# Top Quality GTFS Data Files Checklist

### Powerful Rider Trip Planning with Top-Quality GTFS Data-Lets bring your data up a notch!



Transit Data, like transit itself, is dynamic - moving within the ever-changing communities we serve. GTFS should reflect those changes - and so should this guide to data quality. Available online, together identify and address key data quality concerns that, while not scanned in the standardized validation process are important to empowering travelers.

Suggested in this guide are primarily rider-focused data quality improvements, not identified using the Canonical GTFS Schedule Validator. These are not data inconsistencies that are tested by the validator, but rather data within your GTFS that may not represent your agency accurately. Please always remember when you certify in your NTD, the GTFS is accurate.

We trust that the few minutes it may take for you to improve your data will return massive dividends, giving your riders a safer and more reliable, more complete trip.

#### Data Quality Topics in this guide include:

- · Host Your GTFS with A Permalink
- Validate For Data Consistency and Meet Specification
- Errors (from Mobility Data Validation) that can be ignored
- Summary Mobility Data Validation Report
- Stop Locations/Stop Accessibility
  - Bus stop locations
  - ADA / Wheelchair Icon Omitted
  - Duplicate lat/long
  - Shared stops with adjacent agencies
- Calendar/Calendar\_dates/Holidays
  - Service\_end Date is Expired in calendar
  - Holiday dates
  - Reduced Service Dates

- Display / View
  - Route colors/text contrast are readable
- Shapes / Snap to the Road
  - Bus not on the road validator accepts
- Reduce Rider Frustration
  - Extra hour or more waiting for a transfer
  - Fares are free riders cannot see that
  - Web links to route\_url within routes fail
  - Web links to agency\_url within agency fails
  - Agency phone number fails
- References & Published GTFS Best Practices

#### GTFS needs to be accurate from a web link. From that web link you can validate the data is internally consistent.

#### **HOST WITH PERMALINK:**

TTrip planners and the NTD report require a stable or "permalink" to your GTFS data file. The file is zipped.

The file may be hosted at your agency's website.

NOTE: Websites that use WordPress often change the file name with a year and month in the URL each time a file is uploaded. That will not meet the target of a stable or "permalink". Ask the your agency's website team if there is another option. Explain this web link cannot change each time the .zip GTFS data file is uploaded.

National Rural Transit Assistance Program hosts your GTFS to generate a permalink. <a href="https://www.nationalrtap.org/Technology-Tools/GTFS-Builder#UploadGTFS">https://www.nationalrtap.org/Technology-Tools/GTFS-Builder#UploadGTFS</a>

Reach out if you need assistance: <a href="mailto:support@nationalrtap.org">support@nationalrtap.org</a>

#### **VALIDATE:**

Mobility Data Validator

https://gtfs-validator.mobilitydata.org

<u>G</u>TFS is a zipped or compressed file of the text files (agency, calendar, routes, stops, etc.) It is not a zip of the folder containing these files./

MobilityData

Canonical GTFS Schedule Validator

GTFS is a zipped or compressed file of the text files (agency, calendar, routes, stops, etc.) It is not a .zip of the folder containing these files.

The GTFS (.zip) file could be uploaded, dragged or dropped and our suggested best practice is to test the GTFS .zip file from the agency's permalink.

Errors must be resolved (see below for an exception to the rule "Errors must be resolved")

Warnings should be reviewed and where possible corrected

Info should also be scanned in case they will improve the rider's experience

Online GTFS validation service

Powered by the GTFSVTOR validation tool. See the github project page for more information.

MECATRAN

https://gtfsvtor.mecatran.com/utw-test/web/pub/gtfsvtor

Upload your zipped file to this validator which highlights duplicate or stops that may be too close and should be one stop\_id and stop\_name, as well as inconsistencies in your calendar (days of the week incorrectly assigned, dates out of range, etc)

### Errors (from Mobility Data Validation) that can be ignored

The general rule is that validation errors must be resolved. Errors in the validation are missing data or data inconsistencies.

#### equal\_shape\_distance\_same\_coordinates

This error in validation is caused by the shapes line with two points that are so close together, they are "equal" along the shape\_distance\_traveled and cause this error. This error will not impact trip planning and can be ignored. Decreasing values indicates there is a zig zag, and that should be addressed. A related error only identifies <a href="decreasing\_or\_equal\_stop\_time\_distance">decreasing\_or\_equal\_stop\_time\_distance</a> should be resolved.

The workaround for this error is to omit the optional, shape\_distance\_traveled when generating the stop\_times data. Just leave that blank while shapes are assigned to each trip.

#### From the validation report:

#### Two consecutive points have equal shape\_dist\_traveled and the same lat/lon coordinates in shapes.txt.

When sorted by shape.shape\_pt\_sequence, the values for shape\_dist\_traveled must increase along a shape. Two consecutive points with equal values for shape\_dist\_traveled and the same coordinates indicate a duplicative shape point.

#### References

• Stop\_times.txt and shapes.shape\_dist\_traveled

### **Summary Mobility Data Validation Report**

Part of GTFS Feed	How to check it is correct	Check
Agency name and Agency URL/website	Confirm spelling & click on the url, is it https? Update if needed	
Phone number	Dial it, honestly, confirm or update, if needed	
Agency_email	While optional, consider adding an email for riders who prefer not to call or other agencies needing to reach you	
Feed Info Contacts	Highly recommend you enter data to share the contact of who can answer GTFS data quality questions	
Service dates	Is your feed valid in both data elements until the end of 2026?	
Number of routes, stops, trips	Are these matching? If not look into missing data and resolve	
Shapes = zero or too few	Learn how to create and publish shapes at National RTAP or through your vendor	

# **Stop Locations/Stop Accessibility**

Part of GTFS Feed	How to check it is correct & What to do	lmages	Check
Bus stop locations	<ul> <li>Stops are in the road or parking lot or center of a building, unclear to a rider or person with limited vision guided to the location as specified when not safely at the sidewalk</li> <li>Use precise satellite imagery (mymaps.google.com)</li> <li>Place stop at the pole, bench, shelter updated lat/long in stops.txt</li> <li>Move from travel lanes where rider could be harmed</li> </ul>	Public Blice Parking	
ADA / Wheelchair Icon Omitted	<ul> <li>Bus stops are not identified as wheelchair accessible (the ADA icon is omitted) wheelchair_boarding = blank or 0</li> <li>Leaving this blank or entering zero confuses riders if the stop may allow mobility devices</li> <li>For accessible bus stops update stops.txt with wheelchair_boarding = 1; enter =2 when not accessible</li> <li>In some cases the trip planner app should be contacted; it may be a data glitch</li> </ul>	SR 20 at Coupeville Ferry Terminal  3.0 ******** (2) Bus stop  This stop does not have the ADA bus stop icon after the words "Bus Stop"  Port Townsend Plaza Stop ID: 178 Bus stop • ••  This stop does not have the ADA bus stop icon after the words "Bus Stop"	

Duplicate lat/long	<ul> <li>Bus stop locations should be one place for a shared stop; not a constellation of points</li> <li>Assign one stop_id &amp; stop_name for shared stops and update stop_times.txt to the single, shared stop_id</li> </ul>	stop_id   stop_code   stop_name
Shared stops with adjacent agencies	Co-locate the stop (perhaps ask your adjacent agency for the lat/long) so riders see all next departures from that shared location and know where to stand	Buses  City of William Walla, City is Walla Valley Transit Transfer (108 West Main St)  Walla Walla Walla W  Ctuir.org valleytransit.com

# Calendar/Calendar\_dates/Holidays

Part of GTFS Feed	How to check it is correct & What to do	lmages	Check
Service_end Date is Expired in calendar	<ul> <li>Expired day may be extended as published with riders uncertain which agency on the page is expired</li> <li>Confirm both calendar and feed_info for start and end dates</li> </ul>		
Holiday dates	<ul> <li>Dates with no service are not updated or accurate from year to year (Example shown is service showing on Labor Day and there is no service)</li> <li>Keep calendar_dates accurate with exception_type=2 for no service on that date entered as YYYYMMDD</li> </ul>	① Sc48 AM * > ☐ Mon, Sep 1 * >  We don't have the most recent timetables for this area.  We don't have the most recent timetables for this area.  Send directions to Google Pixel on Copy 7  8:21AM (Monday)—9:38 AM 1 hr 17 min 19 100 15 5 90 51 100 15 50 100 15 100 1	
Reduced Service Dates	<ul> <li>Riders do not know there is reduced service on "preholidays" or other dates</li> <li>Reduce service with unique service_id for "holiday" and replace regular service (weekday, service_id) in the calendar_dates with the holiday service so riders are not trying to read a footnote</li> </ul>		

## Display / View

Part of GTFS Feed	How to check it is correct & What to do	lmages	Check
Route colors/text contrast are readable	Replace route_text_color with '000000 (black) or FFFFFF (white) or vice versa to read route_name	RC - Rutland Connector  Marion Carbondale Intercity	

## Shapes / Snap to the Road

Part of GTFS Feed	How to check it is correct & What to do	lmages	Check
Bus not on the road - validator accepts	<ul> <li>Path over a lake, confusing to see bus jump over river or road or your neighbor's house and validator will not not need highlight</li> <li>Snap the route to the road - ask your GTFS manager to adjust, If no other options, National RTAP offers tech support with free mapping tools</li> </ul>	230	

### **Reduce Rider Frustration**

Part of GTFS Feed	How to check it is correct & What to do	Images and Code	Check
Extra hour or more waiting for a transfer	<ul> <li>Riders are directed to wait an hour for a transfer when in less than 5 minutes the next bus departs. The transfers.txt is omitted</li> <li>Specify stop_id, for example Transit Center "1" to "1" is guaranteed "1"</li> <li>The other example is a two minute transfer time and the stop_id need to be both directions</li> </ul>	10:32AM O 415 Geneva  Blue 101 N. Range Line Rd.  27 min (9 stops) · Stop ID: 11 · ds  10:59AM 12:00 PM M.A.P.S. Office  Red 2nd & Wall  30 min (17 stops) · Stop ID: 1 · ds  12:30 PM Cunningham Park  from_stop_id,to_stop_id,transfer_type,min_transfer time  transfer_ from_stop_id to_stop_id type min_transfer_time  22 22 2 120  10 10 2 120  1 1 1	
Fares are free - riders cannot see that	Update the following two data files fare_rules and fare_attributes, as shown	fare_rule  fare_id_price currency_type payment_method transfers agency_id_transfer_duration free 0 USD 0 < your agency_id> transfer_duration  fare_attributes  fare_id_route_id origin_id_destination_id_contains_id  free	

Web links to route_url within routes fail	Test ALL URL or weblinks and update, for example the route_url in the routes.txt	
Web links to agency_url within agency fails	In the validation report or agency_name with a hyperlink, if it fails, update and update to https:// as some browsers warn this is unsafe to view	
Agency phone number fails	<ul> <li>Dial the phone number that a rider will use to call for help. Update to your agency's current customer service phone number</li> <li>Best not to use letters for numbers</li> <li>Consider the local not toll free number as toll free may be blocked from certain area codes or international callers</li> </ul>	

#### **References & Published GTFS Best Practices**

- Adopted GTFS-Static Specification: https://gtfs.org/documentation/schedule/reference/
- Mobility Data Validator: <a href="https://gtfs-validator.mobilitydata.org/">https://gtfs-validator.mobilitydata.org/</a>

For even deeper dive on best practices visit

- https://gtfs.org/documentation/schedule/schedulebest-practices/
- <a href="https://dot.ca.gov/cal-itp/california-transit-data-quidelines#section-checklist">https://dot.ca.gov/cal-itp/california-transit-data-quidelines#section-checklist</a>
- <a href="https://resources.transitapp.com/article/458-guidelines-for-producing-gtfs-static-data-for-transit">https://resources.transitapp.com/article/458-guidelines-for-producing-gtfs-static-data-for-transit</a>
- https://support.google.com/transitpartners/answer/6 377364?hl=en&sjid=18253138810268968368-NC



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This document defines the format and structure of the files that comprise a GTFS dataset.

If you have any questions, reach out to the N-CATT team at helpdesk@n-catt.org