

GTFS Platform Update



24th January 2023

Background

- The NTA are currently in the process of migrating to a new Journey Planner platform – this is the platform that generates the GTFS output maintained on the PT Data page
- As part of the migration to the new platform, we will be updating the GTFS output generated from GTFS v1 to GTFS v2
- As part of the migration, an API call to provide vehicle location information will be made available
- Realtime information will also be provided for additional operators:
 - Irish Rail
 - Luas
- There will be differences in the structure and the content of the data delivered from the new platform, that will require testing with your existing codebase

Static Files

- GTFS static (or schedule) files “defines a common format for public transportation schedules and associated geographic information”
- The GTFS static files provide context to the realtime data generated by GTFS-R, such as timetables, route descriptions, operators etc.
- See <https://developers.google.com/transit/gtfs> for reference
- As part of the migration to the new platform, updated GTFS static files will be generated
- There are some small differences in the structure of the previously generated static files compared to the new version.
- The underlying primary keys in each static file will change.
- **It is therefore important to note that the GTFS static files provided by incumbent system will not be compatible with the GTFS-R realtime data supplied by the new system (and vice versa)**
- The changes to the structure and keys for each file are detailed as follows:

agency.txt

The agency.txt file describes the transport operators.

- The 'agency_id' for each operator will change
- The 'agency_name' for each operator may change
- The operators 'Bus Eireann' and 'Expressway' are now treated as a single operator 'Bus Eireann'
- 'Bus Eireann' and 'Bus Eireann Waterford' are now treated as separate operators
- The operator 'Go-Ahead' are now treated as three operators:
 - Go-Ahead Dublin City
 - Go-Ahead Kildare Commuter
 - Go-Ahead Ireland

agency.txt

	Current Platform	New Platform
Agency_id	'Identifier' in Current Platform	Autogenerated, persistent
Agency_name	'Name' in Current Platform	'Operator Short Name' in New Platform
Agency_url	https://www.transportforireland.ie	Operator website
Agency_timezone	Europe/Dublin	Europe/London
Agency_lang	EN	Field missing
Agency_phone	Blank	Field missing

Sample Data

Current Platform:

agency_id	agency_name	agency_url	agency_timezone	agency_lang	agency_phone
3	Go-Ahead	https://www.transportforireland.ie	Europe/Dublin	EN	

New Platform:

agency_id	agency_name	agency_url	agency_timezone
7778021	Go-Ahead Dublin City	https://www.goaheadireland.ie/	Europe/London

routes.txt

The routes.txt file describe the various routes provided by the operators.

- 'route_id' will change to a numeric format. It will no longer be possible to parse the route short name from the route_id
- 'route_id' will not be persistent – as new schedules are uploaded to the system, a new 'route_id' will be generated
- 'agency_id' will link to agency.txt
- 'route_short_name' will remain the same, referring to the route number (e.g. 101)
- 'route_desc' will change
- Three new fields have been added, although no data has been populated for these:
 - route_url
 - route_color
 - route_text_color

routes.txt

	Current Platform	New Platform
route_id	'Compact Route Version Number' in Current Platform. Route number can be parsed from route ID	Autogenerated, does not persist between schedule updates. No relation to route number
Agency_id	Lookup to agency.txt	Lookup to agency.txt
Route_short_name	Route number	Route number
route_long_name		
route_desc	Field missing	Blank
route_type	3	3
route_url	Field missing	Blank
route_color	Field missing	Blank
route_text_color	Field missing	Blank

Current Platform:

route_id	agency_id	route_short_name	route_long_name	route_type
10-101-e19-1	1	101	Busáras - Drogheda Bus Station	3

New Platform:

route_id	agency_id	route_short_name	route_long_name	route_desc	route_type	route_url	route_color	route_text_color
1625_26272	7778020	101	Dublin - Airport - Drogheda		3			

trips.txt

The trips.txt file describes the trips – a trip being a single instance of a route.

- Similar to routes.txt – ‘trip_id’ is a numeric autogenerated id, that is changed when new schedules are uploaded to the system
- It won’t be possible to parse the route number for the trip_id
- ‘route_id’ remains the lookup to the routes.txt file

Trips.txt

	Current Platform	New Platform
route_id	Lookup to routes.txt	Lookup to routes.txt
service_id	Lookup to calendar.txt	Lookup to calendar.txt
trip_id	Autogenerated	Autogenerated
trip_short_name	Field missing	
shape_id	Lookup to shapes.txt	Lookup to shapes.txt
trip_headsign		
direction_id	0/1	0/1
block_id	Field missing	

Sample Data

Current Platform:

route_id	service_id	trip_id	shape_id	trip_headsign	direction_id
10-100-e19-1	1	3782774.1.10-100-e19-1.229.l	10-100-e19-1.229.l	- Drogheda Bus Station	1

New Platform:

route_id	service_id	trip_id	trip_headsign	trip_short_name	direction_id	block_id	shape_id
1618_25767	1	1618_1	The Quay	1-00002-1	0	6010801	1618_1

stops.txt

The stops.txt file provides the detail for all the stops referenced in GTFS

- The stop_name field may contain different stop names to the previous version, as all stop names have been standardized to use the ShortCommonName from NaPTAN (see https://www.transportforireland.ie/transitData/PT_Data.html for details on NaPTAN)
- A new field, stop_code, is populated with the PlateCode of the stop (if it exists)

stops.txt

	Current Platform	New Platform
stop_id	AtcoCode	AtcoCode
stop_code	Field missing	AtcoCode
stop_name	Public facing name	ShortCommonName
stop_desc	Field missing	Not populated
stop_lat		
stop_lon		
zone_id	Field missing	Not populated
stop_url	Field missing	Not populated
location_type	Field missing	Not populated
parent_station	Field missing	Not populated

Sample Data

Current Platform:

stop_id	stop_name	stop_lat	stop_lon
7010B158131	Ulsterbus Depot, stop 158131	54.99662876	-7.317866335

New Platform:

stop_id	stop_code	stop_name	stop_desc	stop_lat	stop_lon	zone_id	stop_url	location_type	parent_station
7010B158131	158131	Ulsterbus Depot		54.9966287583853	-7.31786633503893				

stop_times.txt

The stop_times.txt is analogous to a timetable – it gives details of all the stops on a particular trip, and the expected arrival/departure times at each stop.

- trip_id remains the lookup reference to trips.txt
- The stop_id field is a lookup reference to stops.txt
- The field stop_headsign is populated with the first stop on the trip

stop_times.txt

	Current Platform	New Platform
trip_id	Lookup to trips.txt	Lookup to trips.txt
arrival_time		
departure_time		
stop_id	Lookup to stops.txt	Lookup to stops.txt
stop_sequence		
stop_headsign	Not populated	Populated for first stop in sequence
pickup_type		
drop_off_type		
timepoint	Field missing	
shape_dist_traveled		Field missing

Sample Data

Current Platform:

trip_id	arrival_time	departure_time	stop_id	stop_sequence	stop_headsign	pickup_type	drop_off_type	shape_dist_traveled
17.Sun.2-197-y11-3.7.l	11:00:00	11:00:00	8310B1357301	1		0	0	0

New Platform:

trip_id	arrival_time	departure_time	stop_id	stop_sequence	stop_headsign	pickup_type	drop_off_type	timepoint
1618_1	06:30:00	06:30:00	15250	1	The Quay	0	1	1

calendar.txt

Calendar.txt contains the data to determine what days a particular trip runs on, as well as the timeframe it runs in

- service_id remains the lookup reference to service_id in trips.txt. This data in the field will differ from the incumbent system
- All other fields are identical to the incumbent system

Calendar.txt

	Current Platform	New Platform
Service_id	Lookup to trips.txt	Lookup to trips.txt
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		
start_date		
end_date		

Sample Data

Current Platform:

service_id	Monday	Tuesday	Wednesday	Thursday	Friday	saturday	Sunday	start_date	end_date
Mo-Fr#1	0	0	0	0	0	1	0	20230121	20230318

New Platform:

service_id	Monday	Tuesday	Wednesday	Thursday	Friday	saturday	Sunday	start_date	end_date
37	0	0	0	0	0	1	0	20230121	20230318

Calendar_dates.txt

The calendar_dates.txt maintains a list of exceptions to the service_ids in the calendars.txt file, with an explicit date and an exception type, e.g. Bank Holidays etc

- In line with calendar.txt, this remains functionally the same – only the service_id will differ from the incumbent system
- All other fields are identical to the incumbent system

Calendar_dates.txt

	Current Platform	New Platform
service_id	Lookup to trips.txt	Lookup to trips.txt
date		
exception_type		

Sample Data

Current Platform:

service_id	date	exception_type
Mo-Fr#1	20230206	1

New Platform:

service_id	date	exception_type
37	20230206	1

shapes.txt

The shapes.txt file describes the path that a vehicle travels along a route alignment.

- shape_id remains the lookup reference to shape_id in trips.txt – the data in this field will differ from the incumbent system
- All other fields are identical to the incumbent system

shapes.txt

	Current Platform	New Platform
shape_id	Lookup to shape_id in trips.txt	Lookup to shape_id in trips.txt
shape_pt_lat		
shape_pt_lon		
shape_pt_sequence	Lookup to stops.txt	Lookup to stops.txt
shape_dist_traveled		

Sample Data

Current Platform:

shape_id	shape_pt_lat	shape_pt_lon	shape_pt_sequence	shape_dist_traveled
60-116-b12-1.57.0	53.3911815835295	-6.24901208670741	1	0

New Platform:

shape_id	shape_pt_lat	shape_pt_lon	shape_pt_sequence	shape_dist_traveled
1626_1	53.3296309426544	6.24840939073252	1	0