

How to get Your Schedules displayed on Online Maps using the General Transit Feed Specification (GTFS)

This white paper discusses the key considerations for transit companies that want their organisations routes and schedules to appear within online mapping services such as Google Maps. Key steps in publishing the organisations data in the General Transit Feed Specification (GTFS) and the associated people and process impacts are discussed. The key takeaway is GTFS is now a viable solution for transit companies that are seeking to provide great customer service while at the same time helping to minimise their ongoing technology costs.

A key challenge for providers of public transportation is making their routes and schedules easily accessible to the travelling public. Historically, this involved paper based schedules supplied to both the passengers and displayed at key stops, later being supplemented with call centre customer service and more recently company specific websites. With the advent of smart/internet enabled mobile phones, passengers are now expecting mobile accessible, always available 24x7 schedules that have current information and regularly improving user interfaces. The cost to develop & maintain customised company specific mobile apps can be over \$300K USD. Alternatively, you can choose to adopt the General Transit Feed Specification (GTFS) and utilise mobile apps, widgets, webpages and other related software that companies such as Google, Bing, Here and TransitApp are already making freely available to your passengers.

The General Transit Feed Specification (GTFS) is a internationally accepted format for public transportation schedules and associated geographic information. A GTFS file is a group of zipped (compressed) CSV files, which together contain enough information to support route and journey planning software. Although the individual CSV files are relatively simple in format, the challenge is that smaller transit operators don't have the necessary IT background and spare resources to create and maintain such files.

Creating a GTFS file

Creating the initial GTFS file requires existing paper based documents and online webpages translated

into the GTFS format. The level of detail that will be captured and presented in the initial GTFS file release can range, with often the most basic necessary information with made available in the first release. Stop information can detail the amenities available such as car-parking, seating, shelters and wheelchair accessibility. Basic fare information can also be included. However, often the largest challenge in the first release of a GTFS file is obtaining consistent and correct information for the entire network. Reviewing, cleansing and fixing inconsistencies are key to providing passengers with quality online schedules. Due the transit agencies personnel inexperience with the GTFS format and the desire to keep these team members focussed on day to day operations, often a company that specialises in GTFS files, such as AddTransit, is used to assist in the creation of the files.

Routes, Schedules & Stops

The GTFS file is considered a static file; that is the information does not change moment by moment. However in transportation even a static schedule has many variations. Routes adjust for seasons, school hours or peak times. Special event services are scheduled months in advance for sports, shows or festivals. Some stops may be used as time point for certain services and be express for others. When the GTFS file is created all these known variations need to be understood and incorporated.

Making sure it's right



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No one knows your network like your people, but they are also probably so close they will sometimes miss things that are inexplicable to outsiders. Some examples that we've seen include such things as stops with the address being a store name that has long since moved locations, changes to street names that have not been reflected in internal company systems and route maps that are adequate but could not be used for navigation. Completing an initial review or GTFS Needs Assessment of a sample route is the first step in determining how complete the company data is and how much will need to be fixed or gathered from scratch either manually or using automated tools such as GPS mobile apps.

To ensure a timely outcome, a contact person within the company must be selected and given the authority to obtain clarifications from across the business. It is highly likely that previously unknown gaps in routes and schedules will be uncovered and this may give the opportunity for some quick organisational wins, while the GTFS file is being created. However, it is important that the clarifications are prioritised and if they are not necessary for the first release, consider providing that data in a later release.

After the testing performed by GTFS service providers and the software platforms, you will want one of your staff to test the output from the GTFS file to prove that it is working successfully. It is important that this person is identified early, so that they can be prepared to test when the time comes. This testing is a key signoff step prior to the file being made available for public use.

Preparing for Release

The GTFS file can be used by multiple companies to display data, including Google, Bing, Here, Transit App, accessible software providers and many more. Another use for GTFS data is to include it on real estate services such as WalkScore. It is up to you whether you make your GTFS file available to everyone or just specific companies. It should be noted that the general

public now expects transit information to be available on whatever their preferred platform and software is and limiting the release of GTFS file could result in negative consumer feedback. As each software company that uses GTFS files have a different submission process, using a company such as AddTransit that is familiar with the various submission processes can make the submission process easier.

Consideration should also be given to brand and licencing arrangements for the GTFS file. In essence you are providing your existing data in just a new format, however to ensure brand consistency you may want to specify licencing, liability and preferred logos/colors that can or can't be used. We advise you discuss these implications with your branding, marketing and legal representatives to ensure that you fully understand any implications for your business.

You will also need to determine how you will make the public aware of this new service. Will you announce it going live as each particular software platform brings your file to life? Will you only announce one particular software platform (e.g. Google, Bing, Yahoo/Here)? Or maybe you will opt for a soft launch and let customers find out for themselves. Each option has its merits and this will be a company specific decision.

Preparing for Modifications/Maintenance

Routes and schedules will change, so it is important that prior to releasing the GTFS file that your ongoing maintenance process is established. If the file becomes out of date, it will damage your brand and may be removed from the maps and apps. Therefore, a role within your company must be assigned the responsibility for keeping the GTFS file up to date. A periodic refresh of the file should be agreed, along with a process for ad-hoc updates. Building a robust internal process will allow you to ensure changes are made available ahead of time.



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Going live – Your first Release

It is vital that the first release of the GTFS file is monitored as it goes live. Having your GTFS service provider perform spot checks along with a more formal first release test plan will give you the confidence that your well tested GTFS file has now successfully transformed into a new customer service offering.

Determining the right balance for what additional data will be added to the GTFS file will depend on customer needs and company capacity. E.g. If you can't maintain the information in the GTFS file about the number of seats at a particular stop, then you probably should not include it. Additionally you may decide to further supplement the GTFS route and schedule information with Real-time updates and vehicle positions. You can also choose to use the GTFS file as the basis for

What next step you will take in your GTFS journey?

Ongoing and next steps

As mentioned earlier, it is essential that the maintenance steps are followed and as each new release is performed the data is kept current.

Online Ticketing, sales and booking management. However each step should be considered on its own merits and taken only when your organisation is ready to move to the next level.

About AddTransit

AddTransit is a specialised company that is focussed on creating, maintaining and supporting GTFS files, GTFS Real-time, Vehicle Positioning and Online Ticketing. We work with all types of transit operators, all over the globe. We aim to make transportation easier and invite you to try our tools or book an appointment with us today to discuss what we can do to help you

Look at the GTFS financial savings	https://addtransit.com/tools/GTFS-business-case.php
GTFS Needs Assessment	https://addtransit.com/tools/GTFS-needs-assessment.php
Book an appointment to Discuss Next Steps	https://addtransit.com/calendar.php

