

EAST COAST MAIN LINE ACCESS OVERSIGHT BOARD

ECML Access Oversight Board – to endorse	
Title	Kings Cross Partial Closure - Recommendation Summary
Sponsor	Ed Akers
ECML PB Ref	Kings Cross Re-Modelling - EC001
Meeting date	23rd July 2020

1. Options Summary

The table below shows a summary status of the 2 options. **Please note that the RAG status is not to show ease of delivery of each workstream, but to show the two options when compared to each other.**

Workstream	Option 1	Option 0	Comments
Project Delivery			Option 1 gives a much simpler critical path and removes the need for P0 design and enabling works
Timetable Development			Option 1 reduces the number of timetable changes required, notably aligning KX completely to the Dec & May TT changes. Option 1 also doesn't affect the Sept uplift TT.
Access & ROU			Restriction of use shorter for Platform 0 in Option 1.
Passenger Handling (assuming no social distancing)			Option 0 allows for greater capacity in the key commuter markets, particularly the Cambridge route. Option 1 is considered manageable with a strong communications and handling campaign.
Training			Reduced driver training required as Platform 0 no used in stage 2
Recommendation			Whilst inferior on passenger handling, the forecast demand still makes Option 1 viable. Significant easing in project delivery and timetable development make this a more deliverable option and is therefore recommended by NR.

Network Rail is endorsing both Option 1 and Option 0 as viable options that could be delivered for a February '21 start, **however its recommendation is Option 1**, for the following reasons;

- Option 1 significantly reduces the timetable development work required, easing the burden on timetable planners and allowing more time for 'downstream' activities.
- Option 1 makes project delivery easier, with less design and staged enabling works required before the partial closure and makes stage 2 less complex as no island working would be required.
- Whilst Option 1 trades off capacity for ease of timetable development and project delivery, with forecast demand of 85%, it is still considered a still viable passenger plan, but will need a strong and targeted communications campaign

2. Recommendations

Based on the options papers and the summary conclusions, the Access Oversight Board is asked to:

- **endorse** the proposal for delivering the KXR partial closure, starting in February '21 using the **Option 1** delivery strategy, specifically;
 - **endorse** the approach to timetable development and the immediate reconvening of the timetable subgroup
 - **endorse** the proposed access footprint proposed by Network Rail and;
 - **give direction** on accepting non-compliances to the national conflict principals to allow Network Rail to move forward in resolving conflicts that remain
 - **endorse** to the proposed partial closure dates
 - **endorse** the passenger handling recommendations
 - **confirm support** for the approach to driver training.
 - **endorse** the cross route, cross operator contingency plan proposal

EAST COAST MAIN LINE ACCESS OVERSIGHT BOARD

ECML Access Oversight - to Endorse	
Title	Kings Cross Partial Closure - Option 1 Feb '20 Start
Sponsor	Ed Akers
ECML PB Ref	Kings Cross Re-Modelling - EC001
Meeting date	23rd July 2020

1. Executive Summary

KXR partial closure was planned to take place between December '20 and March '21 but was deferred in April 2020 due to the impact Covid-19 had on the rail industry's ability to create and deliver a robust timetable and passenger plan.

In April and early May, whilst the long-term impacts of COVID-19 were being better understood, work was undertaken on a new delivery strategy, which would deliver a better passenger plan for Pre-COVID demand levels. This strategy (3-way split) was formally chosen at option selection and endorsed as the new baseline by AOB and instructed to the project in May 2021.

With passenger demand not forecast to return to Pre-COVID levels for some considerable time, Network Rail has revisited the option of delivering the KXR partial closure in late 2019 or early 2020, taking advantage of forecasted lower numbers of passengers. An earlier delivery option would save between £20-30m of additional project costs and would be a key enabler for protecting the December '21 timetable as the benefit release point for the ECML Programme.

In June AOB considered an option to undertake a partial closure (not Option 0) starting in October '20, but this was unanimously rejected. Network Rail is presenting an option to start the partial closure in February '21, using two different strategies to deliver the work. This paper looks at the Option known as Option 1.

2. Recommendations

The paper sets out in details the Network Rail proposal for Option 1. Network Rail recommends this option to the AOB as its preferred option. The Access Oversight Board is therefore asked to:

- **endorse** the proposal for delivering the KXR partial closure, starting in February '21 using the Option 1 delivery strategy, specifically;
 - **endorse** the approach to timetable development and the immediate reconvening of the timetable subgroup
 - **endorse** the proposed access footprint proposed by Network Rail and;
 - **give direction** on accepting non-compliances to the national conflict principals to allow Network Rail to move forward in resolving conflicts that remain
 - **endorse** to the proposed partial closure dates

- **confirm support** for passenger handling recommendations
- **confirm support** for the approach to driver training.
- **endorse** the cross route, cross operator contingency plan proposal

3. Network Rail Proposal

Network Rail is proposing to undertake the KXR partial closure from February '21 (Week 48) through to May '21 (Week 10). It will be delivered using the 'Option 1' approach (stage 2 of which is shown in figure 1), meaning that the project will deliver platforms 0-6 in stage 2 and then platforms 7-11 in stage 4.

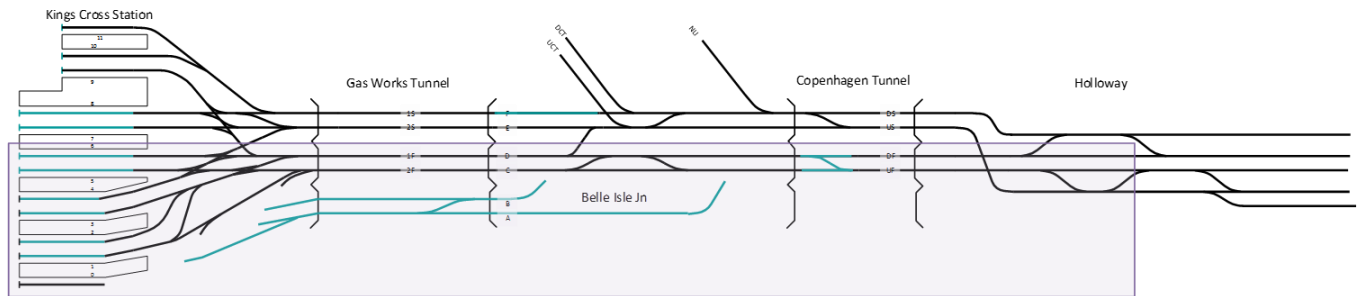


Figure 1 - Possession footprint during stage 2

This option is simpler than Option 0 and will mean less design change is required and will simplify the critical path of enabling works and physical site delivery, not least removing the need for island working during the peak hours.

The detailed footprint of the partial closure is shown in figure 2 below;

	Stage 1B	Stage 2	Stage 3	Stage 4	Stage 5
Dates	27 th Feb 00:01 – 1 st Mar 04:00	1 st Mar 04:00 – 22 nd April 23:59	23 rd April 00:01 – 26 th April 04:00	26 th April 04:00 – 4 th June 23:59	5 th June 00:01 – 7 th June 04:00
Access Footprint	All Lines Blocked (inc. Canal Jnc) to Holloway 27 th Feb – 1 st Mar	Fast Lines Blocked to Holloway Pl.0-6 blocked throughout	All Lines Blocked to Oakleigh Park and Fringes (Canal Jnc. open for first 24h)	Slow Lines Blocked (Canal Jnc open) Pl. 7-11 blocked <i>WE05 54h poss extends to include Canals *</i> WE08 10h ALB inc. Canals WE09 12h ALB inc. Canals <i>* Explore bringing this forward to Stage 1 or 2.</i>	All Lines Blocked (inc. Canal Jnc) to Holloway
Platforms Open	None	7, 8, 9, 10, 11	None	0, 1, 2, 3, 4, 5, 6	None
Proposed Duration	72h ALB	53 days	76 hours	40 days	52 hours

Figure 2 - The access footprint and sequencing required to undertake the Kings Cross partial closure between February '21 and May '21.

There are some revised base principals which successful delivery will hinge upon. These are as follows;

- Platform 0 will require de-commissioning during the Christmas '20 works and will therefore not be available during the Dec' 20 timetable through to the start of the partial closure in February. No intervention in the September uplift is required.
- Additional access prior to the partial closure will be required to enable Network Rail to undertake a signalling rehearsal (see Access Plan section) which is lost from Week 23. This is proposed to take place in Week 29.

The Network Rail Eastern Capital Delivery team have assessed this option and advise that it can be safely delivered and are working on a proposal for independent assurance through the DWWP process

4. Timetable Development

Timetable planning for the KXR partial closure will be challenging, but Option 1 allows delivery of a stable base plan for the Dec 20 and May 21 base periods, which requires reduced iteration for King's Cross access.

Option 1 gives a much reduced timetabling workload than option 0, due to the reduced number of changes required, and should allow operators more time and stability to diagram, roster and consult with unions, allowing the timetable to be publicised to passengers in more time than in option 0.

Platform 0 Summary

Although May 20 was originally written to withdraw the use of Platform 0, final diagram arrangements were not yet confirmed to make this deliverable. Planning activity will therefore be required to facilitate removal from Dec '20 onwards, with no requirement to alter the September uplift timetable. Therefore adjustments can be delivered more holistically given the removal of the GTR ASLEF constraint

Stage 2 Summary

Development work concluded in March 2020 needs comparing back to the Dec 20 TT offer that was made on 3rd July – this is in progress to confirm;

1. alignment of assumed train slots and diagrams and;
2. adjustments made to the base plan as part of December 20 validation.

Further comparison will be necessary to align with TOC plans for service levels in December 20 since D-26 publication particularly in relation to resource availability and COVID recovery.

LNER risk is in matching of paths at King's Cross with those north of Peterborough.

GTR anticipated similarity to existing WTT (less Baldock services and 1 PBO service), though a solution required for Welwyn services which were assumed to travel via core and diagramming of the Cambridge services.

Stage 4 Summary

Development work for Stage 4 has lower maturity – activity undertaken prior to March quantified available capacity over and above the Stage 2 capacity but had not yet been allocated in detailed development activity.

Lower risk to all operators on account of additional platform capacity and approach roads at King's Cross.

Timetable Development Proposal

The proposal is centred around developing timetables to support 3 bidding points;

1. **21st August 2020** (in line with May 21) for end state
2. **2nd October 2020** to develop a Stage 2 timetable after adjustment of the December 20 base - operates until May '21 timetable change
3. **20th November 2020** to develop a Stage 4 timetable following finalisation of the May 21 base

The timeline is set out in figure 3 of this document, but the summary is as follows;

Platform 0 Proposal

To facilitate the removal of Platform 0 to inform changes to the December 20 base plan up to the start of the partial closure.

Stage 2 Proposal

Development of a variation to the December 2020 timetable base to introduce a Stage 2 timetable (without Platform 0).

Network Rail timetable validation activity proposed to occur between 2nd October and offered to TOCs on 13th November (14 weeks before commencement)

No further adjustment to this timetable except for Informed Traveller activity – and runs until May 21 is introduced.

Stage 4 Proposal

Development of a variation to the May 21 timetable, propose to facilitate the Stage 4 period of operation, working 'back' from the May 21 base as opposed to 'up' from Stage 2 with timetable bids due around D-27 and returned c. 20 weeks before commencement

May '21 Proposal

Include the end-state timetable design and timetable data as part of the May 2021 timetable and establish a D-30 'no-go' point at which timetable data and schedules between King's Cross and Belle Isle can revert to current layout prior to D-26

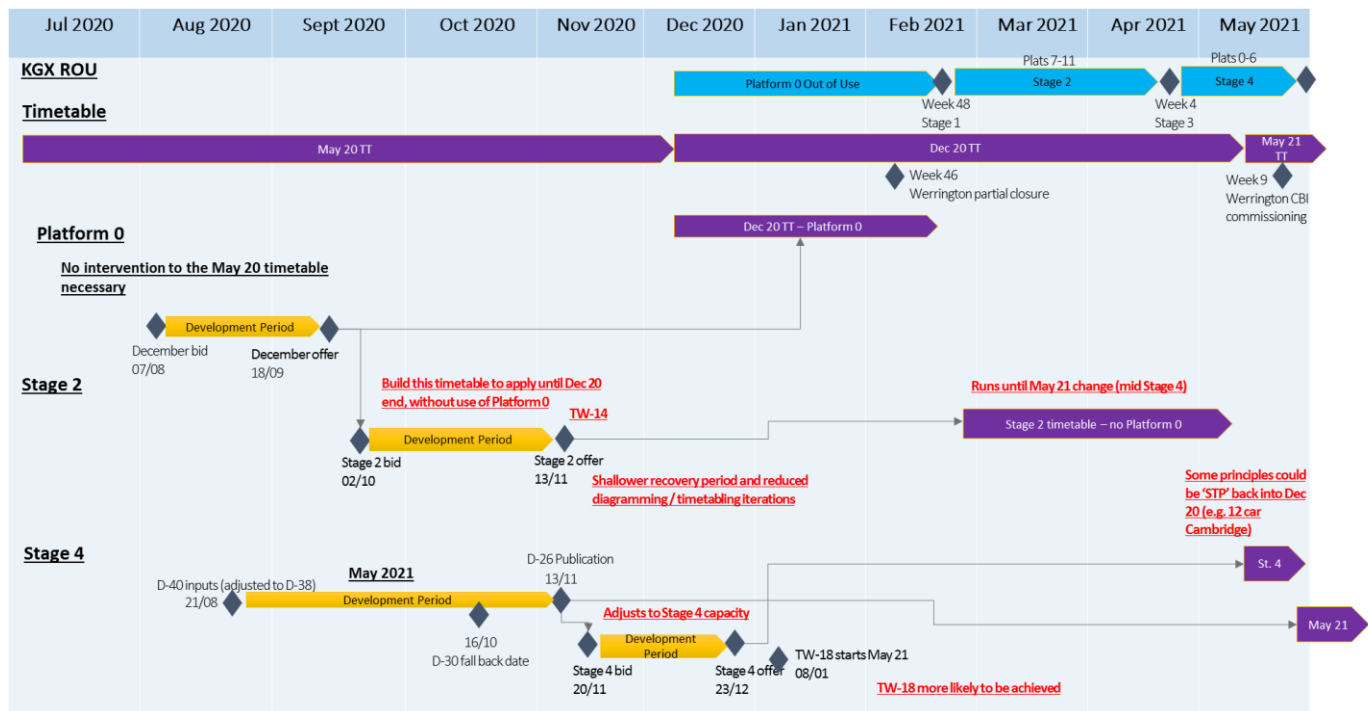


Figure 3 - Proposed option 1 timetable development timeline to enable a KXR partial closure from February to May '21

In order to deliver this timetabling development activity and achieve a stable base plan, it will be necessary to delay the delivery of the Informed Traveller amendment process for the periods covered by each stage until the relevant base plan has been completed.

Recognising the strategic importance of delivering KXR, the Network Rail System Operator has assessed the proposal as deliverable within its resource bank and easier to manage and implement compared to Option 0. An important feature of this assessment is the delay of the Informed Traveller delivery to follow each development period within the proposal, and the requirement for input dates from operators to be aligned.

AOB affected train operators are asked to endorse the approach to timetable development, recognising the downstream activities involved such as diagramming and union consultation that sits alongside the TT development process.

5. Access Plan

This section addresses both the implications on the ECML of access to deliver the project, but also the Eastern Region and national implications, of which there are clashes with Southern, North West & Central and Scotland.

Project Delivery

The major access footprint to deliver the KXR partial closure is shown in figure 4 (note those in red are new requirements from the March 2020 proposal, those in black are no change from the current plan);

Weekend Number	Access type	Primary Usage – Core scope that must be complete
WE23	54hrs All Line Block	Platform 3&5, Lighting Column removal, chamber A
WE29	54hrs All Line Block inc Canal Junction	KX9 signal rehearsal , OLE structure install
WE33	As planned – 54hr Slow Line block	5070a points, OLE install
WE34	54hr All Line Block inc Canal Junction	KX23 Loc move, OLE Portals, Belle Isle drainage De Commissioning PL. Zero [*] * Reviewing to move this to WE39 Xmas 2020
WE35	54hr As planned Slow line block	5070b points, OLE Structure install
Xmas	As planned (6d ALB, 4day Slow line)	Camden Sewer commissioning, OLE throat, OLE SPS
WE43	54hr Half station closure (most likely Fast Line)	OLE SPS install, Signal install and prep
WE44	54hr ALB inc Canal Junction	OLE SPS, Wire transfer and Slews
Partial Closure Start & Completion	Feb 21 (Wk 48) inc. 3d ALB (inc Canal Junction) at start - End June 21 (Wk 10)	As planned stages

Figure 4 - Enabling access requirements for project delivery

The access footprint during the partial closure is in section 3 of this paper.

National Implications

There are a number of clashes, both inter-regional and national with the access footprint set out above. When reviewing the implications, the principles applied to national conflict identification align with those utilised for previous major weekends on the ECML, except for removal of passenger migration between ECML and West Coast Main Line (WCML) via Settle & Carlisle, and TransPennine Main Line. The most important principles learned are:

- Retention of an Anglo-Scottish route (at least 2tph)
- Journey opportunity between ECML stations Doncaster northwards and the Midland Main Line (MML)
- Migration of passengers between ECML and MML in the St Neots/Bedford area
- Migration of passengers between ECML and MML in the Potters Bar/Luton area
- Maintaining access to sufficient locations for services to start/terminate short of destination

Figure 5 below shows the impact of the KXR access footprint in line with the principals stated;

		Additional ALB	Additional ALB	Stage 1	Stage 3	Stage 5
Route		Week 29	Week 44	Week 48	Week 4	Week 10
West Coast Main Line	Blocked	No restrictions	16 hour Sunday: Ledburn / Hanslope Slow lines	30 hour Sunday: Stoke/Stone	All day Saturday/Sunday Denbigh Hall to Watford Fasts	42 hour Carlisle to Carstairs area
	Impact		Trains over fast lines.	Manchester services via Crewe	Saturday lunch / all day Sunday: Carstairs area	No route between Carlisle and Glasgow
Scotland WCML	Blocked	No restrictions	No restrictions	Cyclical Sunday morning and midweek night HO	No restrictions	No restrictions
	Impact			No route Cambridge/London midweek night		
West Anglia Main Line	Blocked	No restrictions	No restrictions	No restrictions	8hr Cyclical Sunday morning.	8hr Cyclical Sunday morning. Note, route required via GEM/LL/Incline for Freight as a result of access between Peterborough and Ipswich.
	Impact				Review possession times	Review possession times. Confirm freight routing.
King's Lynn / Cambridge / Hitchin	Blocked	No restrictions	No restrictions	No restrictions	Saturday / Sunday: Derby to Clay Cross	All day Sunday Cricklewood South to Radlett Fasts
	Impact				St Pancras LL to Kentish Town All/Slows	Until 1200 Sunday Harpenden to Leagrave fast lines
Midland Main Line	Blocked	Until 1200 Sunday Harpenden to Leagrave fast lines	All day Sunday: Loughborough North to Trent South slow lines	All day Sunday: Syston/Ratcliffe fast lines	11ph Sheffield likely to start/terminate Derby. Sunday GTR into St Pancras HL preventing EMR strengthening	Restricted capability to strengthen EMR services on Sunday
	Impact	Restricted capability to strengthen EMR prior to 1200 Sunday	Restriction in capacity, but little or no impact on service strengthening.	Leagrave/Fitwick slow lines		
South East	Blocked	Saturday / Sunday Three Bridges to Brighton	Saturday / Sunday Gatwick area fasts	Saturday Wimbledon Loop Sunday Herne Hill	Sunday only core blocked Loughborough Jn to St Pancras LL	Sunday only Victoria area closure
	Impact	Access to Three Bridges depot/sidings maintained	Trains over slows. Access maintained to Three Bridges.	S/T Sutton or Herne Hill on Saturday. Sunday GTR to St Pancras HL preventing EMR strengthening	Trains start/terminate London Bridge	Southern trains diverted to London Bridge on Sunday
Scotland ECML	Blocked	All day Saturday: ECML North	No restrictions	No restrictions	No restrictions	No restrictions
	Impact	Tyne Valley diversions				
Events				League Cup Final	London Marathon	

Figure 5 - National Planning Implications

Week 29

- Route between Three Bridges and Brighton is affected, but access to Three Bridges is maintained. This has been highlighted as a preferred week by GTR
- Closures of the ECML North between Newcastle and Edinburgh prevent a direct route for ECML Anglo-Scottish traffic on Saturday. Passengers able to migrate to WCML, LNER divert 1 train per hour via Tyne Valley
- Cross country route (York/Birmingham) and TransPennine route (York/Manchester) open
- 'Standard access' on MML until 1200 Sunday – strengthening of EMR possible post 1200.

Week 44

- Gatwick area restricted capacity, through access to Three Bridges is maintained.
- No conflicts on North/South routes (ECML/WCML)
- Cross country route (York/Birmingham) and TransPennine route (York/Manchester) open
- Leicester to Nottingham two track railway on Sunday, no prevention of strengthening EMR (which is extension of Corby services), which can be achieved post 1200 Sunday.

Week 48

- Sunday morning access in the Cambridge area will affect Sunday morning start up of service with GTR
- Closure of Herne Hill on Sunday requires diversion of GTR to St Pancras High Level (1 platform) which prevents EMR from strengthening. This replicates recent Week 12. (note, lack of strengthening leaves Sunday two track south of Bedford as viable)
- No conflicts on North/South routes (ECML/WCML)
- Cross country route (York/Birmingham) is subject to Lichfield diversions, and TransPennine route (York/Manchester) open

Week 4 – London Marathon

- Disruption on the WCML North of Carlisle leaves no direct Anglo-Scottish route. Also presents no route for Sleeper services on Sunday night.

- Core blocked on Sunday; no issues 'south' but requires diversion of GTR to St Pancras High Level (1 platform) preventing EMR from strengthening as per Week 48.
- MML Amber Valley blocked, capacity maintained via Erewash – Saturday EMR Sheffield services (usually 2tph) may thin to 1tph (with 1 tph to Derby)
- Cross country route (York/Birmingham) and TransPennine route (York/Manchester) open
- Sunday morning access in the Cambridge area will affect Sunday morning start-up of service with GTR

Week 10

- **Disruption on the WCML North of Carlisle leaves no direct Anglo-Scottish route. Also presents no route for Sleeper services on Sunday night.**
- Closures of the route between Leeds and Wakefield requires Hambleton diversions (LNER) and Barnsley diversion (XC)
- London Victoria area closure, Southern services diverted to London Bridge but believed compatible with Thameslink services diverting to London Bridge (Sunday only)
- Two track disruption all day Sunday on MML may reduce EMR strengthening post 1200 Sunday
- TransPennine route (York/Manchester) open
- Cross-country freight route closed all weekend, normal diversionary route via Canonbury/Incline

AOB is asked to not that the access plan breaks the agreed HLOS output regarding Anglo-Scot routes and running of the sleeper service. NR assumes that this will be resolved to allow this access plan to work

AOB is asked to endorse the access strategy set out by Network Rail.

Network Rail is aligned and resolved to make those conflict decisions to allow KXR to take place.

6. Passenger Handling

The option 1 passenger handling plan presented in February 2020 was not considered as workable, however this was set against a Pre-COVID 100% demand.

Three major changes need to be considered in relation to passenger handling for a February '21 partial closure start;

1. Welwyn services previously excluded from the demand numbers (assumed to be going to St Pancras) are now considered in the numbers. It is assumed that these services will not run into KX or Moorgate.
2. Future forecast demand, whilst unknown, is assumed to be lower during early 2021 than the pre-COVID forecast demand.
3. Social distancing of 1m is currently in place, with no known date for this to be removed.

Option 1 is predicated on the same number of trains running into Kings Cross, but with 2 GTR commuter services shortened from 12 cars to 8 cars on the Cambridge market. This would allow LNER to utilise platforms 7 & 8 to run 2 LDHS per hour.

The tables shown in figures 7 and 8 below show the stage 2 timetable AM peak hour and 3 hours scenarios of social distancing with 50% demand and no social distancing at 85% demand. The following assumptions have been made;

- Numbers are based on the Stage 2 plan (inclusive of Platform 0 in the AM/PM peak) operating 2 LNER trains per hour from Platform 0 and 4 GTR services per hour via Thameslink core
- Social distancing (where applicable) is at 1m, and aligns train configuration to the indicative timetable

Socially distanced - 50% demand	Capacity	Demand	Spare Capacity	Pax in Excess	Net Capacity vs Pax
AM High Peak Hour (0800-0859)	4,936	5,836	892	1,792	-900
Cambridge Express	800	906	28	134	-106
ECML Fast via Huntingdon Kings Cross	480	674	266	460	-194
ECML Inner (Kings Cross/St Pancras)	0	579	0	579	-579
ECML LDHS	616	955	187	525	-339
ECML Semifast (St Pancras/Kings Cross)	1,760	1,778	77	95	-18
ECML Semifast via Letchworth Kings Cross	640	486	155	0	155
ECML Stopping	640	460	180	0	180
Socially distanced - 50% demand	Capacity	Demand	Spare Seats	Pax in Excess	Net Capacity vs Pax
AM 3 Hour Peak (0700 - 0959)	15,572	14,145	4,581	3,154	1,427
Cambridge Express	2,080	2,096	169	184	-16
ECML Fast via Huntingdon Kings Cross	1,600	1,565	656	621	35
ECML Inner (Kings Cross/St Pancras)	0	1,210	0	1,210	-1,210
ECML LDHS	2,772	2,725	1,041	994	47
ECML Semifast (St Pancras/Kings Cross)	5,600	4,144	1,551	95	1,457
ECML Semifast via Letchworth Kings Cross	1,600	1,177	474	51	423
ECML Stopping	1,920	1,229	691	0	691

Figure 7 - Passenger handling numbers at 50% demand with social distancing

No Social Distancing - 85% Demand	Seats	Standing	Total Capacity	Demand	Spare Seats	Pax in Excess	Seats vs Pax (Seated)
AM High Peak Hour (0800-0859)	7,439	7,557	14,996	9,921	1,194	3,676	-2,482
Cambridge Express	1,125	755	1,880	1,540	0	415	-415
ECML Fast via Huntingdon Kings Cross	789	498	1,287	1,145	425	781	-356
ECML Inner (Kings Cross/St Pancras)	0	0	0	984	0	984	-984
ECML LDHS	1,200	0	1,200	1,623	470	893	-423
ECML Semifast (St Pancras/Kings Cross)	2,419	4,142	6,561	3,022	0	603	-603
ECML Semifast via Letchworth Kings Cross	1,052	664	1,716	825	227	0	227
ECML Stopping	854	1,498	2,352	782	72	0	72
No Social Distancing - 85% Demand	Seats	Standing	Total Capacity	Demand	Spare Seats	Pax in Excess	Seats vs Pax (Seated)
AM 3 Hour Peak (0700 - 0959)	23,802	22,937	46,739	22,058	7,430	5,686	1,744
Cambridge Express	2,925	1,963	4,888	3,357	258	689	-432
ECML Fast via Huntingdon Kings Cross	2,554	1,630	4,184	2,324	1,042	812	230
ECML Inner (Kings Cross/St Pancras)	0	0	0	1,889	0	1,889	-1,889
ECML LDHS	5,400	0	5,400	4,418	2,671	1,689	982
ECML Semifast (St Pancras/Kings Cross)	7,731	13,190	20,921	6,464	1,874	607	1,267
ECML Semifast via Letchworth Kings Cross	2,630	1,660	4,290	1,741	889	0	889
ECML Stopping	2,562	4,494	7,056	1,866	696	0	696

Figure 8 - Passenger handling numbers at 85% demand without social distancing

Figure 7 shows our ability to accommodate more than 50% of pre-COVID demand with 1m social distancing during Stage 2, will become extremely challenging, particularly in the peak hour.

Network Rail's recommendation is that if social distancing is in place, significant interventions will be required, and these will require support of the Department for Transport such as;

- Travel messaging to significantly suppress demand (on multiple routes)
- Passenger Incentives to encourage suppression of demand across all markets

Figure 8 shows that, option one makes the peak hour more challenging and spreads the in excess of capacity on to multiple service groups. The full three-hour peak though is relatively manageable and will require passengers moved from the peak. The assumed Welwyn-Sevenoaks passengers will need to be considered on to other services, and we will have capacity issues across the peak on the Cambridge express services.

Network Rail's recommendation is that we will still require interventions such as;

- Communications campaign to influence spreading commuter demand across the peak and off-peak hours and influence the LDHS market to travel in the off-peak
- Passenger Incentives to influence spreading of commuter demand across the peak and off-peak and influence spreading of LDHS market to travel in the off-peak
- A specific working group, including Anglia route Greater Anglia, to look at the Cambridge market, including comms to suppress demand and looking at incentives to move passengers to Greater Anglia services as well as review of demand between LDHS and Cambridgeshire markets to strike a different balance between 12 car operation and LDHS arrivals in the peak (for example, 1 LDHS arrival per hour would achieve 12 car operation on Cambridge express services).

It is worth noting that the Bank Branch closure of the Northern Line is likely to take place between October '21 and February '22. This would not clash with the proposed KXR partial closure.

TfL are planning to close the Piccadilly Line from Kings Cross to Cockfosters in weeks 47, week 1 and week 9. Week 9 will directly clash with the final commissioning weekend if the recommendation to move this to Week 10 is not supported and would need to be considered in the passenger handling plans.

On forecast demand, TfL are working to an assumed 80-85% of pre-COVID demand during the first 4 months of 2021.

AOB are asked to endorse the passenger handling proposal and support an instruction to reconvene the passenger handling group to work with industry partners in the delivery of a passenger handling and communications strategy for the proposed partial closure approach.

7. Staff Training

Training of signallers and drivers is required to allow the KXR proposal in this paper to be successful. Figure 9 shows the timeline for this activity;

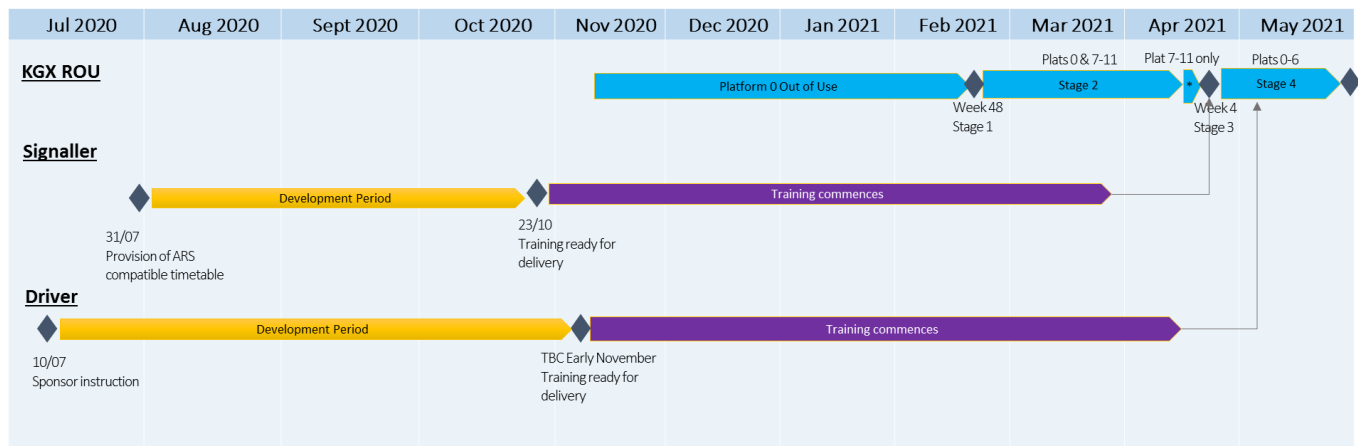


Figure 9 - Training timeline to support KXR partial closure between Feb and May '21

Signallers

Delivery of an ARS compatible timetable for 31/07 not expected to be an issue, with further dialogue between Capacity Planning and Siemens to confirm scope and remit. An initial output will be provided to Siemens prior by 31/07 for Siemens. This will allow delivery of materials in October to enable signallers to start training on the ARS system.

An additional iteration to the timetable data will be provided to Siemens reflecting the May '21 end state timetable. The update material will then be provided, allowing 4 months training time on the end state timetable. There are 35 signallers to train, with two approaches defined – both of which can be supported with the proposed training delivery timescale.

Network Rail is confident that Signaller Training can be delivered in time to support the KXR partial closure proposal.

Drivers

Network Rail is confident that the 6-month lead time for driver training can be achieved, which is required for all operators to deliver the train service from Stage 4 onwards (26th April).

Training will be end-state layout training for both signaller and driver training materials – only fast line side will be utilised in Stage 4, so refresher materials may be required.

It should be noted that in this option driver training for platform 0 is not required, thus there is a reduced training need. It also means the method of working for services to/from the isolated Platform 0 to enable change of traction and despatch is not required.

AOB affected train operators are asked to confirm that they can support the approach to driver training.

8. Other Considerations

Resilience

The NWR submitted resilience plan based on a zonal approach to maintenance, response and minor renewals will be delivered prior to the commencement of the blockade. Access to

deliver this will be via standard rules of the route and by utilising the Kings Cross access footprint.

The blockade resilience/contingency plan will be jointly created with all affected parties to accommodate the delivery of the passenger handling element. This plan will need to fully understand national passenger and freight flows during the blockade and weekends where normal diversionary routes are not available. Therefore, this will require endorsement by all adjacent routes, region and operators.

There are also a number of maintenance and renewal activities currently planned to align with the intend of delivering KXR from December 2021. Network Rail is reviewing which of these activities can be accelerated in line with the KXR proposal to reduce overall disruption.

AOB is asked to endorse this approach.

COVID Second Wave

It is recognised that a second wave of COVID could significantly affect all aspects of this plan. No work has yet been done, but mitigations to this risk need to be established in the autumn through the various AOB workstreams.

The productivity achieved with social distancing in place on the work affected is as follows;

Activity	COVID Productivity	Mitigations
Cable install	100%	Additional Resource deployed, works completed on nights away from other disciplines
Civil works – Camden Sewer Chamber excavation	90% (additional week)	Spacing out resources, longer shifts, COVID PPE and safe working arrangements
OLE Brackets	100% (3 per shift)	COVID PPE and safe working arrangements
Signal termination and Loc Working	80%	Reduced resources to work in confined spaces, working in alternative shift patterns
Signal bases -	100% (2 shifts per base)	Spacing out resources, longer shifts, COVID PPE and safe working arrangements
Track Slab and Prefab	100% (Average 120mtrs / week)	Spacing out resources, longer shifts, COVID PPE and safe working arrangements

Already in place and working as BAU;

- SOP currently has mitigations to allow for 0.5m social distancing already – this will cover 90% of scope to go
- Only have critical resource like signal commissioning on site on disruptive weekends- These are already project based.
- OLE resource, working practice with mitigations for close proximity working

Additional resources;

- Additional cleaning materials / facilities – Can use Compound I
- Workday / Evening / night shifts to separate teams and keep numbers to a manageable number

- 7 day working patterns to separate teams, lowering numbers
- Provide long term hotel deals to avoid travelling – these are now available in London for critical working

Additional Processes

- Office work around required – further screening in office, desk allocation, additional facilities
- Use of hired halls / hotels to accommodate further teams

EAST COAST MAIN LINE ACCESS OVERSIGHT BOARD

ECML Access Oversight	
Title	Kings Cross Partial Closure - Option 0 Feb '20 Start
Sponsor	Ed Akers
ECML PB Ref	Kings Cross Re-Modelling - EC001
Meeting date	23rd July 2020

1. Context

KXR partial closure was planned to take place between December '20 and March '21 but was deferred in April 2020 due to the impact Covid-19 had on the rail industry's ability to create and deliver a robust timetable and passenger plan.

In April and early May, whilst the long-term impacts of COVID-19 were being better understood, work was undertaken on a new delivery strategy, which would deliver a better passenger plan for Pre-COVID demand levels. This strategy (3-way split) was formally chosen at option selection and endorsed as the new baseline by AOB and instructed to the project in May 2021.

With passenger demand not forecast to return to Pre-COVID levels for some considerable time, Network Rail has revisited the option of delivering the KXR partial closure in late 2019 or early 2020, taking advantage of forecasted lower numbers of passengers. An earlier delivery option would save between £20-30m of additional project costs and would be a key enabler for protecting the December '21 timetable as the benefit release point for the ECML Programme.

In June AOB considered an option to undertake a partial closure (not Option 0) starting in October '20, but this was unanimously rejected. Network Rail is presenting an option to start the partial closure in February '21, using the Option 0 strategy to deliver the work.

2. Recommendations

The paper sets out in details the Network Rail proposal for Option 0. Whilst this option is viable and would have the support of Network Rail were it to be chosen, **it is not the preferred or recommended option. Option 1 is the recommended option to take forward.**

3. Network Rail Proposal

Network Rail is proposing to undertake the KXR partial closure from February '21 (Week 48) through to May '21 (Week 10). It will be delivered using the 'Option 0' approach (shown in figure 1), meaning that Platform 0 will be available for the majority of midweek peak times during Stage 2 when a possession of the fast lines is taken;

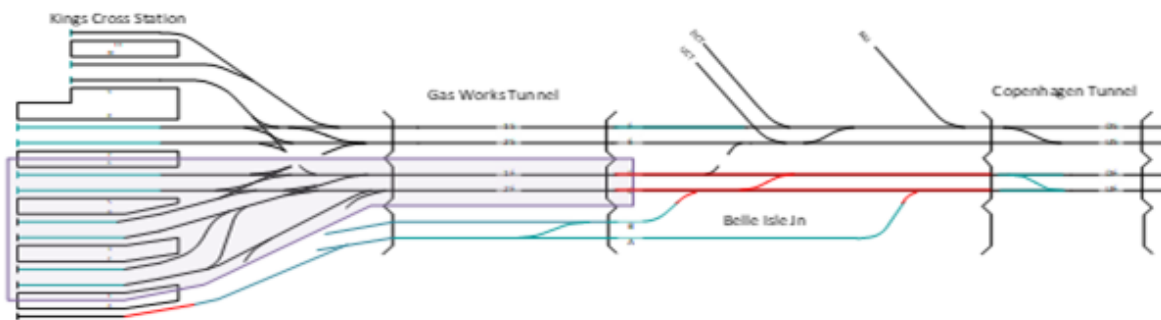


Figure 1 - Possession footprint during stage 2 inside Mon-Fri AM & PM peak times, except the first and final stage of week 2

The detailed footprint of the partial closure is shown in figure 2 below;

	Stage 1B	Stage 2	Stage 3	Stage 4	Stage 5
Dates	27 th Feb 00:01 – 1 st Mar 04:00	8 th Mar 04:00 – 22 nd April 23:59	23 rd April 00:01 – 26 th April 04:00	26 th April 04:00 – 4 th June 23:59	5 th June 00:01 – 7 th June 04:00
Access Footprint	All Lines Blocked (inc. Canal Jnc) to Holloway 27 th Feb – 1 st Mar Fast Lines Blocked to Holloway 1 st Mar – 8 th Mar	Fast Lines Blocked to Holloway Pl.1-6 blocked throughout *Pl.0 operational only : Mon to Fri 06:00-10:00 and 16:00–20:00 between 8 th Mar – 16 th Apr	All Lines Blocked to Oakleigh Park and Fringes (Canal Jnc open for first 24h)	Slow Lines Blocked (Canal Jnc open) Pl. 7-11 blocked WE06 54h poss extends to include Canals WE08 10h ALB inc Canals WE09 12h ALB inc Canals 3h midweek night Slow Lines	All Lines Blocked (inc. Canal Jnc) to Holloway
Platforms Open	From 1 st Mar 7, 8, 9, 10, 11	0*, 7, 8, 9, 10, 11	None	0, 1, 2, 3, 4, 5, 6	None
Proposed Duration	72 hours	46 days	76 hours	40 days	52 hours

Figure 2 - The access footprint and sequencing required to undertake the Kings Cross partial closure between February '21 and May '21.

Whilst much of the Option 0 delivery strategy is the same as that which was presented to AOB in March 2020, there are some revised base principals which successful delivery will hinge upon. These are as follows;

- Platform 0 will require de-commissioning in week 34 and will therefore not be available from then, through to the start of the partial closure in February
- Platform 0 will not be electrified during Stage 2 due to being unable to install all required infrastructure and it would significantly reduce working space within the 'island'.
- Platform 0 will not be available for use during the first and last weeks of stage 2 (week 48 and Week 3), to allow for Belle Isle to be delivered connecting Platform 0 at the start and OLHE installation and wheels free testing at the end.
- Platform 0 will be available for operational use between 06:00 and 10:00 in the AM peak and 16:00 and 20:00 in the PM peak only of Week 49 to Week 2 inclusive
- Additional access prior to the partial closure will be required to enable Platform 0 to be available and to undertake a signalling rehearsal (see Access Plan section)

The Network Rail Eastern Capital Delivery team have assessed this option and advise that it can be safely delivered and are working on a proposal for independent assurance through the DWWP process

4. Timetable Development

Timetable planning for the KXR partial closure will be challenging, with multiple timetable changes required to be delivered sequentially, contemporaneously with the base May '21 end state timetable.

The following requirements are based on the February '21 start;

- Timetable activity would span over the May 20 timetable (as adjusted for September uplift), December 20 timetable (as adjusted if necessary), and the May 21 timetable
- Platform 0 requirements need to be included in both the May 20 and December 20 timetable
- Stage 2 timetable development is needed within the December 20 timetable
- Stage 4 timetable development is needed within the December 20 and May 21 timetable

Platform 0 Summary

Although May 20 was originally written to withdraw the use of Platform 0, final diagram arrangements were not yet confirmed to make this deliverable. Planning activity will therefore be required to facilitate removal from Week 34 onwards as the May 20 and Dec 20 timetables both utilise Platform 0.

Stage 2 Summary

Development work concluded in March 2020 needs comparing back to the Dec 20 TT offer that was made on 3rd July – this is in progress to confirm;

3. alignment of assumed train slots and diagrams and;
4. adjustments made to the base plan as part of December 20 validation.

Further comparison will be necessary to align with TOC plans for service levels in December 20 since D-26 publication particularly in relation to resource availability and COVID recovery.

LNER anticipated to be highest risk due to Platform 0 Method of Working, changes to diagrams for traction restrictions, and matching of paths at King's Cross with those north of Peterborough.

GTR likely lower risk owing to anticipated similarity to existing WTT (less Baldock services and 1 PBO service), though solution required for Welwyn services which were assumed to travel via core.

Stage 4 Summary

Development work for Stage 4 has lower maturity – activity undertaken prior to March quantified available capacity over and above the Stage 2 capacity but had not yet been allocated in detailed development activity.

Lower risk to all operators on account of additional platform capacity and approach roads at King's Cross.

Timetable Development Proposal

The proposal is centred around developing timetables to support 3 bidding points;

1. **21st**
2. **nd**

3. **August 2020** (in line with May 21) for end state
- 2 **October 2020** to develop a Stage 2 timetable after adjustment of the December 20 base – operates until May 21

20 November 2020 to develop a Stage 4 timetable following finalisation of the May 21 base
The timeline is set out in figure 3 of this document, but the summary is as follows;

Platform 0 Proposal

To facilitate the removal of Platform 0 as part of the incremental timetable alterations for the September uplift, and proposed approaches to inform changes to the December 20 base plan

Stage 2 Proposal

Development of a variation to the December 2020 timetable base to introduce the 'Option Zero' timetable.

Network Rail timetable validation activity proposed to occur between 02nd October and offered to TOCs on 13th November (14 weeks before commencement)

An overlay is delivered to amend the train service after development of the base plan for Weeks 48 and Week 3 when Platform 0 is out of use

Stage 4 Proposal

This stage will span both the Dec '20 timetable and May '21 timetables. During Dec '20 there are three options;

1. Continue the Stage 2 timetable until the May 21 timetable change
2. Rollback the proposed approach for May 21 into the Dec '20 final weeks or;
3. Develop an additional dated plan

During the May '21 timetable, it is proposed to facilitate the Stage 4 period of operation by working 'back' from the May '21 base as opposed to 'up' from Stage 2 with timetable bids due around D-26 and returned c. 20 weeks before commencement

An additional approach of dating the partial closure so that Stage 2 falls entirely within Dec '20 and Stage 4 within May '21 has been reviewed and discounted owing to the volume of network access clashes created (see APPENDIX A)

May '21 Proposal

Include the end-state timetable design and timetable data as part of the May 2021 timetable and establish a D-30 'no-go' point at which timetable data and schedules between King's Cross and Belle Isle can revert to current layout prior to D-26

Timetable development proposal – capacity

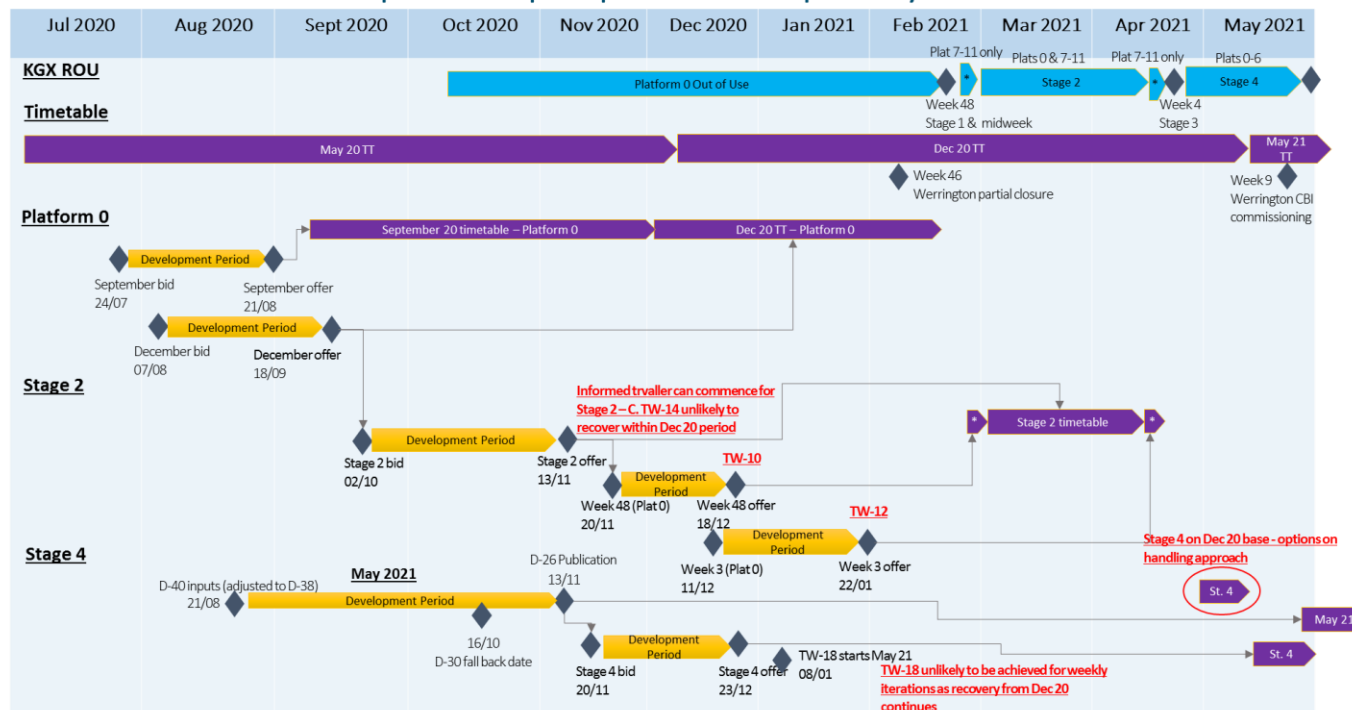


Figure 3 - Proposed timetable development timeline to enable a KXR partial closure from February to May '21

In order to deliver this timetabling development activity and achieve a stable base plan, it will be necessary to delay the delivery of the Informed Traveller amendment process for the periods covered by each stage until the relevant base plan has been completed.

Recognising the strategic importance of delivering KXR, the Network Rail System Operator has assessed the proposal as challenging but deliverable within its resource bank. An important feature of this assessment is the delay of the Informed Traveller delivery to follow after each development period within the proposal, and the requirement for input dates from operators to be aligned.

AOB affected train operators are asked to endorse the approach to timetable development, recognising the downstream activities involved such as diagramming and union consultation that sits alongside the TT development process.

5. Access Plan

This section addresses both the implications on the ECML of access to deliver the project, but also the Eastern Region and national implications, of which there are clashes with Southern, North West & Central and Scotland.

Project Delivery

The major access footprint to deliver the KXR partial closure is shown in figure 4 (note those in Red are new requirements from the March 2020 proposal, those in black are no change from the current plan);

Weekend Number	Access type	Primary Usage – Core scope that must be complete
WE23	54hrs All Line Block	Platform 3&5, Lighting Column removal, chamber A
WE29	54hrs All Line Block inc Canal Junction	KX9 signal rehearsal , OLE structure install
WE33	As planned – 54hr Slow Line block	5070a points, OLE install
WE34	54hr All Line Block inc Canal Junction	KX23 Loc move, OLE Portals, Belle Isle drainage De Commissioning PL Zero
WE35	54hr As planned Slow line block	5070b points, OLE Structure install
Xmas	As planned (6d ALB, 4day Slow line)	Camden Sewer commissioning, OLE throat, OLE SPS
WE43	54hr Half station closure (most likely Fast Line)	OLE SPS install, Signal install and prep
WE44	54hr ALB inc Canal Junction	OLE SPS, Wire transfer and Slews
Partial Closure Start & Completion	Feb 21 (Wk 48) inc. 3d ALB (inc Canal Junction) at start - End June 21 (Wk 10)	As planned stages

Figure 4 - Enabling access requirements for project delivery

The access footprint during the partial closure is in section 3 of this paper.

National Implications

There are a number of clashes, both inter-regional and national with the access footprint set out above. When reviewing the implications, the principles applied to national conflict identification align with those utilised for previous major weekends on the ECML, with the exception of removal of passenger migration between ECML and West Coast Main Line (WCML) via Settle & Carlisle, and TransPennine Main Line. The most important principles learned are:

- Retention of an Anglo-Scottish route (at least 2tph)
- Journey opportunity between ECML stations Doncaster northwards and the Midland Main Line (MML)
- Migration of passengers between ECML and MML in the St Neots/Bedford area
- Migration of passengers between ECML and MML in the Potters Bar/Luton area
- Maintaining access to sufficient locations for services to start/terminate short of destination

Figure 5 below shows the impact of the KXR access footprint in line with the principals stated;

		Additional ALB	Additional ALB	Stage 1	Stage 3	Stage 5
Route		Week 29	Week 44	Week 48	Week 4	Week 10
West Coast Main Line	Blocked	No restrictions	16 hour Sunday: Ledburn / Hanslope Slow lines	30 hour Sunday: Stoke/Stone	All day Saturday/Sunday Denbigh Hall to Watford Fast	42 hour Carlisle to Carstairs area
Scotland WCML	Impact		Trains over fast lines.	Manchester services via Crewe	Saturday lunch / all day Sunday: Carstairs area	No route between Carlisle and Glasgow
West Anglia Main Line	Blocked	No restrictions	No restrictions	Cyclical Sunday morning and midweek night HO	No restrictions	No restrictions
	Impact			No route Cambridge/London midweek night		
King's Lynn / Cambridge / Hitchin	Blocked	No restrictions	No restrictions	No restrictions	8hr Cyclical Sunday morning.	8hr Cyclical Sunday morning. Note, route required via GEMU/NLL/Incline for Freight as a result of access between Peterborough and Ipswich.
	Impact				Review possession times	Review possession times. Confirm freight routing.
Midland Main Line	Blocked	Until 1200 Sunday Harpenden to Leagrave fast lines	All day Sunday: Loughborough North to Trent South slow lines Until 1200 Sunday Radlett to Bedford South fast lines	All day Sunday: Syston/Ratcliffe fast lines Leagrave/Flitwick slow lines	Saturday / Sunday: Derby to Clay Cross St Pancras LL to Kentish Town All/Slows	All day Sunday Cricklewood South to Radlett Fast Until 1200 Sunday Harpenden to Leagrave fast lines
	Impact	Restricted capability to strengthen EMR prior to 1200 Sunday	Restriction in capacity, but little or no impact on service strengthening.	No additional capacity from c. Sunday 1200	11ph Sheffield likely to start/terminate Derby. Sunday GTR into St Pancras HL preventing EMR strengthening	Restricted capability to strengthen EMR services on Sunday
South East	Blocked	Saturday / Sunday Three Bridges to Brighton	Saturday / Sunday Gatwick area fasts	Saturday Wimbledon Loop Sunday Herne Hill	Sunday only core blocked Loughborough Jn to St Pancras LL	Sunday only Victoria area closure
	Impact	Access to Three Bridges depot/sidings maintained	Trains over slows. Access maintained to Three Bridges.	S/T Sutton or Herne Hill on Saturday. Sunday GTR to St Pancras HL preventing EMR strengthening	Trains start/terminate London Bridge	Southern trains diverted to London Bridge on Sunday
Scotland ECML	Blocked	All day Saturday: ECML North	No restrictions	No restrictions	No restrictions	No restrictions
	Impact	Tyne Valley diversions				
Events				League Cup Final	London Marathon	

Figure 5 - National Planning Implications

Week 29

- Route between Three Bridges and Brighton is affected, but access to Three Bridges is maintained. This has been highlighted as a preferred week by GTR
- Closures of the ECML North between Newcastle and Edinburgh prevent a direct route for ECML Anglo-Scottish traffic on Saturday. Passengers able to migrate to WCML, LNER divert 1 train per hour via Tyne Valley
- Cross country route (York/Birmingham) and TransPennine route (York/Manchester) open
- 'Standard access' on MML until 1200 Sunday – strengthening of EMR possible post 1200.

Week 44

- Gatwick area restricted capacity, through access to Three Bridges is maintained.
- No conflicts on North/South routes (ECML/WCML)
- Cross country route (York/Birmingham) and TransPennine route (York/Manchester) open
- Leicester to Nottingham two track railway on Sunday, no prevention of strengthening EMR (which is extension of Corby services), which can be achieved post 1200 Sunday.

Week 48

- Sunday morning access in the Cambridge area will affect Sunday morning start up of service with GTR
- Closure of Herne Hill on Sunday requires diversion of GTR to St Pancras High Level (1 platform) which prevents EMR from strengthening. This replicates recent Week 12. (note, lack of strengthening leaves Sunday two track south of Bedford as viable)
- No conflicts on North/South routes (ECML/WCML)
- Cross country route (York/Birmingham) is subject to Lichfield diversions, and
- TransPennine route (York/Manchester) open

Week 4 - London Marathon

Disruption on the WCML North of Carlisle leaves no direct Anglo-Scottish route. Also presents no route for Sleeper services on Sunday night.

•

- Sunday;
- Core blocked on no issues 'south' but requires diversion of GTR to St Pancras High Level (1 platform) preventing EMR from strengthening as per Week 48.
- MML Amber Valley blocked, capacity maintained via Erewash – Saturday EMR Sheffield services (usually 2tph) may thin to 1tph (with 1 tph to Derby)
- Cross country route (York/Birmingham) and TransPennine route (York/Manchester) open start-
- Sunday morning access in the Cambridge area will affect Sunday morning of service with GTR

Week 10

- **Disruption on the WCML North of Carlisle leaves no direct Anglo-Scottish route. Also presents no route for Sleeper services on Sunday night.**
- Closures of the route between Leeds and Wakefield requires Hambleton diversions (LNER) and Barnsley diversion (XC)
- London Victoria area closure, Southern services diverted to London Bridge but believed compatible with Thameslink services diverting to London Bridge
- (Sunday only)
- Two track disruption all day Sunday on MML may reduce EMR strengthening
- post 1200 Sunday
- TransPennine route (York/Manchester) open
- Cross-country freight route closed all weekend, normal diversionary route via Canonbury/Incline

AOB is asked to not that the access plan breaks the agreed HLOS output regarding Anglo-Scot routes and running of the sleeper service. NR assumes that this will be resolved to allow this access plan to work

AOB is asked to endorse the access strategy set out by Network Rail.

Network Rail is aligned and resolved to make those conflict decisions to allow KXR to take place.

6. Passenger Handling

The passenger handling plan presented in March 2020 was considered as workable, but with significant communication and passenger suppression mitigations required to ensure that capacity would not be outstripped by pre-COVID demand.

Three major changes need to be considered in relation to passenger handling for a February '21 partial closure start;

4. Welwyn services previously excluded from the demand numbers (assumed to be going to St Pancras) are now considered in the numbers. It is assumed that these services will not run into KX or Moorgate.
5. Future forecast demand, whilst unknown, is assumed to be lower during early 2021 than the pre-COVID forecast demand.
6. Social distancing of 1m is currently in place, with no known date for this to be removed.

The tables shown in figures 7 and 8 below show the stage 2 AM peak hour and 3 hours for scenarios of social distancing with 50% demand and no social distancing at 90% demand.

The following assumptions have been made;

- Numbers are based on the Stage 2 plan (inclusive of Platform 0 in the AM/PM peak) operating 2 LNER trains per hour from Platform 0 and 4 GTR services per hour via Thameslink core
- Social distancing (where applicable) is at 1m, and aligns train configuration to the indicative timetable

Socially distanced - 50% demand	Capacity	Demand	Spare Capacity	Pax in Excess	Net Capacity vs Pax
AM High Peak Hour (0800-0859)	5,576	5,836	1,334	1,594	-260
Cambridge Express	960	906	54	0	54
ECML Fast via Huntingdon Kings Cross	960	674	636	349	287
ECML Inner (Kings Cross/St Pancras)	0	579	0	579	-579
ECML LDHS	616	955	233	571	-339
ECML Semifast (St Pancras/Kings Cross)	1,760	1,778	77	95	-18
ECML Semifast via Letchworth Kings Cross	640	486	155	0	155
ECML Stopping	640	460	180	0	180

Socially distanced - 50% demand	Capacity	Demand	Spare Seats	Pax in Excess	Net Capacity vs Pax
AM 3 Hour Peak (0700 - 0959)	15,446	14,145	4,705	3,404	1,301
Cambridge Express	2,080	2,096	216	232	-16
ECML Fast via Huntingdon Kings Cross	2,240	1,565	1,025	350	675
ECML Inner (Kings Cross/St Pancras)	0	1,210	0	1,210	-1,210
ECML LDHS	2,006	2,725	748	1,467	-719
ECML Semifast (St Pancras/Kings Cross)	5,600	4,144	1,551	95	1,457
ECML Semifast via Letchworth Kings Cross	1,600	1,177	474	51	423
ECML Stopping	1,920	1,229	691	0	691

Figure 7 - Passenger handling numbers at 50% demand with social distancing

No Social Distancing - 85% Demand	Seats	Standing	Total Capacity	Demand	Spare Seats	Pax in Excess	Seats	Net Capacity vs Pax (Seated)
AM High Peak Hour (0800-0859)	8,453	8,206	16,659	9,921	1,873	3,341		-1,468
Cambridge Express	1,350	906	2,256	1,540	0	190		-190
ECML Fast via Huntingdon Kings Cross	1,578	996	2,574	1,145	1,026	593		433
ECML Inner (Kings Cross/St Pancras)	0	0	0	984	0	984		-984
ECML LDHS	1,200	0	1,200	1,623	548	971		-423
ECML Semifast (St Pancras/Kings Cross)	2,419	4,142	6,561	3,022	0	603		-603
ECML Semifast via Letchworth Kings Cross	1,052	664	1,716	825	227	0		227
ECML Stopping	854	1,498	2,352	782	72	0		72
No Social Distancing - 85% Demand	23,316	23,586	46,902	22,058	7,518	6,260		1,258
AM 3 Hour Peak (0700 - 0959)								
Cambridge Express	2,925	1,963	4,888	3,357	246	678		-432
ECML Fast via Huntingdon Kings Cross	3,568	2,279	5,847	2,324	1,838	593		1,244
ECML Inner (Kings Cross/St Pancras)	0	0	0	1,889	0	1,889		-1,889
ECML LDHS	3,900	0	3,900	4,418	1,975	2,493		-518
ECML Semifast (St Pancras/Kings Cross)	7,731	13,190	20,921	6,464	1,874	607		1,267
ECML Semifast via Letchworth Kings Cross	2,630	1,660	4,290	1,741	889	0		889
ECML Stopping	2,562	4,494	7,056	1,866	696	0		696

Figure 8 - Passenger handling numbers at 85% demand without social distancing

Figure 7 shows our ability to accommodate more than 50% of pre-COVID demand with 1m social distancing during Stage 2, will become extremely challenging.

Network Rail's recommendation is that if social distancing is in place, significant interventions will be required, and these will require support of the Department for Transport such as;

- Travel messaging to significantly suppress demand (on multiple routes)
- Passenger Incentives to encourage suppression of demand across all markets

Figure 8 shows that, whilst we will have some challenges in the LDHS market, without social distancing and at an assumed 85% of pre-COVID demand the train plan will be able to provide the required capacity.

Network Rail's recommendation is that we will still require interventions such as;

- Travel messaging to influence spreading commuter demand across the peak and off-peak hours and to influence the LDHS market to travel in the off-peak
- Passenger Incentives to influence spreading of commuter demand across the peak and off-peak and to influence spreading of LDHS market to travel in the off-peak

It is worth noting that the Bank Branch closure of the Northern Line is likely to take place between October '21 and February '22. This would not clash with the proposed KXR partial closure.

TfL are planning to close the Piccadilly Line from Kings Cross to Cockfosters in weeks 47, week 1 and week 9. Week 9 will directly clash with the final commissioning weekend if the recommendation to move this to Week 10 is not supported and would need to be considered in the passenger handling plans.

On forecast demand, TfL are working to an assumed 80-85% of pre-COVID demand during the first 4 months of 2021.

AOB are asked to support an instruction to reconvene the passenger handling group to work with industry partners in the delivery of a passenger handling and communications strategy for the proposed partial closure approach

7. Staff Training

Training of signallers and drivers is required to allow the KXR proposal in this paper to be successful. Figure 9 shows the timeline for this activity;

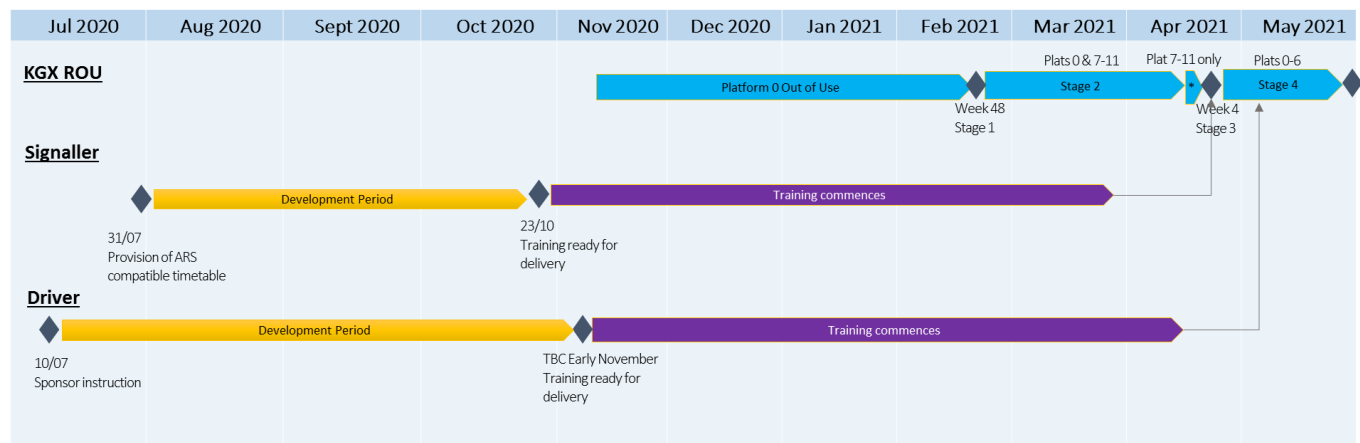


Figure 9 - Training timeline to support KXR partial closure between Feb and May '21

Signallers

Delivery of an ARS compatible timetable for 31/07 not expected to be an issue, with further dialogue between Capacity Planning and Siemens to confirm scope and remit. An initial output will be provided to Siemens prior by 31/07 for Siemens. This will allow delivery of materials in October to enable signallers to start training on the ARS system.

An additional iteration to the timetable data will be provided to Siemens at the end of October reflecting the May '21 end state timetable. The update material will then be provided in January, allowing 4 months training time on the end state timetable. There are 35 signallers to train, with two approaches defined – both of which can be supported with the proposed training delivery timescale.

Network Rail is confident that Signaller Training can be delivered in time to support the KXR partial closure proposal.

Drivers

Network Rail is confident that the 6-month lead time for driver training can be achieved, which is required for all operators to deliver the train service from Stage 4 onwards (26th April).

Training will be end-state layout training for both signaller and driver training materials – only fast line side will be utilised in Stage 4, so refresher materials may be required.

It should be noted that driver training requirements for operation in/out of Platform 0 during Stage 2 are still to be confirmed. There are 3 signals affected (Belle Isle Up, Belle Isle Down and Platform 0) and platform utilisation is constrained to LNER based on peak period availability and traction.

It will also be necessary to establish a method of working for services to/from the isolated Platform 0 to enable change of traction and despatch.

AOB affected train operators are asked to confirm that they can support the approach to driver training.

8. Other Considerations

Resilience

The NWR submitted resilience plan based on a zonal approach to maintenance, response and minor renewals will be delivered prior to the commencement of the blockade. Access to deliver this will be via standard rules of the route and by utilising the Kings Cross access footprint.

The blockade resilience/contingency plan will be jointly created with all affected parties to accommodate the delivery of the passenger handling element. This plan will need to fully understand national passenger and freight flows during the blockade and in particular weekends where normal diversionary routes are not available. Therefore, this will require endorsement by all adjacent routes, region and operators.

There are also a number of maintenance and renewal activities currently planned to align with the intend of delivering KXR from December 2021. Network Rail is reviewing which of these activities can be accelerated in line with the KXR proposal to reduce overall disruption.

AOB is asked to endorse this approach.

COVID Second Wave

It is recognised that a second wave of COVID could significantly affect all aspects of this plan. No work has yet been done, but mitigations to this risk need to be established in the autumn through the various AOB workstreams.

The productivity achieved with social distancing in place on the work affected is as follows;

Activity	COVID Productivity	Mitigations
Cable install	100%	Additional Resource deployed, works completed on nights away from other disciplines
Civil works – Camden Sewer Chamber excavation	90% (additional week)	Spacing out resources, longer shifts, COVID PPE and safe working arrangements
OLE Brackets	100% (3 per shift)	COVID PPE and safe working arrangements
Signal termination and Loc Working	80%	Reduced resources to work in confined spaces, working in alternative shift patterns
Signal bases -	100% (2 shifts per base)	Spacing out resources, longer shifts, COVID PPE and safe working arrangements
Track Slab and Prefab	100% (Average 120mtrs / week)	Spacing out resources, longer shifts, COVID PPE and safe working arrangements

Already in place and working as BAU;

- SOP currently has mitigations to allow for 0.5m social distancing already – this will cover 90% of scope to go
- Only have critical resource like signal commissioning on site on disruptive weekends- These are already project based.
- OLE resource, working practice with mitigations for close proximity working

Additional resources;

- Additional cleaning materials / facilities – Can use Compound I
- Workday / Evening / night shifts to separate teams and keep numbers to a manageable number
- 7 day working patterns to separate teams, lowering numbers
- Provide long term hotel deals to avoid travelling – these are now available in London for critical working

Additional Processes

- Office work around required – further screening in office, desk allocation, additional facilities
- Use of hired halls / hotels to accommodate further teams