

Background Note

Network Rail - Anglia Route Study

ONE of a series of similar documents which together cover the country, the Anglia Route Study is an important report with the purpose of helping Government to make rail investment choices for years to come.

There's a lot of essential background!

When it comes to rail services, essentially it's the Government that says 'A to B at least hourly or half-hourly', it's the Government-owned Network Rail that provides the tracks and wires and signals, and it's private companies that compete on price to run the trains over a time-limited franchise period.

The Government seeks to invest in rail – but how can it be sure that public money is spent wisely? How much money is there, anyway? How can abortive expenditure be avoided?

It's to answer questions like these that the railway industry plans strategically (the Long Term Planning Process). The 12 Route Studies being prepared are part of that.

Now a word about 'Routes.' Network Rail is split into a number of regions, somewhat confusingly called 'Routes' and each has a certain amount of devolved responsibility, something that is likely to be strengthened following the recent Shaw Report.

Local matters are often best dealt with at the local Route level. But to avoid incompatibility or wasted effort, there is a need for overall co-ordination. Strategic Planning needs to set the general direction and the phasing of schemes, hence the Market Studies of a few years back. These set the standards – 'services between big cities to be this frequent, and this fast': that kind of 'big picture' thing. Then a 'perfect' service specification was worked up centrally, before devolving to Route level to see how it might work out on the ground.

Of course, anyone who has ever tried to formulate strategy will recognise the conflicts that can occur: between objectives, between time-periods, between funds, indeed between all of the above, aka 'real life'.

Part of *that* is the Fen Line's steady average 6% annual growth over the last 5 years. Its infrastructure urgently needs investment to meet this sustained rising demand.

Railway industry investment finances are organised in five-year periods, known as 'Control Periods'. The current Control Period, (2014 to 2019) is called CP5. Development work is now well under way to sort investment priorities for CP6 – 2019 to 2024 – and beyond.

But this time things are a bit different.

Let's go back to 2012. The Government and the railway industry had just completed the investment processes. The government had also decided how much funding was going to be available for CP5. And, in line with the general principle of devolving to the best level suited for solving issues, the Government specified what it wanted as *outputs* (like 'double the number of peak hour seats into the big city') leaving the industry to sort out how - the *inputs* - within the pre-set funding budget.

Makes sense. Governments aren't there to micro-manage - technical experts are best at detailed design and construction.

So, the Government published its CP5 High Level Output Specification (HLOS for short).

You can find it here:

<https://www.gov.uk/government/publications/high-level-output-specification-2012>

However, Governments *do* want to specify some things in more detail - things to give effect to a particular policy strand, say. In the HLOS these things are called 'named schemes.'

They're rare too (if they weren't, then the process would be prescriptive and thus self-defeating). Just 14 of them in that 2012 HLOS.

The 2012 HLOS 'named' the constrained Ely North Junction as an issue to be tackled. Why?

This is how the Government put it:

"... sufficient capacity is sought at Ely to provide for forecast freight flows across East Anglia and to enhance passenger services to Kings Lynn."

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/3643/illustrative-options.pdf [Page 1]

Missing apostrophe or not (railway usage varies as much as anybody's) it's clear what the Government wanted done – and why.

And they didn't stop there. In 2014 they followed through with a contract with new train operator Govia Thameslink – 'half-hourly' King's Lynn-King's Cross trains from May 2017.

Before we go much further, we need to be clear about this ‘half-hourly’ contract:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/381933/tsgn-service-level-commitments.pdf [Pages 349 and 350 of 392]

No, it *isn't* for 2 trains to King's Cross every hour, '2tph' from every Fen Line station. It *does* require that standard for King's Lynn, Downham Market and Ely - except it *doesn't* apply when up to two freight trains a day need to run (albeit off-peak) – the infrastructure won't support it at those times.

But, all in all, seeking to use the infrastructure we've actually got, it's pretty pragmatic.

We'll come back to the detail later, but let's ask *why* more King's Lynn-King's Cross trains.

We could cut through a lot of discussion by merely remarking that Fen Line trains link places where homes are affordable to places where fast-expanding, knowledge-industry jobs are increasingly clustering (Cambridge, London) but where the houses are simply unaffordable for many. It's the basis for long-term home and employment decisions – and there's more and more Fen Line passengers.

You'd want hard evidence to back that up, of course. We call it 'Linking homes and jobs needs more and longer trains' and it's here:

<http://flua.org.uk/documents/Fen%20Line%20Users%20Association%20Combined%20response%2014%20March%202016.pdf> [Pages 6 and 7]

Using the latest official passenger numbers, we found that, though Fen Line usage *south* of Ely North Junction is greatest (57%), growth is now faster from stations *north* of it. Compared with passenger numbers on the line ten years ago, there are now enough extra users to fill some 17 extra trains *daily*. Many peak trains are *grossly* overfull.

First the Government's HLOS, then its 'half-hourly' contract: 2tph King's Lynn-King's Cross.

The 'Cambridge Express' service (maximum two stops south of Cambridge, mainly none) forms the bedrock of the King's Lynn-King's Cross timetable. Of the 67 Mondays to Fridays 'Cambridge Express' workings, 36 run to/from King's Lynn, 1 to Downham Market and 7 to/from Ely). The 'Cambridge Expresses' which do *not* currently run north of Cambridge secure train paths into King's Cross for future King's Lynn-King's Cross 'half-hourly' services.

But something went wrong. Badly wrong. Network Rail is over-committed and some things just have to give. Nothing cancelled, the Government says, but some things delayed.

So you might expect planning for the next HLOS, the 2017 one, would be to take the leftovers of the 2012 HLOS and get them underway first, pdq. That's a good summary of Network Rail's new Chairman, Sir Peter Hendy's recommendations to Government in November 2015; you can see them here:

<http://cdn.prgloo.com/media/download/0b15cab5ccbc4e96af6c9182b97b6ef0>

Of Fen Line relevance, Sir Peter's report says:

"Network Rail is undertaking development on a scheme to allow the lengthening of peak time services on the Cambridge to Kings Lynn corridor from 4 to 8 car length to tackle overcrowding and will report back to DfT on costs and programme for delivery in spring of 2016. ... "Ely North Junction. This scheme will be delivered now in CP6 to allow co-ordination with safety critical level crossing works nearby. Despite this Network Rail is aware of the strong aspiration of the DfT and local user groups and MPs to see improvements to services on the Cambridge to Kings Lynn corridor as soon as practicable."

<http://cdn.prgloo.com/media/download/0b15cab5ccbc4e96af6c9182b97b6ef0> [Page 23]

In January 2016, a draft report added detail:

"The track arrangement at Ely North Junction has been identified as one of a number of constraints to increasing passenger services in the Ely area. This project will develop a scheme which improves capacity in the area by developing an operationally flexible junction that can deliver multiple train moves simultaneously. This is an enabling project to allow for a future uplift in trains across the junction, once other (currently unfunded) works are completed. ... Owing to the level crossings assessment work undertaken, the project objectives have been redefined to encompass the wider capacity constraints. This forms the basis for the amended project plan.

"Anglia Traction Power Supply Upgrade: With the replanning of the Ely North Junction scheme into CP6, Network Rail is investigating a slightly different service pattern on the Cambridge – King's Lynn route than that modelled for this scheme. Changes could include some 8-car instead of current 4-car operation of peak services to tackle overcrowding. Network Rail is currently undertaking revised modelling work ...

"Kings Lynn – Cambridge 8-car: The project will relieve overcrowding in the Peak Hour between Kings Lynn and Cambridge. These services are currently 8-car or 12-car between Cambridge and London Kings Cross but due to constraints on the Kings Lynn Line are only 4-car in length north of Cambridge. There is Peak crowding on these services particularly between Ely and Cambridge. ... Network Rail's obligation is to develop a solution to enable 8-car operation of Peak services between Kings Lynn and Cambridge (and onto London Kings Cross)."

<https://www.networkrail.co.uk/Enhancements-Delivery-Plan-Update.pdf?cd=1> [Pages 28, 29 and 35, respectively]

We have formally supported the earliest implementation of the relevant schemes; the outcome of the Government's consultation is now awaited. Route Studies will help inform future Government choices, and the first shot at a comprehensive plan for CP6, the *Initial Industry Plan*, will be launched this September.

One thing it will need to take on board is the pledging of funding by Councils and Local Enterprise Partnerships to speed up feasibility studies for what's required in the Ely area – not just Ely North Junction, but everything associated with decongesting what is arguably the 'number one' strategic rail node in East Anglia. The idea is to 'hit the ground running' at the start of CP6 in 2019. MPs, Councils and LEPs have allied in pressing this.

The Initial Industry Plan will be followed by a number of steps, all leading towards a finalised Government budget (known as the *Statement of Funds Available*) and the next HLOS in 2017 – which schemes will *that* 'name'?

You may be wondering how much more essential background there can possibly be.

There's more. First a couple of points about how Network Rail is internally organised. We've mentioned the Routes are really regions and, of course, these have boundaries. King's Lynn-King's Cross services run across such a boundary, between Meldreth and Royston. Northwards it's Anglia Route, southwards it's London North Eastern & East Midlands Route.

Crossing boundaries is not always conducive to co-ordination. Remember that 'perfect' service specification earlier? Known as the 2043 *Indicative Train Service Specification*, it offers an "interpretation" of what services might run in 2043. It's a standard *assumption* (it suggests some trains from Norwich tag onto Cambridge Expresses to go to King's Cross, presumably the main portion running King's Lynn-King's Cross).

The second point: a quarter of a century ago, King's Lynn trains stopped using Liverpool Street as their London terminus (a tiny number of exceptions). Instead, the newly electrified service started running on the quicker line to King's Cross: the fastest journey to Cambridge is 46 minutes against 65 from Liverpool Street.

Why the history? Back to Network Rail's internal organisation. As we said, they don't run trains, they care for the infrastructure. Not unreasonably in that light, they administer the old route from Liverpool Street to King's Lynn as one, calling it the West Anglia Main Line.

You just have to remember that the WAML (for short) has *two* main service groups running on it. At its *southern* end are the Liverpool Street-Stansted Airport/Cambridge services. Fen Line King's Lynn-King's Cross trains run over its *northern* end, passing through Cambridge, then Meldreth/Royston and finally along the fast East Coast Main Line to King's Cross. Incidentally, the Route Study for 'over the border' – known as the East Coast Main Line Route Study – has yet to be published.

It's very significant for the Anglia Route Study (getting there!) to note that whilst all of the WAML, with its two groups of services, is within the Route (region) it studies, King's Lynn-King's Cross trains are 'cross-boundary' services and pass over to a different Route.

Let's just anticipate the Anglia Route Study for a moment and say that its aim for the *southern* part of the WAML, which is heavily congested, is to speed up journeys from Cambridge and Stansted to Liverpool Street, possibly 2-5 minutes quicker, but maybe off-peak times only.

What does the Anglia Route Study have to say that affects King's Lynn-King's Cross trains?

A strategy requires broad but explicit aims, known in the Route Studies as 'Conditional Outputs.' Network Rail has explained to us that achieving them can be seen as *conditional* upon having the money and the resources.

We mentioned that the Government wanted capacity for freight flows through Ely and that the Ely area was East Anglia's 'number 1' rail node. With heavy freight flows from Felixstowe to the North and Midlands via Ely forecast to grow substantially, Ely has great significance on the major cross-county route.

There are *seven* Conditional Outputs relevant to the Ely area [page 66]. So let's look at the strategic Ely area first, noting that the Anglia Route Study wraps the cross-country route together with the *northern* part of the WAML.

The Ely project is now about *comprehensively* unblocking East Anglia's strategic bottleneck:

"Ely North Junction Capacity Improvements. Following the review of enhancements undertaken by Sir Peter Hendy, this scheme has been deferred to CP6. [Page 35]

"In line with the longer term strategy for this [cross-country Felixstowe to North] corridor to meet CP6 freight forecasts, choices for the future include:

"... Ely area improvements including level crossings and headway reductions

"Ely to Soham – doubling or partial doubling of single line section.

"There may be an opportunity through the roll out of ETCS [Cab signalling] to achieve headway improvements on this corridor and this should be examined further through the Digital Railway Programme." [Page 09]

There are some big choices to be made:

"Option 6a: Level Crossings [Page 103]

"Option 6b: Avoiding Lines [Page 103]

"Option 9: Ely remodelling [Page 105]

"CP6 options for funders

*Ely area improvements, including headway reductions and level crossings

*Full or partial doubling of Ely to Soham single line

"CP7 [2024-2029] or beyond options for funders

*Ely area improvements." [Figure 5.5, page 69]

We applaud the initiative taken by MPs, Councils and Local Enterprise Partnerships in kick-starting a Feasibility Study for the Ely area in conjunction with Government and Network Rail and look forward to progress reports about this *comprehensive* approach.

King's Lynn-Cambridge "and onto London King's Cross" as the Hendy Review puts it, is the subject of two Conditional Outputs: **WAC06** and **WAC08**:

"WAC06 Increase in passenger service frequency between Kings Lynn and Cambridge to 2tph." [Page 09]

"WAC08 To provide sufficient capacity for passengers travelling between Cambridge and Kings Lynn." [Page 09]

And we think it's very good news that the rail industry is now examining how off-peak gaps (but maybe not all) can be filled with 2 trains per hour - in the current Control Period:

"5.3.4 Kings Lynn to Cambridge connectivity: WAC06

"Network Rail is working with industry partners to understand how any of the off-peak gaps in service between Kings Lynn and Cambridge **can be filled with a 2tph pattern in CP5.**" [Our emphasis] [Page 69]

This is based around the *pragmatic* approach of fitting as many extra trains in as possible, whilst accepting that there will be two off-peak hours when freight trains need to use the constrained infrastructure. That is the basis of that Government "half-hourly" contract for King's Lynn-King's Cross, after all.

A full-blown 2tph service, every hour, even when freight trains ran, would be 'gold-plated':

"A **standard** 2tph pattern cannot be achieved because of freight services operating to Middleton Towers. To achieve the connectivity output **alongside freight capacity** would require partial doubling of the single lines and could be considered as **an option in later control periods**, in addition to improvements in the Ely area, including level crossings." [Our emphasis] [Page 69]

"Figure 5.5 [includes] Fen Line (WAC06): 2tph

Additional infrastructure **required for the hours when freight operates** on this line:

- Partial doubling of the single line

- Ely North Jn interventions

- Level crossing works" [Our emphasis] [Page 88]

Seems it could come in the longer-term.

Turning to those grossly overfull peak trains, the Route Study addresses matters head on:

"WAC08 To provide sufficient capacity for passengers travelling between Cambridge and Kings Lynn." [Page 09]

"Design work has commenced on an option to examine lengthening services on the Kings Lynn to Cambridge section from 4-car to 8-car during the peak hours. The industry, funders and local stakeholders are in agreement that this is a high priority and Network Rail is examining options **for early implementation in CP5 [2014-2019].**"

[Our emphases, above and below] [Page 09]

"5.3.3 Choices for funders - Kings Lynn to Cambridge peak capacity: WAC08

"An option is currently being developed which examines lengthening services on the Kings Lynn to Cambridge section to eight carriages. These services are currently 8-car or 12-car between Cambridge and London Kings Cross but due to constraints on the Kings Lynn line are only 4-car in length north of Cambridge. There is peak crowding on these services particularly between Ely and Cambridge.

"To achieve 8-car services to/from Kings Lynn may require platform lengthening work at Littleport, Waterbeach and Watlington. Lengthening of services will provide additional on-train capacity to support additional calls, such as at Cambridge North Station. **The industry, funders and local stakeholders are in agreement that this is a high priority.** Network Rail is currently working on a CP5 programme and costing ... for the DfT." [Page 68].

"Socio-economic value for money: This option is low value for money and further work is required on the development of infrastructure options to understand if the costs can be reduced. [Page 69]

Relief can't come too soon. We urge all speed in finding the most cost-effective method.

Only a few days after the Study's publication, the Government said: **"The Government will also continue to assist the West Anglia Main Line Task Force as it develops a business case for improving the rail corridor between Kings Lynn and London Kings Cross via Cambridge."**

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/508115/The_East_Anglia_Devolution_Agreement_FINAL_with_signatures_and_logos.pdf

We look forward to monitoring progress!