

Northern Chambers of Commerce Summit 2018
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Thank you very much indeed and good afternoon everybody. It's a pleasure to see so many of you here this afternoon and to have a chance to talk to you about what transport is good for and why transport is so important for the economic prosperity of our country.

And how I believe Network Rail can help you improve your businesses and the economy of the businesses that you work for. I'm going to talk for 20 minutes or so, but if there's something that you violently object to in what I'm saying, please just stick your hand up but otherwise I'll just plough on.

So what about the current reality of the economy here in the North of England? Now these aren't my numbers, these are numbers from Transport for the North, but it's a serious challenge that you face every day and that you know far better than I perhaps do.

The economic value per person is 25 percent lower than the average in England, and with an average income per person which is £7,500 less, there's a real need for us to change the way the economy works here in the North.

And there's no doubt at all that Transport for the North are right in their thinking that connectivity is absolutely key to improving the prospects for the advanced manufacturing, digital, energy and the health innovation sectors, that the economies in the North can contribute to.

So I often say, what is the railway good for? Well, the railway is actually good for driving economic growth, for creating jobs, which enable more housing. So some of the critical priorities for our

country as a whole and indeed for the economy here in the North are at the heart of what railways are all about.

Now the stark North South divide in terms of economic value and in terms of railways was shown in a slide that I saw in the Financial Times, you may have seen it yourself. The FT, just this week, produced this slide and it shows in blue the rail lines where the subsidy is more than 15 pence per passenger kilometre and the grey lines are where the subsidy is less than that.

So it's really a very stark picture that railway systems in the North of this country have a much higher subsidy than they have in the rest of the country. And that in turn leads to a vicious spiral of investment. So investment is focussed in the South, because that's where the economic value is created and you can see the increase, the relative investment in London per capita versus other parts of the country as a whole.

This is the vicious spiral that we have to help get out of, because if we could invest in better railway systems here in the North, we can drive economic value, reduce the subsidy, attracting more investment and so on. So I see investment in railways as being fundamental.

And it's helpful to us in Network Rail that today Transport for the North is clear in what its priorities are and in how we can drive the economy here in the North. And I think that strategic analysis of the primary corridors where they want to see investment fits well, of course, with the areas where we want to focus our attention.

And I want to pick up on a few of these areas in the next few minutes. So the first thing is, what are we doing today to invest in railways here in the North of England? Well, we have a huge investment programme, which collectively we call the Great North Rail Project.

Now the Great North Rail Project, is a huge investment in improving connectivity across this part of the country.



The Ordsall Chord is a wonderful bridge and connection that we built in Manchester and opened at the end of last year, that now provides new connectivity right across the country. So you can go from Newcastle straight down to Manchester Airport without having to change trains.

So it's not just a Manchester connection, it is actually fundamentally changes connectivity across the North.

The dreaded Pacer train is on here and I'll talk a bit about Pacers in a moment. But it's not just about the Ordsall Chord; it's also been about huge improvements in Liverpool Lime Street Station, one of the great stations of our country and the biggest improvement programme there for 100 years.

As a railway person I'd like to talk about the Great North Rail Project in these sorts of terms. Now I've put this slide in small writing, because there are so many good things I could talk about here, you know, all the miles of electrification and how many tunnels we had to bore out and how many masts we had stick in the ground and so on and so on and so on.

As engineers we love this sort of stuff, but tragically passengers don't care, what they care about is this – what does it mean for them? And this is what the Great North Rail Project means for

passengers. It means fantastic new services, 2,000 services, space for 40,000 more passengers every day, no more Pacers by 2020 – they've all gone to the great Pacer in the sky – and this is amazing.

An increase in the number of seats per hour on the Transpennine Route of 845 today to over 2,000 by December 2019 with the new trains coming on board. These are really significant changes that are occurring predominantly in the Liverpool to Manchester area, but also here on the Transpennine Route.

So the Great North Rail Project is a significant first step in the major investments that we need to make in the North. But as Transport for the North has made absolutely clear, the fundamental first step in improving the overall transport across the North must be improving the Manchester to Leeds connectivity.

And I personally am absolutely convinced that they're right, that this particular piece of railway is, in a way, one of the poorest performing bits of railway per mile of any bit of the network that we have, and we need to do a lot to deliver improvements to this.

This particular Transpennine Route upgrade has been the subject of a great deal of political toing and froing over the last few years, as you will be well aware. Why do I call this Transpennine Route upgrade and not, as you may think of it, Transpennine electrification?

And the reason is, it's a bit like my point about the Great North Rail Project, I think about this project, not in terms of how do you do it, but what is it there to achieve, what is its purpose?

So when we set out to do the studies around the Transpennine Route upgrade two years ago, we said to Transport for the North and to the Department of Transport, what is it for? What do you want from the Transpennine route upgrade? Don't tell me you want electrification, I want to know what you want from it in terms of capacity and capability, journey times and so on.

And they came back and said, okay, well we want this; we want the capability to operate eight 24m long vehicles on existing services, I want to carry on with at least the amount of freight we've got, in fact we want more freight and I want this level of performance from the railway. And, I want to be able to run eight trains per hour up and down that bit of network.

Output requirements



And I want to reduce the journey time from Manchester to York from 74 minutes to 62 and Manchester to Leeds from 49 to 40. Those are the things that we want, that Transport for the North set as their outputs.

Transforming for our customers

And once I have those outputs, it's then possible for my team to think about what the best way to achieve those kinds of outputs is. And this particular bit of railway, and those of you who know this route know it's a complicated and difficult piece of railway, it's very winding, bendy, it goes through multiple tunnels and it goes right along the backs of people's houses and so on.

So a very detailed study has been done to look at this particular railway and all of the improvements that we would have to make to it. And we have to take into account it's a difficult railway to get at.

It rains a lot in the middle of the Pennines, so it's very difficult to construct in, there's lots of planning and heritage issues associated with some of the listed buildings registered and so on and so on.

But once we'd done all that, we were then able to set out very clearly for funders a range of different options and we presented that report to the Department of Transport last December, as we promised we would. And I'm not able to share with you the intimate detail of the different scenarios, but let me just say that there were four different scenarios that we set out.

The first one, scenario 1, you basically get all the things you want, but it's very expensive. So, I'm not giving any secrets away when I say that is full electrification of the route. You get all of the benefits you want, but blooming heck it's very expensive.

At the other extreme, you do not spend very much money, so it's really good on the cost side, but you just get a little bit of line speed upgrades and a few other bits, it's line straightening and not much else. And of course then there's something in the middle.

And the question from me really is, you're the funder, you're the community, you represent the communities that are going to use this railway – which is it you'd like to buy? You tell me which one you'd like to buy and I'll go and build it.

And I think that's the right question for the funders. It's not for me as the builder of the railway to tell you what kind of railway you need, it's for you as the communities that the railway serve to decide what kind of railway you want.

And the next steps are having to deliver that report. We'll now work with the Department and with Transport for the North to hone a specific option and then ultimately the funder, which is the DfT in this case, will, or the Secretary of State will then make a decision as to which of those options he thinks is the appropriate one to go for.

Now why I wanted to spend a little bit of time on this one is because this is the right way, in my view, to develop new projects for the railways.

There are furiously complicated things to do, but having a proper understanding of what business communities and passengers and freight want from the railway, enables us to develop the right schemes and then make the right choices.

That has not always been the way railway projects have developed. Very often people have said I want that outcome, as in “I want an electrified railway”, without actually knowing exactly what it was that that really entailed. And Great Western Electrification, which is a very painful project we're still delivering, is an example of how not to do it, in my view.



And we're not just about building new railway lines in Network Rail; we also are about creating new centres that can be the focal point of economic growth. Our stations are amazing catalysts for economic growth in communities. And you all know what a huge difference King's Cross has made to that part of London, it's totally transformational. But I could also talk now about Birmingham New Street

where huge changes have taken place, they're talking about it already, I could talk about Manchester

Victoria and of course I could also talk about the amazing London Bridge Station that we opened in January this year.

These stations are catalysts for economic growth and I'm finding it very exciting today that we're working in Network Rail here in Leeds, to talk about what Leeds Station might look like and how could that develop going forward.

We're talking with Crewe; we're talking in York, in Bristol. Up and down the country local communities want to work with us on massive station redevelopment programmes that are the catalysts for broader economic growth in the country.

But Network Rail, of course, has its prime responsibility to manage the nation's rail network and to do that in a responsible and an efficient way. We have 20,000 miles of track in our country, we have 35,000 railway bridges. Do you know what the average age of Britain's railway bridges are, by the way, those 35,000 bridges?

123 years. 123 years is the average age of a railway bridge, and by the way the ones that are 150 years old are an awful lot better than the ones that are 50 years old. The biggest problem I have is 1960s railway bridges, the ones built in the 1850s are wonderful, but it's a huge challenge.

So making the most of this incredible infrastructure is what we're about and we have two core strategies to make the most of what we've got. The first is what we call, intelligent infrastructure, this is about looking essentially at the way we inspect and monitor the infrastructure in smarter and smarter ways so that we can intervene before the infrastructure fails. So predict and prevent rather than patch up later.

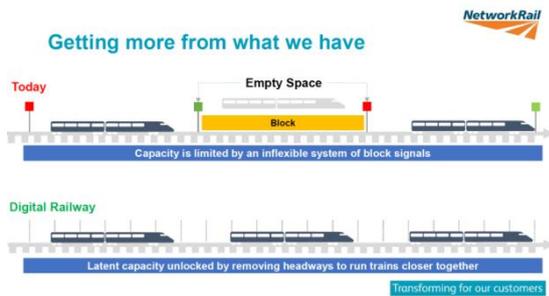
This is a slide showing satellite and aerial photography that we now use to monitor the health of trees. So we now monitor, through aerial surveillance, the chlorophyll levels in trees near to the railway line and if we see a tree is about to die or is very sick, we can go in and chop down that tree and not all the other ones.

So it's an example of how you can become much more efficient in achieving both safety and performance of the railway and it's just one of many examples. The second technology for us for making the most of our railway is what we the digital railway. Now the digital railway is nothing new in this in many respects.

In almost every other form of transport we're finding many, many smarter ways of getting more capacity out the existing system, whether it's through smart motorways, the digital control of lanes, the London Underground or air traffic control with automatic route setting and landing. And of course there are massive changes that are also on the cards in the very near future.

So digital railway is very much about how we run more trains on our existing network. And why am I so passionate about this? Because I can tell you that building new railway lines is really expensive. It's really expensive, very difficult and very disruptive. So if we can run more trains on the existing network, there's a huge advantage to it.

And today we still control trains on our railway system using the same technology that was invented in 1840, the year the Morse code was invented. Morse code was slightly more sophisticated than signalling, because Morse code has 26 characters, our signalling system has basically three, red amber and green. And that's the way we communicate between track and train,



We basically divide the railway up into blocks and you can only have one train in each block. It's a fantastic system, it served the railway brilliantly for 190 years, and is incredibly safe. However, it does limit the amount of capacity that you have on a railway line.

So we're going to move to digital train control, where we remove the traffic lights and we control the speed of the trains and modulate the speed of trains and their proximity to one another, based on their individual braking performance and speed and characteristics.

Now digital train control and the move to this way of operating the railway is a long-term transformation plan of 15 or 20 years, but we've started and we're making real progress. We've got tremendous commitment from Philip Hammond, as the Chancellor, we've received funding of £450 million. We already have a digital railway with Thameslink coming on stream and there are various other critical milestones this year.

And here's a really important factor at the bottom of this, 63percent of Britain's signalling system was installed in the 70s and 80s and it's basically pretty much expired. We have to replace it all in the next 15 years.

And I don't know about you, but I would much rather replace it with a smart digital system than replace it with another set of traffic lights. And why is that important? Because the cost of that replacement is £20 billion, so let's invest £20 billion in smart new technology and not replacing old technology.

And if we do this then we start on some of the critical North South routes to create more capacity and more reliability on our network going forward. And in the future, and maybe in the not too distant future, we'll need to start to think differently about what a train is and what a train is going forward. What is the role of autonomous pods or autonomous electric vehicles on rail transport systems?

And I often say to my railway colleagues, in fact I offend my railway colleagues deeply when I say that the railway is a 19th Century guidance system for vehicles, and in a 21st Century world there are other ways of guiding vehicles. And Network Rail is very much at the heart of thinking about how we can use some of the smarter technology to provide transport solutions for the people who depend on our services.



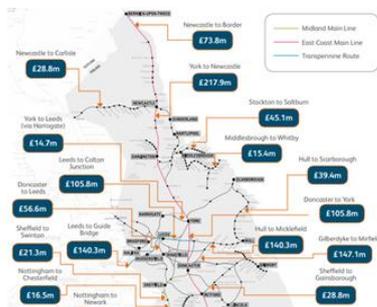
So Network Rail as a company and as a business is really going through a fundamental transformation. And it's been quite a journey and the way I think about this is, I describe this transformation as a shift from an organisation that felt and behaved like a state regulated monopoly, to one which is a publicly owned business that behaves like a private sector organisation.

And when you behave like a private sector organisation what's the most important thing? Customers. You care deeply about what your customers think and you focus what you deliver on and what your customers want. You act with, you know, commercial instincts and you raise funding for your business and of course you make sure that you're as cost competitive as you can be.

So these are some of the key ingredients that have been in our transformation. To help this we've devolved within Network Rail, into nine different businesses, these different businesses are therefore focussed on their customers. Now their customers are ultimately, of course, the passengers and the freight users of the network, but they're also the train operating companies that we have to be working in partnership with to try to run these services as best as we possibly can.

And bringing track and train closely together for the benefit of passengers is over half of what our transformation has been about, and here in our London North Eastern and East Midlands Route, we have an independently Chaired Supervisory Board overseeing the East Coast Mainline, with the train operators and Network Rail coming together under an independently Chaired Board, by Sir Gary Verity, who many of you will know.

And we have transport focus sitting on that Board as well, so this is really changing Network Rail to being an organisation that says what do you want from the railways and how can we deliver for you what it is that you want? We're also wanting to become much more transparent about what kind of business we are and where we're going to make improvements to the railway.



So our strategic business plan for the next five years was just published, and this is just a page that I cut out from the LNE/EM, the London North Eastern and East Midlands Route, which shows these are some of the improvements that are going to be made in the next five years on that particular route. So these are big numbers, this is a lot of investment in improving and renewing infrastructure in our routes.

And I encourage you to engage with these businesses, as local businesses, to say, to advise them what you want from the railway. Rob McIntosh here, he runs the route on the East and, Martin Frobisher runs the route on the West. Please make sure that you express your views to these people about what you want from Britain's railways.

I mentioned that we've submitted our next five-year plan, and it's a bold plan, it's an ambitious plan for our railway, and it's going to deliver some significant benefits. We're going to improve safety performance yet again, on our railway. We've reduced train accident risk, for example, in the last five years by 38 percent and I believe we can reduce it by a further 10 percent in the next five years. We are the safest railway in Europe and I'm absolutely determined that we maintain that extraordinary record.

LTIFR - that's Lost Time Injury Frequency Rate - that's the frequency with which employees or contractors working for Network Rail are injured at work. And we've improved that significantly over the last four years, a 37 percent reduction in the number of people injured at work, but I believe we can do a lot better.

And Adam [Marshall] referred to my oil and gas background. To be honest with you; I was horrified when I came to the railway, absolutely horrified at the tolerance of workforce injuries. It's ten times, literally ten times worse than it is if you're a North Sea oil worker. So we're going about changing that and we've made a lot of progress, but there's a lot of work that must still be done.

Trains are going to be more reliable, a 15 percent reduction in the number of delayed trains and a continuing reduction in the number of incidents that cause those delays in our infrastructure. It's going to be more efficient, lower in costs and of course Network Rail contributes half the cost of

your ticket, so if we could be more efficient there's more opportunity for Government to reduce the cost of tickets.

We also want to be more responsible citizens by running the network in a more energy efficient way and actually also thinking about the way in which we can contribute to environment in other ways. The overall land that Network Rail owns is about the equivalent of the Isle of Wight, it's a huge piece of land and by managing biodiversity on that land in smarter and better ways; we can make a significant contribution to the environment, very often through urban settlement.

And we're going to continue our journey to become a much more diverse and inclusive organisation. In the last four years we've increased the number of women working in the railway by 32 percent. However, it's still only 17 percent women, of the people work i n our company, and that isn't good enough.

So we're going to increase that by another 50 percent in the next five years and part of the way we're going to do that is we're going to have gender equality in all recruiting. Our apprentices will be 50-50 men and women, our graduates will be 50-50 men and women.

Quite challenging in an engineering based setting, but my goodness, if you don't want to come and work for Network Rail, if you don't want to come and work in the transport sector, you must be mad, because it's just the most exciting business to come and work in at the moment. And we can attract the brightest and the best, and that's what we're going to do.

So, thank you very much for listening to me, I'll be very pleased to take any form of questions, but I'm just going to end with a video (<https://network-rail.wistia.com/medias/ar8wnqdx2f>)

**Note: this a transcript, so language reflects the speech as delivered*