

Appendix G: Route level crossing risk assessment

Overview concerning 4L73HA:

4L73HA MO 12:08 DONCASTER EPT (F'LINERS) – LONDON GATEWAY FRGHTLINER 19:01
 4L73HA MSX 11:18 TINSLEY INTERMODAL TERM – LONDON GATEWAY FRGHTLINER 19:01

Following a thorough assessment, Network Rail Anglia Route's Public and Passenger Health and Safety Management Team has rejected the proposal for the additional 4L73HA (MO and MSX) train paths due to significant concerns regarding level crossing safety at multiple locations. The key reasons for this decision are excessive barrier downtime, a high history of incidents, and the increased risks associated with adding more train services to the network. Our assessment aligns with NR/L/XNG/100 (Provision and Risk Management of Level Crossings) and the timetable change risk assessment framework outlined in NR/L2/OPS/031.

Key considerations:

1. **Increases in train frequency drive risk** – Additional services lead to extended barrier downtime, increasing the likelihood of misuse and incidents.
2. **Risk mitigation obligations** – Where risk increases, action must be taken to counteract it. Where no risk change occurs, opportunities to reduce risk should be prioritised.
3. **Legal and regulatory compliance** – The Level Crossings Act 1983 mandates consideration of user convenience alongside safety, and the Level Crossing Order requires active monitoring and minimisation of barrier downtime.

Detailed site assessments and decisions concerning the passage of 4L73HA:

1) Windmill Lane (CCTV Crossing), near Cheshunt – Access Proposal rejected

- **Passage:** 4L73HA passes Cheshunt at 16:35.
- **Traffic Volume:** 906 vehicles per day (50% each direction) 2020 & 777 per day in June 2024 (again with around 50% split)
- **Barrier Downtime:** Weekday Average the barriers are down for 45.2 minutes per hour; this peaks at 57.6 minutes during 18:30-19:30 from the study in January 2020. The second data taken from March 2025 shows the weekday average the barriers are down for 44.6 minutes per hour; this peaks at 51.6 minutes during 17:00-18:00. This has been calculated using the signalling system, so is an accurate calculation of what trains actually ran and the barrier downtime for the specific dates of 18th Jan 2020 to 26th Jan 2020 and 2nd Mar to 29 Mar 2025.
- **Incident History:** 72 reported incidents since 2019, including 7 near misses. Regular occurrences of pedestrians and vehicles jumping barriers.
- **Risk Factors:** Additional freight services would further extend barrier downtime, exacerbating misuse, vandalism, and signaller workload.
- **Decision: Rejected** – Barrier downtime is already excessive, and further increasing road closures is not feasible and would put Network Rail at risk of a legal challenge due to our legal regulatory requirements as set out in the Highways Act and the Level Crossing Order which sets out the operator shall periodically monitor the duration of closures of the crossing to road traffic and shall take action to ensure that the closure times are minimised effectively. If the ORR deemed us to be keeping the barriers closed for excessive periods of the time we would face an enforcement notice which we would need to find a solution for which would likely be building a road bridge at significantly disproportionate sums of money.

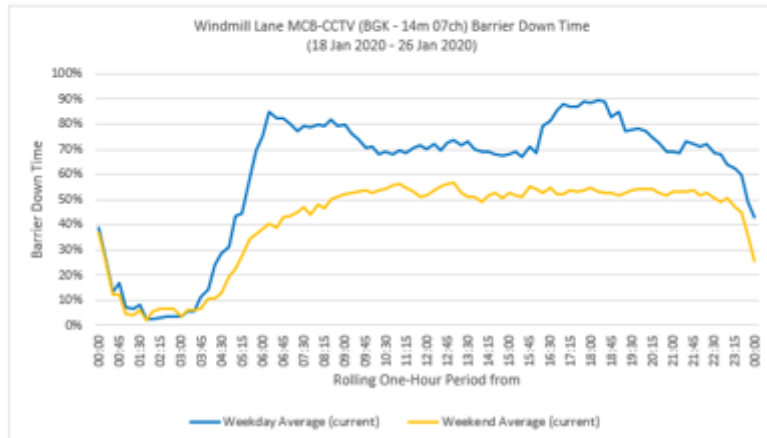
Barrier downtime report undertaken in January 2020

4. Barrier Down Time Results

4a. Overall Barrier Down Time (BDT)

	All Day Average		7am - 11pm Average	
Overall	55.3%	33.2 mins/hr	68.7%	41.2 mins/hr
Weekday	60.8%	36.5 mins/hr	75.3%	45.2 mins/hr
Weekend	41.8%	25.1 mins/hr	52.3%	31.4 mins/hr

	From	To	On:	Wednesday
Hour with Longest BDT identified	18:30	19:30	96.1%	57.6 mins/hr



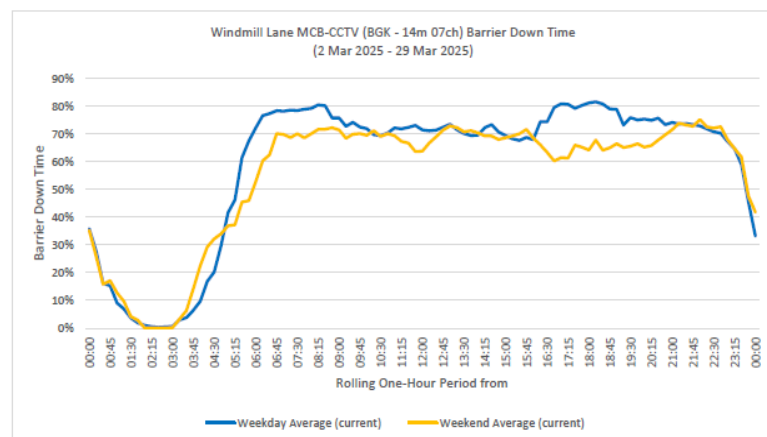
Barrier downtime report undertaken in March 2025

4. Barrier Down Time Results

4a. Overall Barrier Down Time (BDT)

	All Day Average		7am - 11pm Average	
Overall	58.3%	35.0 mins/hr	72.7%	43.6 mins/hr
Weekday	59.5%	35.7 mins/hr	74.4%	44.6 mins/hr
Weekend	55.3%	33.2 mins/hr	68.5%	41.1 mins/hr

	From	To	On:	Thursday
Hour with Longest BDT identified	17:00	18:00	86.0%	51.6 mins/hr



2) Wharf Road (AHB Crossing), near Broxbourne – Access Proposal rejected

- **Passage:** 4L73HA passes Broxbourne at 16:27.
- **Fatalities:** 4 since 2012 (2 accidental).
- **Incident History:** 17 reported since 2019, including frequent barrier weaving by pedestrians, cyclists, and vehicles.
- **Security Measures:** 18-hour daily security presence due to high-risk user behaviour.
- **Risk Factors:** Additional trains would extend barrier downtime, increasing misuse. Plans are in place for a full barrier upgrade in CP7, which would be complicated by additional train paths, as the upgrade will make the crossing a full barrier crossing and make the downtime comparable to Windmill Lane.
- **Decision: Rejected** – The high incident rate indicates that existing security measures are not sufficiently mitigating the risk, as repeated incidents continue to occur. This is primarily due to the limitations on what security personnel can do. Their role is to provide education and a visible presence to encourage good behaviours, but they are neither authorised nor expected to physically restrain individuals or put themselves in harm's way. We are taking all reasonable steps to minimise the current risk.

3) Waterbeach (AHB at Station), near Cambridge – Access Proposal rejected

- **Passage:** 4L73HA passes Waterbeach at 15:17.
- **High-Risk Status:** Staggered platforms, the crossing has been on both Networks Rail and the ORR's list of concerned crossings for many years.
- **Incident History:** Repeated near misses and misuse.
- **Risk Factors:** Half-barrier design allows easy vehicle and pedestrian access around barriers. Non-stopping trains pose the highest risk factor as they are running at line speed and people believe it may be the train they are trying to catch.
- **Decision: Rejected** – The Waterbeach AHB crossing at Waterbeach station requires a full upgrade to a Full Barrier Crossing, making additional services unsafe. This upgrade is scheduled as part of the Cambridge resignalling project in the coming years. If trains were planned to run outside peak hours, additional services might be acceptable, but each case would need to be assessed individually at the appropriate time.

Conclusion concerning the passage of 4L73HA:

Based on the evidence presented, including significant safety concerns, a history of incidents, and excessive barrier downtimes at the identified crossings, we cannot approve additional train paths at this time. Proceeding with extra services would introduce unacceptable risks and conflict with our safety and regulatory obligations.

At **Windmill Lane**, the proposed train service at circa 16:35 falls within the critical evening peak period on weekdays, when the barriers are down most and down for 75% of the time between 18:30 and 19:30 on weekdays. Additionally, the **West Anglia Main Line** is an exceptionally busy corridor, carrying approximately 400 trains per day, as confirmed by the TCRAG incremental change data.

At **Wharf Road**, the level crossing has a high-risk profile, with four fatalities since 2012 and frequent misuse by pedestrians, cyclists, and vehicles. Despite an 18-hour security presence, incidents continue to occur. The planned full barrier upgrade in CP7 will significantly alter crossing operation times, further complicating the introduction of additional train services. Increasing train frequency now

would escalate risks and undermine existing mitigation efforts. Given these factors, additional train paths cannot be accommodated without compromising safety and regulatory compliance.

Public and Passenger Health and Safety Manager
Network Rail Anglia Route