



Frontage of Liverpool Lime Street railway station, author calflifer001, licensed under the [Creative Commons Attribution-Share Alike 2.0 Generic](https://creativecommons.org/licenses/by-sa/2.0/) license.

Background:

Liverpool Lime Street is Liverpool's principal main line station, and is the oldest still-operating grand terminus mainline station in the world. It was the second Liverpool terminus of the Liverpool and Manchester Railway, which was opened in 1830 after Stephenson's 'Rocket' won the famous Rainhill Trials and subsequently worked the line with its sister locomotives. Having realised that their existing Crown Street railway station was too far away from the city centre, the Liverpool and Manchester Railway commenced construction of the more central Lime Street station in October 1833. Designed by John Cunningham, Arthur Holme and John Foster Jr, it was officially opened in August 1836. Proving to be very popular with train commuters, expansion of the station had become necessary within six years of its opening. The first expansion, which was collaboratively produced by Joseph Locke, Richard Turner, William Fairbairn and John Kennedy, was completed in 1849 at a total cost of £15,000 (equivalent to £1,970,000 in 2023).^[3] During 1867, work upon a further expansion of Lime Street station commenced, during which time the present northern arched train shed was built. Designed by William Baker and Francis Stevenson, the train shed was the largest such structure in the world upon completion, featuring a span of 200 feet (61 m), as well as the first to make extensive use of iron. During 1879, a second parallel southern train shed was completed. [extracted from [Wikipedia](https://en.wikipedia.org/wiki/Liverpool_Lime_Street_railway_station)]

Simulation:

The simulation incorporates ground level services from the station from 6:00am until 4:00pm on a typical weekday of the 2024 winter timetable. Underground services are incorporated in mathstrains19's Merseyrail simulation at <https://www.railwayoperationsimulator.com/catalog/community-projects/united-kingdom/merseyrail>

There are four routes out from the station:

1. East then north to Wigan and the West Coast Main Line (WCML) to the north of England and Scotland.
2. East to Manchester via St Helens Junction (the original route of the Liverpool and Manchester Railway).
3. South East to Manchester via Widnes and Warrington.
4. East then south via Runcorn to the WCML south to London.

Operational notes:

Lime St. is very busy. Wigan and St Helens Junction routes mainly use platforms 1 to 5, whereas Warrington and Runcorn routes use platforms 6 to 10, so trains using these two sets of platforms can normally arrive and depart without

obstructing each other. However there are a few exceptions so it's wise to check each arriving train's platform and each departing train's destination before setting routes.

The simulation can be run mainly at 1x speed, with some periods at 0.5x when traffic is very busy. 2x speed can sometimes be used for relatively short periods.

At the start be aware that 5P15 from Edge Hill Depot to Lime St. arrives in platform 3 so allow 5F50 to clear the junction before setting the route into the platform.

When two or more arriving trains are heading for the same set of platforms it's wise to check arrival times to avoid a later arrival holding up an earlier arrival.

When setting routes into Lime St. it's wise to compare arrival times with departure times for trains that already occupy the arrival platform or one of the same set of platforms (1 to 5 or 6 to 10) so that movements occur in the correct order to avoid blockages. Trains usually have arrival times that allow them to be held outside the station for a few minutes to await clearance of platforms.

At Edge Hill trains departing from Lime St. platforms 1 to 5 normally use platform 1 and those departing from platforms 6 to 10 normally use platform 3. Trains arriving at Lime St. platforms 1 to 5 normally use platform 2 and those arriving at platforms 6 to 10 normally use platform 4. Again there are a few exceptions so it's wise to check in case trains need to cross the tracks either east or west of Edge Hill.

At Roby and Huyton outbound trains use platforms 3 and 4 and inbound trains platforms 1 and 2. Trains to Wigan must use platform 4 at each station but trains to St Helens Jn. can use either, though platform 3 is normally used. Inbound trains from Wigan must use platform 2 and trains from St Helens Jn must use platform 1.

Between Liverpool South Parkway (LSP) and Runcorn most of the trains use the fast lines. Trains running towards Liverpool from Warrington have LSP arrival times that allow them to be held outside LSP until trains from Runcorn have left. The few exceptions that don't use platforms 1 & 2 at LSP have descriptions that show which LSP platform should be used, e.g. (LSP p4) or (LSP p3).

Special care is advised for service 0K57, which is a light engine test run that arrives in Lime St. platform 6 at 07:32. Arrival is straightforward but when departing it stops at Ditton East Jn for at least 11 minutes, so to avoid severe delays for following services it should use the slow line towards Ditton, and stop at the junction diagonally before signal 52-43. Service 1F44 from Birmingham should cross to the slow line (bottom track) then back up before LSP to platform 2. 1F92 from Chester doesn't depart Runcorn until 08:11 allowing 0K57 to depart the junction at 08:06 and cross over to the up fast line to exit at 08:13.

With so many trains being held outside Lime St. call-ons are often offered to platforms that are inappropriate, so they should be ignored.

It is wise to reset diverging points (switches) after trains have crossed tracks to avoid routes being set for later trains that use inappropriate tracks and delay following trains.

Enjoy!!

Acknowledgements:

- [TRAKSY.UK](https://www.traksy.uk)
- [RealTimeTrains](https://www.realtimetrains.co.uk)
- [Open Train Times](https://www.opentraintimes.co.uk)
- [OpenRailwayMap](https://www.openrailwaymap.org)
- [Network Rail North Western \(North\) Sectional Appendix](#)
