

# Increasing resilience ahead of DLR trains end of life

Tom Page, October 2023

## **Summary**

The DLR operates with two fleets of trains – the B92 trains (average entry into service 1993), the B07 fleet (entered service ~2009) – and will soon be using the B23 trains (the first of which are due in service at the end of March 2024). **We propose to shorten trains on one route to build contingency in keeping our oldest fleet going until the new trains are ready. We've picked the lowest impact way of doing this.**

The B92 fleet are life expired and their replacement by the B23 fleet is a critical part of the business case for the new trains. We are approaching a point with the B92 fleet where many vehicles reach a kilometrage cap beyond which the trains cannot run. Shortening trains on one route saves km now which reduces the chance we need to enact sudden service reductions in early 2024, should there be delays to the programme.

## **Why is there a cap?**

The safety case for the train depends on them being maintained in accordance with the mandated maintenance regime. On the B92s many trains are coming up to their next major heavy maintenance overhaul (known as either H or I exams). We have already undertaken condition-based assessments to stretch out the period between exams, but this will soon be met.

## **How did we get here?**

- When the DLR contract was extended for four years to run to 2025 (the extension was agreed in late 2019) the programme for the delivery of the new trains was at an earlier stage. We instructed KAD to remove the H&I exams beyond 2022 on the basis that this was unnecessary work and we would have new trains to replace the B92s by this point. We have subsequently re-inserted these H&I exams this year to try and keep as many B92s going as possible.
- Doing the exams take up depot space which
  - Is in shorter supply because the trains are life expired, fail more and need more casualty maintenance
  - Is needed to do equivalent, but earlier in lifecycle, exams on the B07 fleet (which we'll keep running for ~15 more years)
  - Is needed to assemble and service the new trains until the new depot is available
- This means we don't have the depot space to do more exams on B92 trains in 2023/24 (and doing so would get in the way of accepting B23s which is our path out of this issue)
- The post Covid timetables we implemented in Sept 2022 and May 2023 have brought substantial additional revenue (at P6 DLR was 26% of the total upside in TfL fare revenue, but accounts for about 3% of all TfL PT journeys), but it also pushes the trains harder.

## **What's the deadline?**

Many B92 vehicles are currently on restricted mileage to eke out extra calendar time before they are unable to operate. With this we will have two trains no longer able to run in March 2024 and another five (so seven in total) by April. The first new train is due in service by the end of March 2024 (each new train is the equivalent of three B92 vehicles). This gives us little margin of error.

## What's the proposal?

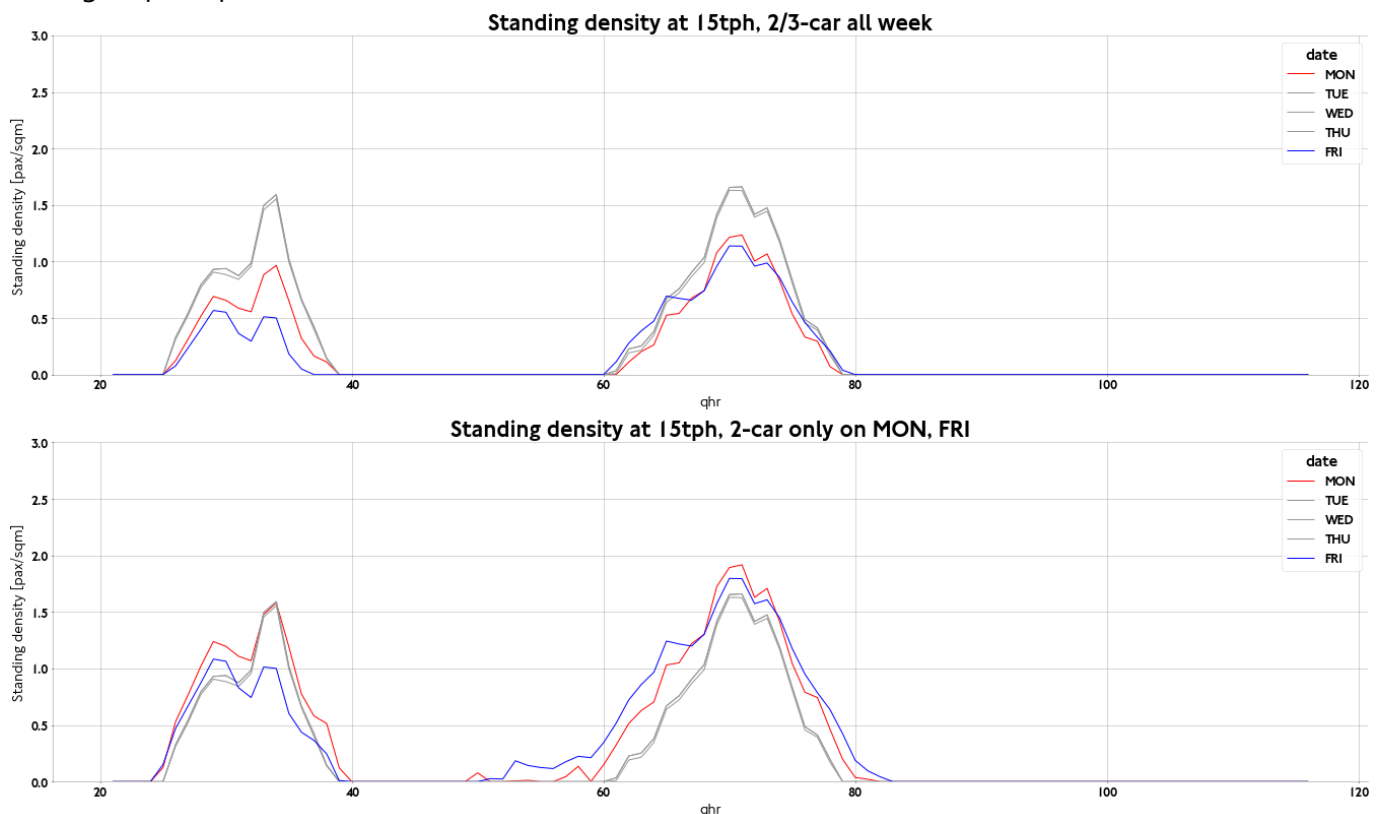
We want to find enough kilometrage reduction to get an extra ten or so vehicle-months (so that could be one vehicle lasting ten months extra or two lasting five months extra etc). Working with PTSP we have looked for ways to do this that minimise customer disbenefit, protect revenue, are operationally easier (and therefore don't compound the problems above) and can be easily reversed.

Our favoured option is to change trains on the Woolwich-Stratford International branch from three cars to two cars **on Monday and Friday only**. This means no frequency reduction and so is easy to implement; services are already run as two car at the weekend on this branch so no extra depot activity is required.

We've picked this because:

- We know demand is lower on Mondays and Fridays (See graph below)
- We wouldn't start this change until 15 December (and stop it once we have a steady beat rate of new-train acceptance) thus avoiding the busiest time of year: the pre-Christmas run up
- We think this is the lowest disbenefit option that buys us extra time, and by keeping frequency the same the least likely to reduce revenue.
- It's simple to implement and doesn't require new timetables
- We can revert it quickly if needed

The graph below shows forecast crowding on the **busiest link** of the Woolwich-Stratford International branch (between West Silvertown and Canning Town) for (top) today's crowding by day of week and (bottom) if we make this change. While the number of people standing will increase, it remains below two passengers per square metre at all times.



We would also, as part of the standard lower timetable offered over the Christmas week, run a timetable designed to optimise our use of B92 vehicles.