

UK Public Transport Information Profile

Representing Dead Runs in TxC-PTI

v1.0 22 November 2024

All buses must travel between their garage location, where they are stored and maintained, and the beginning and endpoints of public service. This journey is made without passengers and often shown as 'Not in Service' on the front of the vehicle. These 'journeys' are called dead runs. Some vehicles will also have dead runs to re-position themselves between public journeys where the start point of the next journey is not the same location where the previous journey ended. Dead runs can also be used to indicate short working.

Dead run positioning links are primarily of use for exchanging information for AVL systems and are not needed for registration or publishing schedules.

This advice amends the contents of Section 9.7.3 of the 'TransXChange UK PTI Profile v1.1.A' document.

The profile document currently states:

9.7.3 Dead runs

Given a specific time in TxC, and with a structure comprised of link run times, a system will calculate a call time at any given point by adding all of the run times and wait times together and using the result as an offset from the departure time. There is no expectation that a system will have to subtract anything. On this basis, for the avoidance of doubt, TxC-PTI defines the **DepartureTime** of a **VehicleJourney** as either:

- a) the departure time from the first stop on the **VehicleJourney**, where there is no **StartDeadRun**; or
- b) the departure time of the **StartDeadRun**, where there is a **StartDeadRun**.

This implies that **DepartureTime** would be the time that the vehicle leaves the origin point of the **StartDeadRun**.

This is contrary to the TransXChange schema which expects that the **DepartureTime** is the time of departure from origin stop of the **VehicleJourney**.

The revised paragraph 9.7.3 reads:

9.7.3 Dead runs

Given a specific time in TXC, and with a structure comprised of link run times, a system will calculate a call time at any given point by adding all of the run times and wait times together and using the result as an offset from the departure time. On this basis, for the avoidance of doubt, TXC-PTI defines the **DepartureTime** of a **VehicleJourney** as the departure time from the first stop on the **VehicleJourney** whether there is a **StartDeadRun** or not.

An example of a dead run, with one **PositioningLink** in TransXChange is:

```
...
<VehicleJourneyCode>VJ1219</VehicleJourneyCode>
<ServiceRef>PB0001747:52</ServiceRef>
<LineRef>FYOR:PB0001747:52:200</LineRef>
<JourneyPatternRef>JP1</JourneyPatternRef>
<StartDeadRun id="VJDR1">
  <PositioningLink id="VJPL1">
    <RunTime>PT13M0S</RunTime>
    <From>
      <GarageRef>YO</GarageRef>
    </From>
    <To>
      <StopPointRef>3290YYA00044</StopPointRef>
    </To>
  </PositioningLink>
</StartDeadRun>
<DepartureTime>04:30:00</DepartureTime>
<VehicleJourneyTimingLink id="VJTLL1">
...
</VehicleJourneyTimingLink>
....
```

In this case, the vehicle leaves the depot with reference YO and drives to stop 3290YYA00044 taking 13 minutes. It departs the first stop 3290YYA00044 at 04:30.

The vehicle departure from the depot can be calculated to be 04:17.

This requires a system consuming the data which uses dead run information to be able to subtract one or more **PositioningLink** run times from the **DepartureTime**.