Guide pour le remplissage de la déclaration de conformité Jeux de données GTFS/GTFS-RT

Introduction

Ce document est la note d'accompagnement associée à la Déclaration de conformité relative à l'ouverture des données de l'information voyageur : il permet de préciser l'ensemble des informations demandées avec un focus particulier sur les éléments techniques pour la fourniture de données statiques et dynamiques en utilisant à la fois les formats GTFS Schedule et GTFS Realtime.

Il est ainsi à destination en particulier des producteurs de données relatives au transport public. Les systèmes de transport public peuvent être des métros, tramways, bus, etc. Ils sont classifiés sous l'appellation de "*Services réguliers et infrastructures de transport pour les services réguliers*".

À noter que ce guide de remplissage n'inclut pas les champs et/ou extensions en cours d'adoption par la communauté GTFS. Par exemple, les exemples en lien avec le transport à la demande (ex. taxi, VTC) ne sont pas repris ici.

Guide de remplissage

Pour l'ensemble des données listée dans la section "*FOURNITURE DES DONNÉES PAR L'INTERMÉDIAIRE DU POINT D'ACCES NATIONAL : transport.data.gouv.fr*", ce guide reprend les informations suivantes :

- type de données demandées;
- nom du fichier d'un jeu de données exprimé en GTFS;
- nom du(des) champ(s) dudit fichier correspondant au type de données, suivi de ses caractéristiques;
- un exemple.

Tous les champs marqués d'un astérisque (*) sont obligatoires.

Données statiques (GTFS Schedule)

<table>
<tr><td colspan="3">Type de données demandées :
● Recherche de lieu :
○ Identifiants d’adresse (numéro de bâtiment, rue, code postal)
○ Lieux topographiques (ville, localité, village, banlieue, unité administrative)
○ Lieux intéressants (en relation avec les informations sur les transports), points de destination possible de voyageur</td></tr>
<tr><td>Fichier GTFS</td><td colspan="2">stops.txt</td></tr>
<tr><td rowspan="3">Champs & caractéristiques</td><td>stop_code</td><td>TEXT
Short text or a number that identifies the location for riders. These codes are often used in phone-based transit information systems or printed on signage to make it easier for riders to get information for a particular location. The stop_code may be the same as stop_id if it is public facing. This field should be left empty for locations without a code presented to riders.</td></tr>
<tr><td>stop_name*</td><td>TEXT
Name of the location. The stop_name should match the agency's rider-facing name for the location as printed on a timetable, published online, or represented on signage. For translations into other languages, use translations.txt.
When the location is a boarding area (location_type=4), the stop_name should contains the name of the boarding area as displayed by the agency. It could be just one letter (like on some European intercity railway stations), or text like “Wheelchair boarding area” (NYC’s Subway) or “Head of short trains” (Paris’ RER).
Conditionally Required:
- Required for locations which are stops (location_type=0), stations (location_type=1) or entrances/exits (location_type=2).
- Optional for locations which are generic nodes (location_type=3) or boarding areas (location_type=4).</td></tr>
<tr><td>tts_stop_name</td><td>TEXT
Readable version of the stop_name.</td></tr>
</table>

	stop_desc	TEXT Description of the location that provides useful, quality information. Should not be a duplicate of stop_name
	stop_lat*	LATITUDE Latitude of the location. For stops/platforms (location_type=0) and boarding area (location_type=4), the coordinates must be the ones of the bus pole — if exists — and otherwise of where the travelers are boarding the vehicle (on the sidewalk or the platform, and not on the roadway or the track where the vehicle stops). Conditionally Required: **- Required for locations which are stops (location_type=0), stations (location_type=1) or entrances/exits (location_type=2).** - Optional for locations which are generic nodes (location_type=3) or boarding areas (location_type=4).
	stop_lon*	LONGITUDE Longitude of the location. For stops/platforms (location_type=0) and boarding area (location_type=4), the coordinates must be the ones of the bus pole — if exists — and otherwise of where the travelers are boarding the vehicle (on the sidewalk or the platform, and not on the roadway or the track where the vehicle stops). Conditionally Required: **- Required for locations which are stops (location_type=0), stations (location_type=1) or entrances/exits (location_type=2).** - Optional for locations which are generic nodes (location_type=3) or boarding areas (location_type=4).
	zone_id	ID Identifies the fare zone for a stop. If this record represents a station or station entrance, the zone_id is ignored. Conditionally Required: - Required if providing fare information using fare_rules.txt - Optional otherwise.
	stop_url	URL URL of a web page about the location. This should be different from the agency.agency_url and the routes.route_url field values.

	location_type	ENUM Location type. Valid options are: **0 (or blank) - Stop (or Platform). A location where passengers board or disembark from a transit vehicle. Is called a platform when defined within a parent_station.** **1 - Station. A physical structure or area that contains one or more platform.** 2 - Entrance/Exit. A location where passengers can enter or exit a station from the street. If an entrance/exit belongs to multiple stations, it may be linked by pathways to both, but the data provider must pick one of them as parent. 3 - Generic Node. A location within a station, not matching any other location_type, that may be used to link together pathways define in pathways.txt. 4 - Boarding Area. A specific location on a platform, where passengers can board and/or alight vehicles.
Exemple	stop_id,stop_code,stop_name,tts_stop_name,stop_desc,stop_lat,stop_lon,zone_id,stop_url,location_type S1,Ecoles,Rue des Ecoles,Rue des Ecoles,L arret est situe face au numero 20, 40.760474,-73.976099,123ABCD,http://www.abc.fr/stop/stop_details_123ABCD.asp,0 S2,St Jean, Av. St. Jean,Avenue Saint Jean, L arret est situe a 50m de l intersection,40.76035,-73.97546,456EFG,http://www.abc.fr/stop/stop_details_456EFG.asp,0	

Type de données demandées : • *Recherche de lieux (points d'arrêt) :* ○ *Nœuds d'accès identifiés*		
Fichier GTFS	stops.txt	
Champs & caractéristiques	stop_id*	ID Identifies a location: stop/platform, station, entrance/exit, generic node or boarding area (see location_type). Multiple routes may use the same stop_id.
	stop_code	TEXT Short text or a number that identifies the location for riders. These codes are often used in phone-based transit

		information systems or printed on signage to make it easier for riders to get information for a particular location. The stop_code may be the same as stop_id if it is public facing. This field should be left empty for locations without a code presented to riders.
Exemple	stop_id,stop_code,stop_name,stop_lat,stop_lon,location_type S1,Ecoles,Rue des Ecoles,40.760474,-73.976099,0 S2,St Jean,40.76035,-73.97546,456EFG,0	

Type de données demandées : • *Recherche de lieux (points d'arrêt) :* ○ *Géométrie/structure de la carte des nœuds d'accès*		
Fichier GTFS	stops.txt	
Champs & caractéristiques	stop_id*	ID Identifies a location: stop/platform, station, entrance/exit, generic node or boarding area (see location_type). Multiple routes may use the same stop_id.
	location_type*	ENUM Location type. Valid options are: 0 (or blank) - Stop (or Platform). A location where passengers board or disembark from a transit vehicle. Is called a platform when defined within a parent_station. 1 - Station. A physical structure or area that contains one or more platform. 2 - Entrance/Exit. A location where passengers can enter or exit a station from the street. If an entrance/exit belongs to multiple stations, it may be linked by pathways to both, but the data provider must pick one of them as parent. **3 - Generic Node. A location within a station, not matching any other location_type, that may be used to link together pathways define in pathways.txt.** 4 - Boarding Area. A specific location on a platform, where passengers can board and/or alight vehicles.

	parent_station*	FOREIGN ID REFERENCING stops.stop_id Defines hierarchy between the different locations defined in stops.txt. It contains the ID of the parent location, as followed: - Stop/platform (location_type=0): the parent_station field contains the ID of a station. - Station (location_type=1): this field must be empty. - Entrance/exit (location_type=2) or generic node (location_type=3): the parent_station field contains the ID of a station (location_type=1) - Boarding Area (location_type=4): the parent_station field contains ID of a platform. Conditionally Required: **- Required for locations which are entrances (location_type=2), generic nodes (location_type=3) or boarding areas (location_type=4).** - Optional for stops/platforms (location_type=0). - Forbidden for stations (location_type=1).
	level_id	FOREIGN ID REFERENCING levels.level_id Level of the location. The same level may be used by multiple unlinked stations.
	platform_code	TEXT Platform identifier for a platform stop (a stop belonging to a station). This should be just the platform identifier (eg. "G" or "3"). Words like “platform” or "track" (or the feed’s language-specific equivalent) should not be included. This allows feed consumers to more easily internationalize and localize the platform identifier into other languages.
Exemple	stop_id,stop_name,location_type,parent_station,level_id,platform_code S1,Ecoles,0,,1, S2,Ecoles,3,S1,1,B	

Type de données demandées :

- *Recherche de lieux (points d’arrêt) :*
  - *Géométrie/structure de la carte des nœuds d’accès*

Fichier GTFS	levels.txt	
Champs & caractéristiques	level_id*	ID Identifies a level in a station.
	level_index*	FLOAT Numeric index of the level that indicates its relative position. Ground level should have index 0, with levels above ground indicated by positive indices and levels below ground by negative indices.
	level_name*	TEXT Name of the level as seen by the rider inside the building or station.
Exemple	level_id,level_index,level_name L0,0,Rue L1,-1,Sous-sol 1	

Type de données demandées : • *Itinéraires : calendrier opérationnel, reliant des types de journées à des dates*		
Fichier GTFS	calendar.txt	
Champs & caractéristiques	service_id*	UNIQUE ID Identifies a set of dates when service is available for one or more routes. Each service_id value must be unique in a calendar.txt file.
	monday*	ENUM Indicates whether the service operates on all Mondays in the date range specified by the start_date and end_date fields. Note that exceptions for particular dates may be listed in calendar_dates.txt. Valid options are: 1 - Service is available for all Mondays in the date range.

		0 - Service is not available for Mondays in the date range.
	tuesday*	ENUM Functions in the same way as monday except applies to Tuesdays
	wednesday*	ENUM Functions in the same way as monday except applies to Wednesdays
	thursday*	ENUM Functions in the same way as monday except applies to Thursdays
	friday*	ENUM Functions in the same way as monday except applies to Fridays
	saturday*	ENUM Functions in the same way as monday except applies to Saturdays
	sunday*	ENUM Functions in the same way as monday except applies to Sundays
	start_date*	DATE Start service day for the service interval.
	end_date*	DATE End service day for the service interval. This service day is included in the interval.
Exemple	service_id,monday,tuesday,wednesday,thursday,friday,saturday,sunday,start_date,end_date WE,0,0,0,0,0,1,1,20220101,20221231 SEM,1,1,1,1,1,0,0,20220101,20221231	

Type de données demandées :

• *Itinéraires : calendrier opérationnel, reliant des types de journées à des dates*		
Fichier GTFS	calendar_dates.txt	
Champs & caractéristiques	service_id*	UNIQUE ID Identifies a set of dates when service is available for one or more routes. Each service_id value must be unique in a calendar.txt file.
	date*	DATE Date when service exception occurs.
	exception_type*	ENUM Indicates whether service is available on the date specified in the date field. Valid options are: 1 - Service has been added for the specified date. 2 - Service has been removed for the specified date.
Exemple	service_id,date,exception_type SEM,20220501,2 WE,20221225,1	

Type de données demandées : • *Localisation :* ○ *Parcs relais*	
Fichier GTFS	N/A

Type de données demandées : • *Calcul d'itinéraire :*

○ *Possibilités de correspondances, temps de correspondance par défaut entre modes aux points d'échanges*		
Fichier GTFS	transfers.txt	
Champs & caractéristiques	from_stop_id*	FOREIGN ID REFERENCING stops.stop_id Identifies a stop or station where a connection between routes begins. If this field refers to a station, the transfer rule applies to all its child stops.
	to_stop_id*	FOREIGN ID referencing stops.stop_id Identifies a stop or station where a connection between routes ends. If this field refers to a station, the transfer rule applies to all child stops.
	from_route_id	FOREIGN ID REFERENCING routes.route_id Identifies a route where a connection begins. If from_route_id is defined, the transfer will apply to the arriving trip on the route for the given from_stop_id. If both from_trip_id and from_route_id are defined, the trip_id must belong to the route_id, and from_trip_id will take precedence.
	to_route_id	FOREIGN ID REFERENCING routes.route_id Identifies a route where a connection ends. If to_route_id is defined, the transfer will apply to the departing trip on the route for the given to_stop_id. If both to_trip_id and to_route_id are defined, the trip_id must belong to the route_id, and to_trip_id will take precedence.
	from_trip_id	FOREIGN ID REFERENCING trips.trip_id Identifies a trip where a connection between routes begins. If from_trip_id is defined, the transfer will apply to the arriving trip for the given from_stop_id. If both from_trip_id and from_route_id are defined, the trip_id must belong to the route_id, and from_trip_id will take precedence.
	to_trip_id	FOREIGN ID REFERENCING trips.trip_id

		Identifies a trip where a connection between routes ends. If to_trip_id is defined, the transfer will apply to the departing trip for the given to_stop_id. If both to_trip_id and to_route_id are defined, the trip_id must belong to the route_id, and to_trip_id will take precedence.
	transfer_type	ENUM Indicates the type of connection for the specified (from_stop_id, to_stop_id) pair. Valid options are: 0 or empty - Recommended transfer point between routes. 1 - Timed transfer point between two routes. The departing vehicle is expected to wait for the arriving one and leave sufficient time for a rider to transfer between routes. 2 - Transfer requires a minimum amount of time between arrival and departure to ensure a connection. The time required to transfer is specified by min_transfer_time. 3 - Transfers are not possible between routes at the location.
	min_transfer_time	NON-NEGATIVE INTEGER Amount of time, in seconds, that must be available to permit a transfer between routes at the specified stops. The min_transfer_time should be sufficient to permit a typical rider to move between the two stops, including buffer time to allow for schedule variance on each route.
Exemple	from_stop_id,to_stop_id,transfer_type,min_transfer_time S6,S7,2,300 S7,S6,3, S23,S7,1,	

Type de données demandées : ● *Calcul d'itinéraire :* ○ *Topologie du réseau et itinéraires/lignes*	
Fichier GTFS	routes.txt

Champs & caractéristiques	route_id*	UNIQUE ID Identifies a route.
	route_short_name	TEXT Short name of a route. Often a short, abstract identifier (e.g., "32", "100X", "Green") that riders use to identify a route. Both route_short_name and route_long_name may be defined. Conditionally Required: - Required if routes.route_long_name is empty. - Optional otherwise.
	route_long_name	TEXT Full name of a route. This name is generally more descriptive than the route_short_name and often includes the route's destination or stop. Both route_short_name and route_long_name may be defined. Conditionally Required: - Required if routes.route_short_name is empty. - Optional otherwise.
	route_desc	TEXT Description of a route that provides useful, quality information. Should not be a duplicate of route_short_name or route_long_name. Example: "A" trains operate between Inwood-207 St, Manhattan and Far Rockaway-Mott Avenue, Queens at all times. Also from about 6AM until about midnight, additional "A" trains operate between Inwood-207 St and Lefferts Boulevard (trains typically alternate between Lefferts Blvd and Far Rockaway).
	route_type*	ENUM Indicates the type of transportation used on a route. Valid options are: 0 - Tram, Streetcar, Light rail. Any light rail or street level system within a metropolitan area. 1 - Subway, Metro. Any underground rail system within a metropolitan area. 2 - Rail. Used for intercity or long-distance travel. 3 - Bus. Used for short- and long-distance bus routes. 4 - Ferry. Used for short- and long-distance boat service.

		5 - Cable tram. Used for street-level rail cars where the cable runs beneath the vehicle (e.g., cable car in San Francisco). 6 - Aerial lift, suspended cable car (e.g., gondola lift, aerial tramway). Cable transport where cabins, cars, gondolas or open chairs are suspended by means of one or more cables. 7 - Funicular. Any rail system designed for steep inclines. 11 - Trolleybus. Electric buses that draw power from overhead wires using poles. 12 - Monorail. Railway in which the track consists of a single rail or a beam.
	route_url	URL URL of a web page about the particular route. Should be different from the agency.agency_url value.
	route_color	COLOR Route color designation that matches public facing material. Defaults to white (FFFFFF) when omitted or left empty. The color difference between route_color and route_text_color should provide sufficient contrast when viewed on a black and white screen.
	route_text_color	COLOR Legible color to use for text drawn against a background of route_color. Defaults to black (000000) when omitted or left empty. The color difference between route_color and route_text_color should provide sufficient contrast when viewed on a black and white screen.
	route_sort_order	NON-NEGATIVE INTEGER Orders the routes in a way which is ideal for presentation to customers. Routes with smaller route_sort_order values should be displayed first.
	continuous_stops	ENUM Indicates that the rider can board the transit vehicle at any point along the vehicle's travel path as described by shapes.txt, on every trip of the route. Valid options are: 0 - Continuous stopping pickup. 1 or empty - No continuous stopping pickup. 2 - Must phone agency to arrange continuous stopping pickup. 3 - Must coordinate with driver to arrange continuous stopping pickup.

		Values for routes.continuous_pickup may be overridden by defining values in stop_times.continuous_pickup for specific stop_times along the route.
	continuous_drop_off	ENUM Indicates that the rider can alight from the transit vehicle at any point along the vehicle's travel path as described by shapes.txt, on every trip of the route. Valid options are: 0 - Continuous stopping drop off. 1 or empty - No continuous stopping drop off. 2 - Must phone agency to arrange continuous stopping drop off. 3 - Must coordinate with driver to arrange continuous stopping drop off. Values for routes.continuous_drop_off may be overridden by defining values in stop_times.continuous_drop_off for specific stop_times along the route.
Exemple	route_id,agency_id,route_short_name,route_long_name,route_desc,route_type,route_url,route_color,route_text_color,route_sort_order,continuous_stops,continuous_drop_off "ABC:Ligne:1-1","ABC:Operator:1","1-1","Ecoles - Saint Jean",”Bus operant la liaison en journee et en semaine entre les Ecoles et St Jean”,3,http://www.abc.fr/ligne/1-1.htm,ffffff,000000,1,1,1 "ABC:Ligne:1-2","ABC:Operator:1","1-2","Saint Jean - Ecoles",”Bus operant la liaison en journee et le weekend seulement entre St Jean et les Ecoles”,3,http://www.abc.fr/ligne/1-2.htm,f8f8f8f8,ffffff,2,1,1	

Type de données demandées : ● *Calcul d'itinéraire :* ○ *Topologie du réseau et itinéraires/lignes*		
Fichier GTFS	trips.txt	
Champs & caractéristiques	route_id*	FOREIGN ID REFERENCING routes.route_id Identifies a route.
	service_id*	FOREIGN ID REFERENCING calendar.service_id or calendar_dates.service_id Identifies a set of dates when service is available for one or more routes.

	trip_id*	UNIQUE ID Identifies a trip.
	trip_headsign	TEXT Text that appears on signage identifying the trip's destination to riders. Should be used to distinguish between different patterns of service on the same route. If the headsign changes during a trip, values for trip_headsign may be overridden by defining values in stop_times.stop_headsign for specific stop_times along the trip.
	trip_short_name	TEXT Public facing text used to identify the trip to riders, for instance, to identify train numbers for commuter rail trips. If riders do not commonly rely on trip names, trip_short_name should be empty. A trip_short_name value, if provided, should uniquely identify a trip within a service day; it should not be used for destination names or limited/express designations.
	direction_id	ENUM Indicates the direction of travel for a trip. This field should not be used in routing; it provides a way to separate trips by direction when publishing time tables. Valid options are: 0 - Travel in one direction (e.g. outbound travel). 1 - Travel in the opposite direction (e.g. inbound travel).
	block_id	ID Identifies the block to which the trip belongs. A block consists of a single trip or many sequential trips made using the same vehicle, defined by shared service days and block_id. A block_id may have trips with different service days, making distinct blocks.
	shape_id	FOREIGN ID REFERENCING shapes.shape_id Identifies a geospatial shape describing the vehicle travel path for a trip. Conditionally Required: - Required if the trip has a continuous pickup or drop-off behavior defined either in routes.txt or in stop_times.txt. - Optional otherwise.

Exemple	route_id,service_id,trip_id,trip_headsign,trip_short_name,direction_id,block_id,shape_id A,WE,AWE1,Ecoles,,1,4F45DB9E45198257BE03E97D2F072FEC,123456ABCDEF A,WE,AWE2,Ecoles,,1,4F45DB9E45198257BE03E88D3F073FEC,123456ABCDEF

Type de données demandées : ● Calcul d'itinéraire : ○ Opérateurs de transports		
Fichier GTFS	routes.txt	
Champs & caractéristiques	route_id*	UNIQUE ID Identifies a route.
	agency_id	TEXT Agency for the specified route. Conditionally Required: - Required if multiple agencies are defined in agency.txt. - Optional otherwise.
Exemple	route_id,agency_id,route_short_name,route_long_name,route_desc,route_type "ABC:Ligne:1-1","ABC:Operator:1","1-1","Ecoles - Saint Jean",”Bus operant la liaison en journee et en semaine entre les Ecoles et St Jean”,3	

Type de données demandées : ● Calcul d'itinéraire : ○ Opérateurs de transports	
Fichier GTFS	agency.txt

Champs & caractéristiques	agency_id	UNIQUE ID Identifies a transit brand which is often synonymous with a transit agency. Note that in some cases, such as when a single agency operates multiple separate services, agencies and brands are distinct. This document uses the term "agency" in place of "brand". A dataset may contain data from multiple agencies. Conditionally Required: - Required when the dataset contains data for multiple transit agencies. - Optional otherwise.
	agency_name*	TEXT Full name of the transit agency.
	agency_url*	URL URL of the transit agency.
	agency_timezone*	TIMEZONE Timezone where the transit agency is located. If multiple agencies are specified in the dataset, each must have the same agency_timezone.
Exemple	agency_id,agency_name,agency_url,agency_timezone "ABC:Operator:1","Réseau Interurbain ABC",http://www.abc.fr,Europe/Paris	

Type de données demandées : ● Calcul d'itinéraire : ○ Opérateurs de transports		
Fichier GTFS	feed_info.txt	
Champs & caractéristiques	feed_publisher_name*	TEXT Full name of the organization that publishes the dataset. This may be the same as one of the agency.agency_name values.
	feed_publisher_url*	URL

		URL of the dataset publishing organization's website. This may be the same as one of the agency.agency_url values.
	feed_lang*	LANGUAGE CODE Default language used for the text in this dataset. This setting helps GTFS consumers choose capitalization rules and other language-specific settings for the dataset. The file translations.txt can be used if the text needs to be translated into languages other than the default one. The default language may be multilingual for datasets with the original text in multiple languages. In such cases, the feed_lang field should contain the language code mul defined by the norm ISO 639-2, and a translation for each language used in the dataset should be provided in translations.txt. If all the original text in the dataset is in the same language, then mul should not be used.
Exemple	feed_publisher_name,feed_publisher_url,feed_lang “Réseau Interurbain ABC”,http://www.abc.fr,fr	

Type de données demandées : ● Calcul d’itinéraire : ○ Opérateurs de transports		
Fichier GTFS	attributions.txt	
Champs & caractéristiques	agency_id	FOREIGN ID REFERENCING agency.agency_id Identifies an attribution for the dataset or a subset of it. This is mostly useful for translations.
	organization_name*	TEXT Name of the organization that the dataset is attributed to.
	is_operator	ENUM The role of the organization is operator. Valid options are: 0 or empty - Organization doesn’t have this role.

		1 - Organization does have this role.
Exemple	agency_id,organization_name,is_operator "ABC:Operator:1","Réseau Interurbain ABC",1	

Type de données demandées :
• Calcul d'itinéraire :
  ○ Horaires
  ○ Horaires de fonctionnement		

Fichier GTFS	stop_times.txt	
Champs & caractéristiques	trip_id*	FOREIGN ID REFERENCING trips.trip_id Identifies a trip.
	arrival_time	TIME Arrival time at the stop (defined by stop_times.stop_id) for a specific trip (defined by stop_times.trip_id). If there are not separate times for arrival and departure at a stop, arrival_time and departure_time should be the same. For times occurring after midnight on the service day, enter the time as a value greater than 24:00:00 in HH:MM:SS local time for the day on which the trip schedule begins. If exact arrival and departure times (timepoint=1 or empty) are not available, estimated or interpolated arrival and departure times (timepoint=0) should be provided. Conditionally Required: - Required for the first and last stop in a trip (defined by stop_times.stop_sequence). - Required for timepoint=1. - Optional otherwise.
	departure_time	TIME Departure time from the stop (defined by stop_times.stop_id) for a specific trip (defined by stop_times.trip_id). If there are not separate times for arrival and departure at a stop, arrival_time and departure_time should be the same. For times occurring after midnight on the service day, enter the time as a value greater than 24:00:00 in HH:MM:SS local time for the day on which the trip schedule begins. If exact arrival and departure times (timepoint=1 or empty) are not available, estimated or interpolated arrival

		and departure times (timepoint=0) should be provided. Conditionally Required: - Required for timepoint=1. - Optional otherwise.
	stop_id*	FOREIGN ID REFERENCING stops.stop_id Identifies the serviced stop. All stops serviced during a trip must have a record in stop_times.txt. Referenced locations must be stops/platforms, i.e. their stops.location_type value must be 0 or empty. A stop may be serviced multiple times in the same trip, and multiple trips and routes may service the same stop.
	stop_sequence*	NON-NEGATIVE INTEGER Order of stops for a particular trip. The values must increase along the trip but do not need to be consecutive.
	timepoint	ENUM Indicates if arrival and departure times for a stop are strictly adhered to by the vehicle or if they are instead approximate and/or interpolated times. This field allows a GTFS producer to provide interpolated stop-times, while indicating that the times are approximate. Valid options are: 0 - Times are considered approximate. 1 or empty - Times are considered exact.
Exemple	trip_id,arrival_time,departure_time,stop_id,stop_sequence,timepoint AWE1,07:10:00,07:10:00,S6,1,1 AWE1,07:15:00,07:15:00,S7,3,1	

Type de données demandées :
• Calcul d'itinéraire :
  ○ Horaires
  ○ Horaires de fonctionnement	

Fichier GTFS	frequencies.txt

Champs & caractéristiques	trip_id*	FOREIGN ID REFERENCING trips.trip_id Identifies a trip to which the specified headway of service applies.
	start_time*	TIME Time at which the first vehicle departs from the first stop of the trip with the specified headway.
	end_time*	TIME Time at which service changes to a different headway (or ceases) at the first stop in the trip.
	headway_secs*	POSITIVE INTEGER Time, in seconds, between departures from the same stop (headway) for the trip, during the time interval specified by start_time and end_time. Multiple headways may be defined for the same trip, but must not overlap. New headways may start at the exact time the previous headway ends.
	exact_times	ENUM Indicates the type of service for a trip. See the file description for more information. Valid options are: 0 or empty - Frequency-based trips. 1 - Schedule-based trips with the exact same headway throughout the day. In this case the end_time value must be greater than the last desired trip start_time but less than the last desired trip start_time + headway_secs.
Exemple	trip_id,start_time,end_time,headway_secs,exact_times AWE1,05:00:00,07:10:00,900,1 AWE1,07:10:00,11:30:00,300,1	

Type de données demandées : • *Calcul d'itinéraire :* ○ Correspondances planifiées entre services réguliers garantis		
Fichier GTFS	transfers.txt	
Champs &	from_stop_id*	FOREIGN ID REFERENCING stops.stop_id

caractéristiques		Identifies a stop or station where a connection between routes begins. If this field refers to a station, the transfer rule applies to all its child stops.
	to_stop_id*	FOREIGN ID REFERENCING stops.stop_id Identifies a stop or station where a connection between routes ends. If this field refers to a station, the transfer rule applies to all child stops.
	transfer_type	ENUM Indicates the type of connection for the specified (from_stop_id, to_stop_id) pair. Valid options are: 0 or empty - Recommended transfer point between routes. **1 - Timed transfer point between two routes. The departing vehicle is expected to wait for the arriving one and leave sufficient time for a rider to transfer between routes.** **2 - Transfer requires a minimum amount of time between arrival and departure to ensure a connection. The time required to transfer is specified by min_transfer_time.** 3 - Transfers are not possible between routes at the location.
Exemple	from_stop_id,to_stop_id,transfer_type S6,S7,2 S7,S6,2 S23,S7,1	

Type de données demandées : • Calcul d'itinéraire : ○ Services aux nœuds d'accès (information sur le quai, guichets d'assistance/d'information, billetterie, ascenseurs/escaliers, entrées et sorties)		
Fichier GTFS	pathways.txt	
Champs & caractéristiques	pathway_id*	UNIQUE ID Identifies a pathway. Used by systems as an internal identifier for the record. Must be unique in the dataset.

		Different pathways may have the same values for from_stop_id and to_stop_id. Example: When two escalators are side-by-side in opposite directions, or when a stair set and elevator go from the same place to the same place, different pathway_id may have the same from_stop_id and to_stop_id values.
	from_stop_id*	FOREIGN ID REFERENCING stops.stop_id Location at which the pathway begins. Must contain a stop_id that identifies a platform (location_type=0 or empty), entrance/exit (location_type=2), generic node (location_type=3) or boarding area (location_type=4). Values for stop_id that identify stations (location_type=1) are forbidden.
	to_stop_id*	FOREIGN ID REFERENCING stops.stop_id Location at which the pathway ends. Must contain a stop_id that identifies a platform (location_type=0 or empty), entrance/exit (location_type=2), generic node (location_type=3) or boarding area (location_type=4). Values for stop_id that identify stations (location_type=1) are forbidden.
	pathway_mode*	ENUM Type of pathway between the specified (from_stop_id, to_stop_id) pair. Valid options are: 1 - Walkway. 2 - Stairs. 3 - Moving sidewalk/travelator. 4 - Escalator. 5 - Elevator. 6 - Fare gate (or payment gate): A pathway that crosses into an area of the station where proof of payment is required to cross. Fare gates may separate paid areas of the station from unpaid ones, or separate different payment areas within the same station from each other. This information can be used to avoid routing passengers through stations using shortcuts that would require passengers to make unnecessary payments, like directing a passenger to walk through a subway platform to reach a busway. 7- Exit gate: A pathway exiting a paid area into an unpaid area where proof of payment is not required to cross.

	is_bidirectional*	ENUM Indicates the direction that the pathway can be taken: 0 - Unidirectional pathway that can only be used from from_stop_id to to_stop_id. 1 - Bidirectional pathway that can be used in both directions. Exit gates (pathway_mode=7) must not be bidirectional.
	length	NON-NEGATIVE-FLOAT Horizontal length in meters of the pathway from the origin location (defined in from_stop_id) to the destination location (defined in to_stop_id). This field is recommended for walkways (pathway_mode=1), fare gates (pathway_mode=6) and exit gates (pathway_mode=7).
	traversal_time	POSITIVE INTEGER Average time in seconds needed to walk through the pathway from the origin location (defined in from_stop_id) to the destination location (defined in to_stop_id). This field is recommended for moving sidewalks (pathway_mode=3), escalators (pathway_mode=4) and elevator (pathway_mode=5).
	stair_count	NON-NULL INTEGER Number of stairs of the pathway. A positive stair_count implies that the rider walk up from from_stop_id to to_stop_id. And a negative stair_count implies that the rider walk down from from_stop_id to to_stop_id. This field is recommended for stairs (pathway_mode=2). If only an estimated stair count can be provided, it is recommended to approximate 15 stairs for 1 floor.
	max_slope	FLOAT Maximum slope ratio of the pathway. Valid options are: 0 or empty - No slope. Float - Slope ratio of the pathway, positive for upwards, negative for downwards. This field should only be used with walkways (pathway_mode=1) and moving sidewalks (pathway_mode=3).

	min_width	POSITIVE FLOAT Minimum width of the pathway in meters. This field is recommended if the minimum width is less than 1 meter.
Exemple	pathway_id,from_stop_id,to_stop_id,pathway_mode,is_bidirectional,length,traversal_time,stair_count,max_slope,min_width E1N1,E1,N1,3,0,25,10,,0,0.8 E2N1,E2,N1,2,1,,10,0,0	

Type de données demandées : • *Calcul d'itinéraire :* ○ Existence de services d'assistance (notamment d'assistance sur place)	
Fichier GTFS	N/A

Type de données demandées : • *Services d'information :* ○ *Lieux et modalités d'achat de billets (y compris les canaux de détail, les méthodes d'exécution et les méthodes de paiement)*		
Fichier GTFS	agency.txt	
Champs & caractéristiques	agency_name*	TEXT Full name of the transit agency.
	agency_url*	URL URL of the transit agency.
	agency_timezone*	TIMEZONE Timezone where the transit agency is located. If multiple agencies are specified in the dataset, each must have the same agency_timezone.

	agency_fare_url	URL URL of a web page that allows a rider to purchase tickets or other fare instruments for that agency online.
Exemple	agency_name,agency_url,agency_timezone,agency_fare_url "Réseau Interurbain ABC",http://www.abc.fr,Europe/Paris,http://www.abc.fr/tarifs/	

Type de données demandées : ● *Services d'information :* ○ *Tarifs de base communs standard : données tarifaires du réseau (zones tarifaires et arrêts, niveaux tarifaires) et structures tarifaires standard (point à point, y compris tarifs journaliers et hebdomadaires, tarifs zonaux, tarifs forfaitaires*		
Fichier GTFS	fare_attributes.txt	
Champs & caractéristiques	fare_id*	UNIQUE ID Identifies a fare class.
	price*	NON-NEGATIVE FLOAT Fare price, in the unit specified by currency_type.
	currency_type*	CURRENCY CODE Currency used to pay the fare.
	payment_method*	ENUM Indicates when the fare must be paid. Valid options are: 0 - Fare is paid on board. 1 - Fare must be paid before boarding.
	transfers*	ENUM Indicates the number of transfers permitted on this fare. Valid options are: 0 - No transfers permitted on this fare. 1 - Riders may transfer once.

		2 - Riders may transfer twice. empty - Unlimited transfers are permitted.
	agency_id	FOREIGN ID REFERENCING agency.agency_id Identifies the relevant agency for a fare. Conditionally Required: - Required if multiple agencies are defined in agency.txt. - Optional otherwise.
	transfer_duration	NON-NEGATIVE INTEGER Length of time in seconds before a transfer expires. When transfers=0 this field may be used to indicate how long a ticket is valid for or it may be left empty.
Exemple	fare_id,price,currency_type,payment_method,transfers,agency_id,transfer_duration 1,1.90,EUR,1,1,ABC:Operator:1,300 2,2.00,EUR,0,0,ABC:Operator:1,0	

Type de données demandées : • *Services d'information :* ◦ *Tarifs de base communs standard : données tarifaires du réseau (zones tarifaires et arrêts, niveaux tarifaires) et structures tarifaires standard (point à point, y compris tarifs journaliers et hebdomadaires, tarifs zonaux, tarifs forfaitaires*		
Fichier GTFS	fares_rules.txt	
Champs & caractéristiques	fare_id*	FOREIGN ID REFERENCING fare_attributes.fare_id Identifies a fare class.
	route_id	FOREIGN ID REFERENCING routes.route_id Identifies a route associated with the fare class. If several routes with the same fare attributes exist, create a record in fare_rules.txt for each route.

	origin_id	FOREIGN ID REFERENCING stops.zone_id Identifies an origin zone. If a fare class has multiple origin zones, create a record in fare_rules.txt for each origin_id.
	destination_id	FOREIGN ID REFERENCING stops.zone_id Identifies a destination zone. If a fare class has multiple destination zones, create a record in fare_rules.txt for each destination_id.
	contains_id	FOREIGN ID REFERENCING stops.zone_id Identifies the zones that a rider will enter while using a given fare class. Used in some systems to calculate correct fare class.
Exemple	fare_id,route_id,origin_id,destination_id,contains_id 1,"ABC:Ligne:1-1",123ABCD,456EFG,789HIJ 2,"ABC:Ligne:1-2",123ABCD,456EFG,789HIJ	

Type de données demandées : • *Services d'information :* ○ *Caractéristiques des véhicules, telles que les différentes classes et le wifi à bord*		
Fichier GTFS	trips.txt	
Champs & caractéristiques	route_id*	FOREIGN ID REFERENCING routes.route_id Identifies a route.
	service_id*	FOREIGN ID REFERENCING calendar.service_id or calendar_dates.service_id Identifies a set of dates when service is available for one or more routes.
	trip_id*	UNIQUE ID Identifies a trip.

	bikes_allowed	ENUM Indicates whether bikes are allowed. Valid options are: 0 or empty - No bike information for the trip. 1 - Vehicle being used on this particular trip can accommodate at least one bicycle. 2 - No bicycles are allowed on this trip.
Exemple	route_id,service_id,trip_id,trip_headsign,bikes_allowed A,WE,AWE1,Ecoles,2	

Type de données demandées :
• *Services d'information :*
  ○ *Paramètres nécessaires pour calculer un facteur environnemental, tels que le carbone par type de véhicule ou voyageur-kilomètre*
  ○ *Paramètres tels que la consommation de carburant nécessaire pour le calcul du coût*	

Fichier GTFS	N/A

Type de données demandées :
• *Demande de prix de billet détaillé commun standard et spécial :*
  ○ *Caractéristiques communes des billets (droits d'accès, tels que zone/point à point, y compris les billets journaliers et hebdomadaires, aller simple/aller-retour, admissibilité, conditions d'utilisation de base telles que période de validité/opérateur/durée du voyage/correspondance, tarifs standard point à point pour différentes liaisons point à point, y compris les tarifs journaliers et hebdomadaires, les tarifs par zones et les tarifs forfaitaires)*
  ○ *Billets spéciaux : offres comportant des conditions spéciales supplémentaires telles que des tarifs promotionnels, des tarifs de groupe, des abonnements, des offres combinées groupant différents produits tels que du stationnement, un voyage, une durée minimale de séjour, etc.*	

Fichiers GTFS	fare_attributes.txt fare_rule.txt
Notes	La description détaillée des billets selon la catégorie de passagers n'est pas innée dans le GTFS. Par contre, la combinaison des fichiers fare_attributes.txt et fare_rule.txt permet de décrire plusieurs offres tarifaires avec des conditions données. Une telle combinaison peut donc être utilisé pour décrire les données mentionnées ici et/ou définir de fait des catégories de voyageurs sur la base du tarif dont ils s'acquittent. Le détail des fichiers fare_attributes.txt et fare_rule.txt est repris plus haut dans la partie *Services d'information*.

Type de données demandées :
• *Demande de prix de billet détaillé commun standard et spécial :*
  ○ *Catégories de voyageurs (catégories d'utilisateurs, telles qu'adulte, enfant, étudiant, senior, handicapé, conditions applicables et classes de voyage telles que première et seconde)*
  ○ *Conditions commerciales de base telles que le remboursement, le remplacement, l'échange, le transfert et les conditions de réservation de base telles que la période d'achat, les périodes de validité, les tarifs limités à certains itinéraires et zones, une durée minimale de séjour*	

Fichier GTFS	N/A

Type de données demandées : • *Calcul du plan de trajet :* ○ *Temps de trajet estimatifs par type de journée et zone horaire par mode de transport ou combinaison de mode de transport*	
Fichiers GTFS	stop_times.txt calendar.txt calendar_dates.txt frequencies.txt
Notes	Le temps de trajet estimatif par type de journée et zone horaire par mode de transport ou combinaison de mode de transport se fait en considérant ensemble les fichiers trip.txt, stop_times.txt, calendar.txt, calendar_dates.txt, frequencies.txt. La jonction entre les fichiers se fait sur la base des champs trip_id et service_id. À noter que la combinaison des modes de transport ne peut se faire que si le jeu de données GTFS contient plusieurs modes de transport public, qu'ils soient opérés par la même organisation ou non.

Type de données demandées : • *Accessibilité y compris celle pour les personnes handicapées ou à mobilité réduite, dont :* ○ *Accessibilité des points d'arrêts et voies de circulation au sein d'un point d'échange (ascenseurs, escaliers roulants)*		
Fichier GTFS	stops.txt	
Champs & caractéristiques	stop_id*	ID Identifies a location: stop/platform, station, entrance/exit, generic node or boarding area (see location_type). Multiple routes may use the same stop_id.
	location_type	ENUM Location type. Valid options are: 0 (or blank) - Stop (or Platform). A location where passengers board or disembark from a transit vehicle. Is called a platform when defined within a parent_station.

		1 - Station. A physical structure or area that contains one or more platform. 2 - Entrance/Exit. A location where passengers can enter or exit a station from the street. If an entrance/exit belongs to multiple stations, it may be linked by pathways to both, but the data provider must pick one of them as parent. 3 - Generic Node. A location within a station, not matching any other location_type, that may be used to link together pathways define in pathways.txt. 4 - Boarding Area. A specific location on a platform, where passengers can board and/or alight vehicles.
	wheelchair_boarding	ENUM Indicates whether wheelchair boardings are possible from the location. Valid options are: For parentless stops: 0 or empty - No accessibility information for the stop. 1 - Some vehicles at this stop can be boarded by a rider in a wheelchair. 2 - Wheelchair boarding is not possible at this stop. For child stops: 0 or empty - Stop will inherit its wheelchair_boarding behavior from the parent station, if specified in the parent. 1 - There exists some accessible path from outside the station to the specific stop/platform. 2 - There exists no accessible path from outside the station to the specific stop/platform. For station entrances/exits: 0 or empty - Station entrance will inherit its wheelchair_boarding behavior from the parent station, if specified for the parent. 1 - Station entrance is wheelchair accessible. 2 - No accessible path from station entrance to stops/platforms.
Exemple	stop_id,location_type,wheelchair_boarding S1,0,1 S3,2,1	

Type de données demandées : ● *Accessibilité y compris celle pour les personnes handicapées ou à mobilité réduite, dont :* ○ *Accessibilité des points d'arrêts et voies de circulation au sein d'un point d'échange (ascenseurs, escaliers roulants)*		
Fichier GTFS	pathways.txt	
Champs & caractéristiques	pathway_mode*	ENUM Type of pathway between the specified (from_stop_id, to_stop_id) pair. Valid options are: 1 - Walkway. 2 - Stairs. 3 - Moving sidewalk/travelator. 4 - Escalator. 5 - Elevator. 6 - Fare gate (or payment gate): A pathway that crosses into an area of the station where proof of payment is required to cross. Fare gates may separate paid areas of the station from unpaid ones, or separate different payment areas within the same station from each other. This information can be used to avoid routing passengers through stations using shortcuts that would require passengers to make unnecessary payments, like directing a passenger to walk through a subway platform to reach a busway. 7- Exit gate: A pathway exiting a paid area into an unpaid area where proof of payment is not required to cross.
	min_width	POSITIVE FLOAT Minimum width of the pathway in meters. This field is recommended if the minimum width is less than 1 meter.
	signposted_as	TEXT Public facing text from physical signage that is visible to riders. May be used to provide text directions to riders, such as 'follow signs to '. The text in singposted_as should appear exactly how it is printed on the signs. When the physical signage is multilingual, this field may be populated and translated following the example of stops.stop_name in the field definition of feed_info.feed_lang.

	reversed_signposted_as	TEXT Same as signposted_as, but when the pathway is used from the to_stop_id to the from_stop_id.
Exemple	pathway_id,from_stop_id,to_stop_id,pathway_mode,is_bidirectional,length,traversal_time,stair_count,max_slope,min_width,signposted_as,reversed_signposted_as E1N1,E1,N1,3,0,25,10,,0,0.8,"Tapis roulant vers la sortie","Vers le quai"	

Type de données demandées : ● *Accessibilité y compris celle pour les personnes handicapées ou à mobilité réduite, dont :* ○ *Accessibilité des points d'arrêts et voies de circulation au sein d'un point d'échange (ascenseurs, escaliers roulants)* ○ *Véhicules (surbaissés, accessibles aux fauteuils roulants)*		
Fichier GTFS	trips.txt	
Champs & caractéristiques	wheelchair_accessible	ENUM Indicates wheelchair accessibility. Valid options are: 0 or empty - No accessibility information for the trip. 1 - Vehicle being used on this particular trip can accommodate at least one rider in a wheelchair. 2 - No riders in wheelchairs can be accommodated on this trip.
Exemple	route_id,service_id,trip_id,wheelchair_accessible A,WE,AWE1,1 A,WE,AWE2,0	

Type de données demandées : • *Accessibilité y compris celle pour les personnes handicapées ou à mobilité réduite, dont :* ○ *Identifiant unique et la localisation des dispositifs diffusant à proximité des informations par radiofréquence installés sur les infrastructures*	
Fichier GTFS	N/A

Données dynamiques (GTFS Realtime)

Type de données demandées :
• *Heures de passage, itinéraires et informations auxiliaires :*
  ○ *Perturbations*
  ○ *Situation aux nœuds d'accès (notamment informations dynamiques sur les plateformes, ascenseurs et escaliers roulants en service, emplacement des entrées et sorties fermées)*		

Partie du fichier	Alert	
Champs & caractéristiques	active_period	TIMERANGE Time when the alert should be shown to the user. If missing, the alert will be shown as long as it appears in the feed. If multiple ranges are given, the alert will be shown during all of them.
	informed_entity*	ENTITYSELECTOR Entities whose users we should notify of this alert. At least one informed_entity must be provided.
	cause	CAUSE - ENUM Possible values: UNKNOWN_CAUSE OTHER_CAUSE TECHNICAL_PROBLEM

		STRIKE DEMONSTRATION ACCIDENT HOLIDAY WEATHER MAINTENANCE CONSTRUCTION POLICE_ACTIVITY MEDICAL_EMERGENCY
	effect	EFFECT - ENUM Possible values: NO_SERVICE REDUCED_SERVICE SIGNIFICANT_DELAYS DETOUR ADDITIONAL_SERVICE MODIFIED_SERVICE OTHER_EFFECT UNKNOWN_EFFECT STOP_MOVED NO_EFFECT ACCESSIBILITY_ISSUE
	url	TRANSLATEDSTRING The URL which provides additional information about the alert.
	header_text*	TRANSLATEDSTRING Header for the alert. This plain-text string will be highlighted, for example in boldface.
	description_text*	TRANSLATEDSTRING Description for the alert. This plain-text string will be formatted as the body of the alert (or shown on an explicit

		"expand" request by the user). The information in the description should add to the information of the header.
	tts_header_text	TRANSLATEDSTRING Text containing the alert's header to be used for text-to-speech implementations. This field is the text-to-speech version of header_text. It should contain the same information as header_text but formatted such that it can read as text-to-speech (for example, abbreviations removed, numbers spelled out, etc.)
	tts_description_text	TRANSLATEDSTRING Text containing a description for the alert to be used for text-to-speech implementations. This field is the text-to-speech version of description_text. It should contain the same information as description_text but formatted such that it can be read as text-to-speech (for example, abbreviations removed, numbers spelled out, etc.)
	severity_level	SEVERITYLEVEL Severity of the alert.

Exemple	entity {
	id: "0"
	alert {
	active_period {
	start: 1284457468
	end: 1284468072
	}
	informed_entity {
	stop_id: "S7"
	route_id: "A"
	}
	cause: CONSTRUCTION
	effect: DETOUR
	url {
	text: "http://www.abc.fr/alerts"
	language: "fr"
	}
	header_text {
	text: "Arret Ecoles ferme pour travaux, arret temporaire rue de la mairie"	

	language: "fr"
	}
	description_text {
	text: "En raison de travaux de voirie, l'arret Ecoles ne sera pas desservi. L'arret temporaire se trouve 200m plus loin dans la rue de la mairie."
	language: "fr"
	}
	}
	}

Type de données demandées : • *Heures de passage, itinéraires et informations auxiliaires :* ○ *Information sur la situation en temps réel : retards, annulations, surveillance des correspondances garanties* ○ *Heures de départ et d'arrivée estimatives*		
Partie du fichier	TripUpdate	
Champs & caractéristiques	trip*	TRIPDESCRIPTOR The Trip that this message applies to. There can be at most one TripUpdate entity for each actual trip instance. If there is none, that means there is no prediction information available. It does not mean that the trip is progressing according to schedule.
	vehicle	VEHICLEDESCRIPTOR Additional information on the vehicle that is serving this trip.
	stop_time_update*	STOPTIMEUPDATE Updates to StopTimes for the trip (both future, i.e., predictions, and in some cases, past ones, i.e., those that already happened). The updates must be sorted by stop_sequence, and apply for all the following stops of the trip up to the next specified stop_time_update. At least one stop_time_update must be provided for the trip unless the trip.schedule_relationship is CANCELED or DUPLICATED - if the trip is canceled, no stop_time_updates need to be provided. If the trip is duplicated, stop_time_updates may be provided to indicate real-time information for the new trip.

	timestamp	UINT64 The most recent moment at which the vehicle's real-time progress was measured to estimate StopTimes in the future. When StopTimes in the past are provided, arrival/departure times may be earlier than this value. In POSIX time (i.e., the number of seconds since January 1st 1970 00:00:00 UTC).
	delay	INT32 The current schedule deviation for the trip. Delay should only be specified when the prediction is given relative to some existing schedule in GTFS. Delay (in seconds) can be positive (meaning that the vehicle is late) or negative (meaning that the vehicle is ahead of schedule). Delay of 0 means that the vehicle is exactly on time. Delay information in StopTimeUpdates take precedent of trip-level delay information, such that trip-level delay is only propagated until the next stop along the trip with a StopTimeUpdate delay value specified. Feed providers are strongly encouraged to provide a TripUpdate.timestamp value indicating when the delay value was last updated, in order to evaluate the freshness of the data. Caution: this field is still experimental, and subject to change. It may be formally adopted in the future.

Exemple	header {
	gtfs_realtime_version: "2.0"
	timestamp: 1284457468
	}
	entity {
	id: "3"
	trip_update {
	trip {
	trip_id: "AWE1"
	start_time: "11:15:35"
	}
	stop_time_update {
	stop_sequence: 10
	arrival {
	delay: 300
	}
	}
	}
	}	

Type de données demandées :

- *Heures de passage, itinéraires et informations auxiliaires :*
  - *Information sur la situation en temps réel : retards, annulations, surveillance des correspondances garanties*
  - *Heures de départ et d'arrivée estimatives*

Partie du fichier	VehiclePosition	
Champs & caractéristiques	trip	TRIPDESCRIPTOR The Trip that this vehicle is serving. Can be empty or partial if the vehicle can not be identified with a given trip instance.
	vehicle	VEHICLEDESCRIPTOR Additional information on the vehicle that is serving this trip. Each entry should have a unique vehicle id.
	position	POSITION Current position of this vehicle.
	current_stop_sequence	UINT32 The stop sequence index of the current stop. The meaning of current_stop_sequence (i.e., the stop that it refers to) is determined by current_status. If current_status is missing IN_TRANSIT_TO is assumed.
	stop_id	STRING Identifies the current stop. The value must be the same as in stops.txt in the corresponding GTFS feed. If StopTimeProperties.assigned_stop_id is used to assign a stop_id, this field should also reflect the change in stop_id..
	current_status	VEHICLESTOPSTATUS The exact status of the vehicle with respect to the current stop. Ignored if current_stop_sequence is missing..
	timestamp	UINT64 Moment at which the vehicle's position was measured. In POSIX time (i.e., number of seconds since January

		1st 1970 00:00:00 UTC).
	congestion_level	CONGESTIONLEVEL

Exemple	entity {
	id: "425"
	vehicle {
	trip {
	trip_id: "1515381"
	schedule_relationship: SCHEDULED
	route_id: "4400"
	}
	position {
	latitude: 43.216763
	longitude: -79.75421
	bearing: 99.11
	odometer: 3.56541697E8
	speed: 0.0
	}
	timestamp: 1620839391
	stop_id: "1799"
	vehicle {
	id: "425"
	label: "1208"
	}
	}
	}	

Formats et versions (GTFS Schedule et GTFS Realtime)

Type de données demandées : • *format d'échange des données et la version du format le cas échéant*		
Fichier GTFS	feed_info.txt	
Champs & caractéristiques	feed_version	TEXT String that indicates the current version of their GTFS dataset. GTFS-consuming applications can display this value to help dataset publishers determine whether the latest dataset has been incorporated.
Exemple	feed_publisher_name,feed_publisher_url,feed_lang,feed_version "Réseau Interurbain ABC",http://www.abc.fr,fr,v1	

Type de données demandées : • *format d'échange des données et la version du format le cas échéant*		
Partie du fichier GTFS Realtime	FeedHeader	
Champs & caractéristiques	gtfs_realtime_version*	STRING Version of the feed specification. The current version is 2.0.
	incrementality*	INCREMENTALITY
	timestamp*	UINT64 This timestamp identifies the moment when the content of this feed has been created (in server time). In POSIX time (i.e., number of seconds since January 1st 1970 00:00:00 UTC). To avoid time skew between systems producing and consuming realtime information it is strongly advised to derive timestamp from a time server. It is completely acceptable to use Stratum 3 or even lower strata servers since time differences up to a couple of seconds are tolerable.

Exemple	header {
	gtfs_realtime_version: "2.0"
	incrementality: FULL_DATASET
	timestamp: 1284457468
	}

Type de données demandées : • *couverture géographique des données* • *restrictions de couverture pour certaines catégories de données* • *identifiants des jeux de données publiés sur le point d'accès national*	
Fichier GTFS	N/A

Métadonnées (GTFS Schedule)

Type de données demandées :
• *Description des métadonnées*
  ○ *Entité publiant les données*
  ○ *Entité propriétaire des données*		

Fichier GTFS	agency.txt	
Champs & caractéristiques	agency_id	UNIQUE ID Identifies a transit brand which is often synonymous with a transit agency. Note that in some cases, such as when a single agency operates multiple separate services, agencies and brands are distinct. This document uses the term "agency" in place of "brand". A dataset may contain data from multiple agencies. Conditionally Required: - Required when the dataset contains data for multiple transit agencies. - Optional otherwise.

	agency_name*	TEXT Full name of the transit agency.
	agency_url*	URL URL of the transit agency.
	agency_timezone*	TIMEZONE Timezone where the transit agency is located. If multiple agencies are specified in the dataset, each must have the same agency_timezone.
	agency_lang	LANGUAGE CODE Primary language used by this transit agency. Should be provided to help GTFS consumers choose capitalization rules and other language-specific settings for the dataset.
	agency_phone	PHONE NUMBER A voice telephone number for the specified agency. This field is a string value that presents the telephone number as typical for the agency's service area. It may contain punctuation marks to group the digits of the number. Dialable text (for example, TriMet's "503-238-RIDE") is permitted, but the field must not contain any other descriptive text.
	agency_email	EMAIL Email address actively monitored by the agency’s customer service department. This email address should be a direct contact point where transit riders can reach a customer service representative at the agency.
Exemple	agency_id,agency_name,agency_url,agency_timezone,agency_lang,agency_phone,agency_email "ABC:Operator:1","Réseau Interurbain ABC",http://www.abc.fr,Europe/Paris,fr,0888888888,data@abc.fr	

Type de données demandées :

- *Description des métadonnées*
  - *Entité publiant les données*
  - *Entité propriétaire des données*

Fichier GTFS	attributions.txt	
Champs & caractéristiques	attribution_id	ID Identifies an attribution for the dataset or a subset of it. This is mostly useful for translations.
	organization_name*	TEXT Name of the organization that the dataset is attributed to.
	is_producer	ENUM The role of the organization is producer. Valid options are: 0 or empty - Organization doesn't have this role. 1 - Organization does have this role. At least one of the fields is_producer, is_operator, or is_authority should be set at 1.
	is_operator	ENUM The role of the organization is operator. Valid options are: 0 or empty - Organization doesn't have this role. 1 - Organization does have this role. At least one of the fields is_producer, is_operator, or is_authority should be set at 1.
	is_authority	ENUM The role of the organization is authority. Valid options are: 0 or empty - Organization doesn't have this role. 1 - Organization does have this role. At least one of the fields is_producer, is_operator, or is_authority should be set at 1.
	attribution_url	URL URL of the organization.
	attribution_email	EMAIL Email of the organization.
	attribution_phone	PHONE NUMBER Phone number of the organization.

Exemple	attribution_id,organization_name,is_producer,is_operator,is_authority,attribution_url,attribution_email,attribution_phone attribution001,”Réseau Interurbain ABC",1,1,0,http://www.abc.fr,data@abc.fr,0888888888

Type de données demandées : • *Description des métadonnées* ○ *Date de publication*		
Partie du fichier GTFS Realtime	FeedHeader	
Champs & caractéristiques	timestamp*	UINT64 This timestamp identifies the moment when the content of this feed has been created (in server time). In POSIX time (i.e., number of seconds since January 1st 1970 00:00:00 UTC). To avoid time skew between systems producing and consuming realtime information it is strongly advised to derive timestamp from a time server. It is completely acceptable to use Stratum 3 or even lower strata servers since time differences up to a couple of seconds are tolerable.

Exemple	header {
	gtfs_realtime_version: "2.0"
	incrementality: FULL_DATASET
	timestamp: 1284457468
	}	

Type de données demandées : • *Description des métadonnées* ○ *Langue*	
Fichier GTFS	feed_info.txt

Champs & caractéristiques	feed_lang	LANGUAGE CODE Default language used for the text in this dataset. This setting helps GTFS consumers choose capitalization rules and other language-specific settings for the dataset. The file translations.txt can be used if the text needs to be translated into languages other than the default one. The default language may be multilingual for datasets with the original text in multiple languages. In such cases, the feed_lang field should contain the language code mul defined by the norm ISO 639-2, and a translation for each language used in the dataset should be provided in translations.txt. If all the original text in the dataset is in the same language, then mul should not be used.
	default_lang	LANGUAGE CODE Defines the language that should be used when the data consumer doesn't know the language of the rider. It will often be en (English).
Exemple	feed_publisher_name,feed_publisher_url,feed_lang,default_lang "Réseau Interurbain ABC",http://www.abc.fr,fr,fr	

Type de données demandées : • *Description des métadonnées* ○ *Langue*		
Partie du fichier GTFS Realtime	Alert	
Champs & caractéristiques	language	STRING BCP-47 language code. Can be omitted if the language is unknown or if no internationalization is done at all for the feed. At most one translation is allowed to have an unspecified language tag - if there is more than one translation, the language must be provided.

Exemple	entity {
	  id: "0"
	  alert {	

	active_period {
	start: 1284457468
	end: 1284468072
	}
	informed_entity {
	stop_id: "S7"
	route_id: "A"
	}
	cause: CONSTRUCTION
	effect: DETOUR
	header_text {
	text: "Arret Ecoles ferme pour travaux, arret temporaire rue de la mairie"
	language: "fr"
	}
	description_text {
	text: "En raison de travaux de voirie, l'arret Ecoles ne sera pas desservi. L'arret temporaire se trouve 200m plus loin dans la rue de la mairie."
	language: "fr"
	}
	}
	}

Type de données demandées :
• *Description des métadonnées*
  ○ *Entité concernée par les données*
  ○ *Nom*
  ○ *Adresse mail*
  ○ *Adresse*
  ○ *Téléphone*
  ○ *Url du site web*
  ○ *Couverture géographique*
  ○ *Couverture du réseau*
  ○ *Le cas échéant, licence utilisée et condition d'utilisation (lien http:// de la licence à inclure)*
  ○ *Indicateur de qualité (veuillez les indiquer) :*	

Fichiers GTFS	agency.txt feed_info.txt attributions.txt
Notes	L'ensemble de ces éléments sont repris dans les tableaux précédents pour l'identification des métadonnées en lien avec l'opérateur

Type de données demandées :
• *Description des métadonnées*
  ○ *Date de début de validité*
  ○ *Date de fin de validité*		

Fichier GTFS	feed_info.txt	
Notes	feed_start_date	DATE The dataset provides complete and reliable schedule information for service in the period from the beginning of the

		feed_start_date day to the end of the feed_end_date day. Both days may be left empty if unavailable. The feed_end_date date must not precede the feed_start_date date if both are given. It is recommended that dataset providers give schedule data outside this period to advise of likely future service, but dataset consumers should treat it mindful of its non-authoritative status. If feed_start_date or feed_end_date extend beyond the active calendar dates defined in calendar.txt and calendar_dates.txt, the dataset is making an explicit assertion that there is no service for dates within the feed_start_date or feed_end_date range but not included in the active calendar dates.
	feed_end_date	DATE Similar as above.
Exemple	feed_publisher_name,feed_publisher_url,feed_lang,feed_start_date,feed_end_date “Réseau Interurbain ABC”,http://www.abc.fr,fr,20220101,20221231	

Type de données demandées : ● *Description des métadonnées* ○ *Nom du jeu de données* ○ *Description du jeu de données* ○ *Catégorie de données publiées et détails* ○ *Le cas échéant, le format ou la spécification technique utilisé pour la publication (lien http:// de la spécification technique)* ○ *Interface d’accès* ○ *Lien URL* ○ *Fréquence de mise à jour*	
Fichier GTFS	N/A