9.1.10 PL_SERVICECHECK

This view contains information used for the communicated data validation.

For each day of each communicated service, the following data are reported:

- total number of trips,
- total kilometres (or other units of measurement),
- total duration of the planned trips.

Column Name	PK	FK	OPT	Data Type	Planned data view reference	Description
DataSource	*	*		String(4)	PL_HEADERS.DataSource	Unique Bus Operator Code
ServiceID	*	*		Number	PL_HEADERS.DataSource	Unique Service Code
Day	*	*		Date		One day of service
Ntrip				Number		Total number of planned trips for this day
Length				Number		Total length of planned trips for this day in meters (or other system of measures)
Duration				Number		Total duration of planned trips for this day, calculated as Ending time minus Starting time, in seconds

9.2 AVL data interface

Referring to the conceptual model described in Section 3.2 the following tables describe the software interface between a generic AVL system (or a specific adapter) and the DMS. This interface can be directly used in order to input AVL data and fault code in the system. Otherwise a data adapter can be implemented in order to transform the original data in this format.

Figure 14 shows the main aspects of the relational scheme for AVL data and Fault Code data interface.

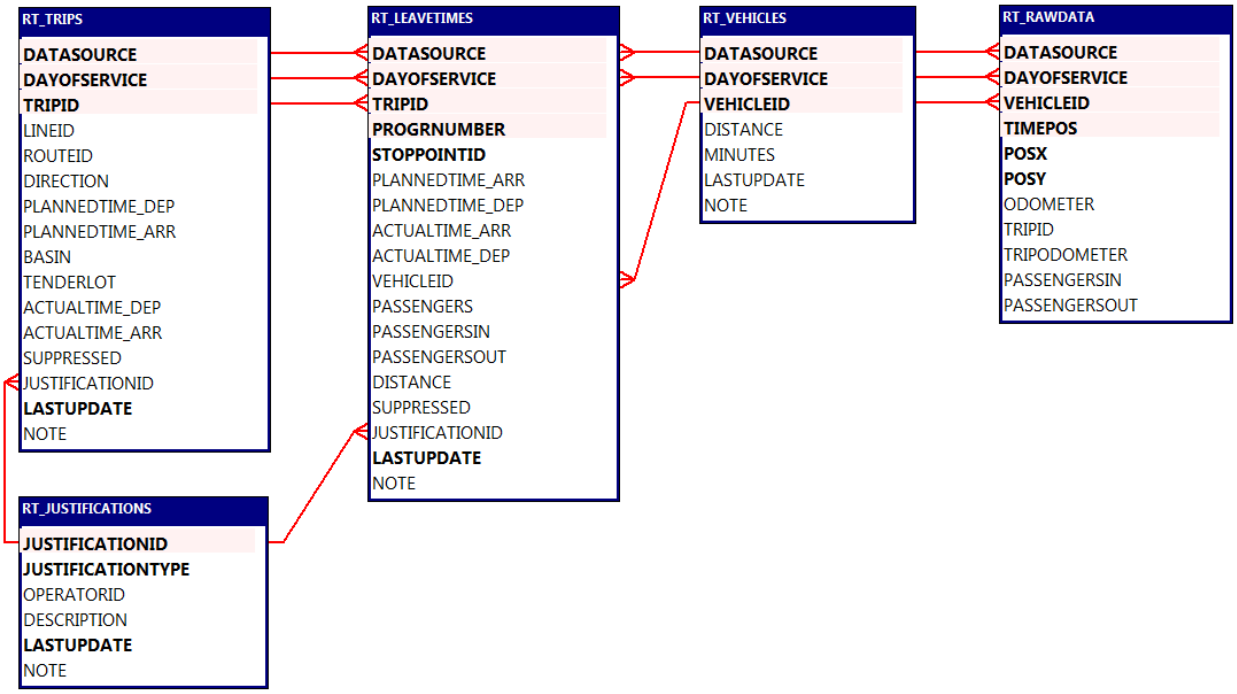

Figure 14: AVL data relational scheme

Notes:

- Each table contains a field called “DataSource” used to identify the Bus Operator's system from which the data arrive.
- According with the time representation defined for planned data, AVL data refer to one day of service that could be greater than 24 hours. For example a trip starting at 23:30 of 1st of April and ending at 00:30 of the 2nd of April could have the last AVL data tracked at “24:30 of 1st of April”. To express this “extended time” the interface requires the use of seconds past the beginning of the operation day. In our example the DayOfService is “01/04/2014” and the extended time is “88200” (= 24*60*60 + 30*60).
- the distance is expressed in the unit of measurement according with the DMS settings. It could be “kilometers” or “miles”.
- Each table contains a field called “LastUpdate” used to detect new data availability.

9.2.1 RT_Vehicles

The following table implements the entity “**Vehicle**”.

Each record of this table represents the service of one vehicle for one day of service and tells about the overall distance and time worked by the associated vehicle in that specific day.

Column Name	PK	FK	OPT	Data Type	Planned/Actual data view reference	Description
DataSource	*	*		String(4)	PL_HEADERS.DataSource	Unique Bus Operator Code

Column Name	PK	FK	OPT	Data Type	Planned/Actual data view reference	Description
DayOfService	*			Date		Day of service.
VehicleID	*			String(6)		Unique vehicle code arriving at this stop point
Distance			*	Number		Distance travelled by the vehicle in this day
Minutes			*	Number		Time worked by the vehicle in the corresponding day
LastUpdate				Date		Time of the last record update
Note			*	String(255)		Free note

9.2.2 RT_Trips

The following table implements the entity "**Trip**".

Each record of this table contains the actual data for one trip.

If the trip is planned and achieved, the record will contain both the planned and actual data. If the tripped is planned and suppressed the record will contain only the planned data and the flag "Suppressed" will be checked.

If the trips is partially suppressed the flag "Suppressed" will not be checked. The set of the leave times suppressed is detailed in table RT_LeaveTimes (9.2.3).

Each record could be referred to a fault event by using the field "JustificationID".

Column Name	PK	FK	OPT	Data Type	Planned/Actual data view reference	Description
DataSource	*	*		String(4)	PL_HEADERS.DataSource	Unique Bus Operator Code
DayOfService	*			Date		Day of service. One day of service could last more than 24 hours
TripID	*	*		String(30)	PL_TRIPS.TripID	Unique trip code
LineID		*	*	String(10)	PL_LINES.LineID	Unique line code
RouteID		*	*	String(20)	PL_ROUTES.RouteID	Unique route code
Direction			*	String(2)	PL_ROUTES.RouteDir	Route direction: IB = inbound / going / northbound / eastbound OB = outbound / back / southbound / westbound
PlannedTime_Dep			*	Number		Planned departure time of the trip, in seconds
PlannedTime_Arr			*	Number		Planned arrival time of the trip, in seconds
Basin			*	String(20)		Basin code
TenderLot			*	String(30)		Tender lot
ActualTime_Dep			*	Number		Actual departure time of the trip, in seconds
ActualTime_Arr			*	Number		Actual arrival time of the trip, in seconds

Column Name	PK	FK	OPT	Data Type	Planned/Actual data view reference	Description
Suppressed			*	Number		The whole trip has been suppressed (0 =achieved, 1 = suppressed)
JustificationID		*	*	Number	RT_Justification.Justification ID	Fault code
LastUpdate				Date		Time of the last record update
Note			*	String(255)		Free note

9.2.3 RT_LeaveTimes

The following table models the entity "**Leave Time**".

Each record of this table contains the actual data for one leave time of one vehicle at one stop point of the route.

If the leave time is planned and achieved, the record will contain both the planned and actual data. If the leave time is planned and suppressed, the record will contain only the planned data and the flag "Suppressed" will be checked.

Each record could be referred to a fault event by using the field "JustificationID".

Column Name	PK	FK	OPT	Data Type	Planned/Actual data view reference	Description
DataSource	*	*		String(4)	PL_HEADERS.DataSource	Unique Bus Operator Code
DayOfService	*			Date		Day of service. One day of service could last more than 24 hours
TripID	*	*		String(30)	RT_TRIPS.TripID PL_TRIPS.TripID	Unique trip code
ProgrNumber	*			Number	PL_TIMEPOINTS.Number	Sequential position of the stop point in the trip
StopPointID		*		String(16)	PL_STOPPOINTS.PointID	Unique stop point code
PlannedTime_Arr			*	Number	PL_TIMEPOINTS.Arrival	Planned arrival time at the stop point, in seconds
PlannedTime_Dep			*	Number	PL_TIMEPOINTS.Departure	Planned departure time from the stop point, in seconds
ActualTime_Arr			*	Number		Actual arrival time at the stop point, in seconds
ActualTime_Dep			*	Number		Actual departure time from the stop point, in seconds
VehicleID		*	*	String(6)	RT_Vehicle.VehicleID	Unique vehicle code arriving at this stop point
Passengers			*	Number		Number of passengers on board (previous link)
PassengersIn			*	Number		Number of boarded passengers
PassengersOut			*	Number		Number of descended passengers
Distance			*	Number		Distance measured from the beginning of the trip
Suppressed			*	Number		When the trip is partially suppressed it says that the previous link is suppressed (0 =achieved, 1 = suppressed)

Column Name	PK	FK	OPT	Data Type	Planned/Actual data view reference	Description
JustificationID		*	*	Number	RT_Justification.JustificationID	Fault code
LastUpdate				Date		Time of the last record update
Note			*	String(255)		Free note

9.2.4 RT_RawData

The following table implements the entity "**Tracking Raw Data**".
Each record of this table contains the tracking data for one vehicle.
Records contain coordinates and times associated to each tracked position.

Column Name	PK	FK	OPT	Data Type	Planned/Actual data view reference	Description
DataSource	*	*		String(4)	PL_HEADERS.DataSource	Unique Bus Operator Code
DayOfService	*			Date		Day of service. One day of service could last more than 24 hours
VehicleID	*	*		String(6)	RT_Vehicle.VehicleID	Unique vehicle code
TimePos	*			Date		Time of the tracking
PosX				Number		Longitude
PosY				Number		Latitude
Odometer			*	Number		Odometer of the vehicle
TripID			*	String(30)	RT_TRIPS.TripID	Unique trip code
TripOdometer			*	Number		Odometer for the trip
PassengersIn			*	Number		Number of boarded passengers
PassengersOut			*	Number		Number of descended passengers

9.2.5 RT_Justifications

The following table implements the entity "**Justification**".
Each record of this table contains a variation between Actual and Planned data.

Column Name	PK	FK	OPT	Data Type	Planned/Actual data view reference	Description
DataSource	*	*		String(4)	PL_HEADERS.DataSource	Unique Bus Operator Code
JustificationID	*			Number		Unique Variation Code