6	230	7831	5 months ago	19 days ago	<div>← →</div>
CNY Centro, Inc. A Division of CNYRTA - City of Utica	Version 1	3 months ago	Yes	13	13	987	42738	5 months ago	19 days ago	<div>← →</div>
CNY Centro, Inc. A Division of CNYRTA - Onondaga County	Version 1	3 months ago	Yes	67	79	10563	274864	5 months ago	in a month	<div>← →</div>
CNY Centro, Inc. A Division of CNYRTA - Oswego County	Version 1	3 months ago	Yes	8	17	635	21801	5 months ago	in a month	<div>← →</div>

newer version available notification

update to new

Fig 6: Production deployment in detail, showing current feed versions.

Managing Users

Each feed source has an automatically created user account and access link that can be shared with the users responsible for maintaining the feed. This link will allow access only to the specific feed source. The link is shown in Figure 7.

NYSDOT GTFS Data Manager Home / NYSDOT / Birnie Bus / Version 8 Logged in as conveyal Log out My account Manage

Birnie Bus

Share Deploy Edit feed source

https://transit-admin.511ny.org/#feed/24e99790-211d-4f92-b1d2-147e8f3d5040

Send this URL to users to allow them to view this report and upload new versions of this feed.

URL/GTFS Editor Agency

Birnie Bus

Last updated

No

Comments on this feed

Notes from review (2014-11-10): Not all routes are found in GTFS (hard to match routes found on website with those in GTFS) From routes that were able to be matched and checked, some are same as schedule (Ex: Dolgeville - Little Falls), some have missing trips (Ex: Route 545) and missing or wrong stop times (Ex: Route 406)

by ibi, 2 months ago

New comment

Comment

Fig 7: Feed Source access link

User accounts can be manually created by Administrators from the ‘Manage users’ page shown in Figure 8 to allow access for additional admin and non-admin users.

Non-admin users can be restricted to access a specific list of feed sources. Non-admin user accounts can be used to maintain multiple feed sources.

NYSDOT GTFS Data Manager [Home](#) / [Users](#) Logged in as conveyal [Log out](#) [My account](#) [Manage users](#)

Username	Email	Administrator	Active
conystec	mconway@conveyal.com	Yes	Yes
test_region	kwebb@conveyal.com	No	Yes
nysdot	mconway@conveyal.com	Yes	Yes
conveyal	mconway@conveyal.com	Yes	Yes
ibi	mconway@conveyal.com	Yes	Yes

[+ New user](#)

Fig 8: Manage Users page

User accounts can be manually edited by Administrators from the 'Manage users' page by clicking on the Username shown in Figure 9 to allow access for additional admin and non-admin users. Non-admin users can be restricted to access a specific list of feed sources. Non-admin user accounts can be used to maintain multiple feed sources. Non-admin users have access to the system through a unique URL and are not managed through accounts with passwords.

NYSDOT GTFS Data Manager [Home](#) / [Users](#) / [test_region](#) Logged in as conveyal [Log out](#) [My account](#) [Manage users](#)

Editing user test_region

Email

Password

Password (retype)

☐ Administrator
☒ Active

Feed sources

[Save changes](#)

Fig 9: Editing User settings, with list of authorized feed sources

Appendix A: Common GTFS Validation Warnings

Route Short And Long Names Are Blank

A route is missing either a short or long name.

Route Short Name is Too Long

The route short name should not be longer than 3-4 characters.

Route Long Name Contain Short Name

The route long name should not contain the short name.

Route Description Same As Route Name

The route description and name are identical.

Route Type Invalid Valid

A route type specified does not match the set of GTFS defined route type values.

No Stop Times For Trip

A trip contains no stop time information. This indicates that the timetable information for this trip is incorrect.

Stop Time Departure Before Arrival

A trip departs a stop prior to arriving. This indicates that the timetable information for this trip is incorrect.

Stop Times Out Of Sequence

A trip arrives prior to departing a preceding stop. This indicates that the timetable information for this trip is incorrect.

Duplicate Trip

Two or more trips share the same stop sequence and departure times. This indicates duplicate trips may exist.

Overlapping Trips In Block

Two or more trips overlap in time but share a common block ID value. This indicates either incorrect schedule information or incorrect block IDs.

Duplicate Stops

Two stops exist in the same location within a feed. Consider merging stops sharing a common location or use station/stop hierarchy to specify locations within a group of stops.

Reversed Trip Shape

The direction of the trip shape does not match the direction of the stop sequence. Either reverse or correct the trip shape to match the order of the stops serviced by this trip.

Missing Shape

The trip does not specify a shape. Shapes are optional.