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# Tyne & Wear Metro: urban rail unleashed

The Metro is the bone structure of Tyne & Wear's identity, economy and daily life - and it's Britain's innovation railway too

► There's two key elements to a successful urban rail network - best use of emerging technology and local decision makers who embody the spirit of civic entrepreneurialism. That is the capacity to be quick thinking, bold and financially shrewd but with the good of the city as a whole in mind rather than narrow commercial gain. With that combination you can keep unleashing and renewing the potential of urban rail to change cities for the better. There is no better example of this than the Tyne & Wear Metro which for over 35 years has been the bone structure of the region's identity, economy and daily life as well as Britain's innovation railway. It's a system too that is metamorphosing again - not just modernising but also potentially widening its scope and reach.

Both the Metro's uniqueness as a long standing segregated light rail system and its distance far away from that there London is perhaps one reason why the Metro seems not to get the attention it deserves as an example of what urban rail, when unleashed, can achieve. Because after the London Transport roundel, the Tyne & Wear Metro's 'M', must surely be the public transport logo and brand that is most integral to a British urban area's sense of itself. Most integral too to how the city region operates - as alone amongst our cities, Tyne & Wear has a purpose-built, fully segregated light rail system that binds the area together. A system that makes not just journeys into the centre of the city the

definition of simplicity, but radial and cross city journeys simple too.

You can live in the suburbs of Newcastle and travel to work in the suburbs of Sunderland across the two city centres in as little as 40 minutes. A system that serves both the area's major football clubs, its regional airport and all three universities as well as the business parks and residential areas that are strung along its lines, which are dotted with stations just 1.3 miles apart. It's not quite an anywhere to anywhere service within the conurbation but it gets closer to achieving this in a seamless way,



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than most urban rail systems achieve. And it does this from early (5:15am) to late (midnight) at the same frequencies, seven days a week. Compare and contrast with the big railway and bus networks that are still locked into a conception of people's travel needs that was last relevant in the 1990s.

It helps join the local dots throughout the week in an economical way too. Fares have been kept down to a level which local people can afford and which fit the facts on the ground about how the local economy works. So peak fares were abolished in 2014 because so many local people are on shifts or on zero hours contracts. Similarly, students and apprentices have convenient, heavily discounted travel to courses and training across Tyne & Wear, removing barriers which could restrict them accessing opportunities in their home city. Indeed employers close to Metro stations report apprenticeship schemes have higher numbers and better retention than those served by buses and Northern rail routes.

Affordable fares and the reach and utility of the network help explain why for a rail system this is no largely middle class preserve either - the user demographic represents the demographics of the region. And it's not just the preserve of the able-bodied either - the system was built from the beginning so that wheelchair users could take advantage of it too.

This is the railway that devolution built. A railway designed for local needs. Imagine how grim it would be if it had been remote controlled from London? In some ways you don't have to imagine - rewind to the state of the local network when it was last part of the big railway in the 1970s and some of the stations were so run down they had no electricity. Look right now at the local rail service still provided by the big railway in the North East and you will find some grudging frequencies from husks of stations operated by dismal trains which largely retreat to their depots when it gets too dark or when the church bells are ringing on a Sunday.

It's symbiotically Tyne & Wear's railway, but the Metro is Britain's innovation railway too. It's local but it's not parochial. The way it took a decayed heavy rail network and used it as the basis for a fully integrated urban transit network is arguably the most substantial transport innovation in a

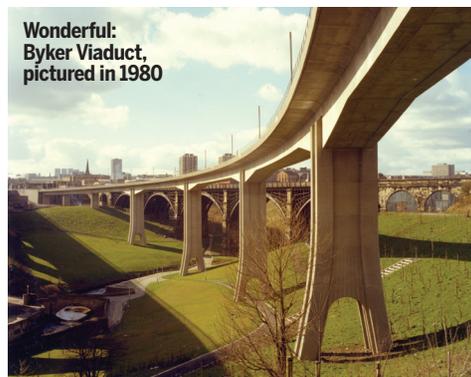
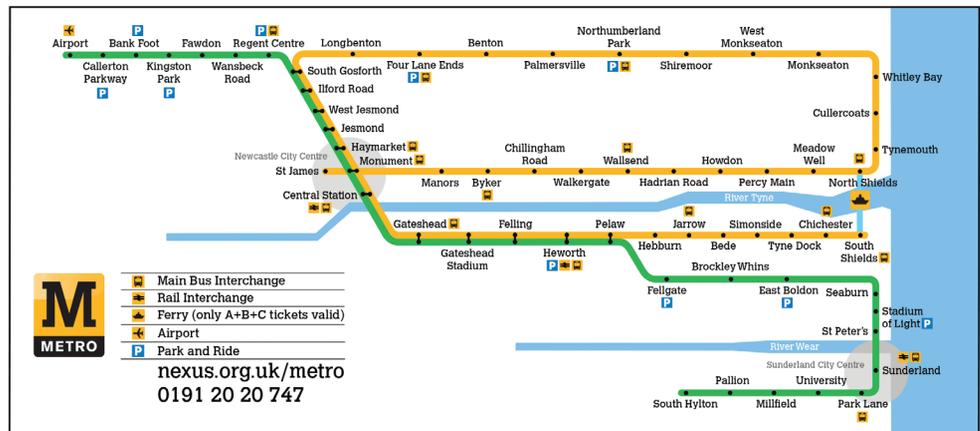
# “If this was Germany these services would have been put in years ago”

post-war UK city full stop. But it hasn't stopped there. The Sunderland extension saw light rail trains sharing space with heavy rail trains on the UK rail network for the first time and it was the first network to have a pay-as-you-go smartcard system up and running outside London.

This sits alongside numerous customer service innovation firsts - it was the first urban railway where mobile phones work in tunnels and the first to ban smoking. Alongside London it also has the largest commitment to public art of any transport provider - with over half of the stations covered. Alongside the artwork some of the stations are interesting or beautiful in their own right - from expansive seaside gems like Tynemouth to the 1970s brutalism of Chillingham Road. Some of the engineering is rather wonderful too - not least the sinuous realisation of the joys of prestressed concrete that is the Byker viaduct.

So what's next? At the start of this article I said that taking advantage of emerging technology is the other key factor in unleashing urban rail networks. So, for example, Metro trains still run along the route of Britain's first suburban rail line (the Newcastle and North Shields Railway of 1839) using what was then innovative steam traction technology. The shift to electric traction catapulted these lines forward, starting with the first suburban electrification on Tyneside in 1904 (again Tyneside was an early adopter of new tech). In the 1970s light rail technology came to the rescue of what was now a fading heavy rail network through its conversion to the Metro. Forty years on we are entering a new era where the same train can pack in more than one option for how it gets its wheels to move: it could be different electricity voltages, diesel powerpacks, batteries, supercapacitors and so on. This in turn opens up the options for how urban rail networks can develop as the same train can operate on very different types of railway. Which in turn could have a bearing on how the Metro, alongside the wider regional heavy rail network, might develop.

And there's plenty of potential for that because as Tyne & Wear's primal industries were taken out (coal, ship building, heavy industry) the railway network that served them also shriveled. But not entirely. One way or another freight lines, redundant spurs and largely intact track beds are all there for the



taking in terms of extending rail's reach to where the unserved population centres are. Looking north the current Ashington, Blyth and Tyne freight-only lines could be opened up to serve a catchment area of 200,000. Looking south and the Leamside line (in effect an East Coast Main Line bypass from Newcastle to south of Durham) would put Washington (with a population of nearly 70,000) on the rail map. Further spurs off the Leamside line could, in principle, join up with the Tyne & Wear metro at South Hylton. Better services too are possible south of Sunderland on the current Durham coast heavy rail line and south along the East Coast Main Line corridor using former freight lines - as well as eastwards on the Tyne Valley line.

If this was Germany these services would have been put in years ago. As it is, new rolling stock technologies could finally help make them happen here too. Though once again to what extent will the cities have to be bold and forge their own way forward in unleashing the next wave of urban rail's potential? Even in the good times when unchecked billions were washing through Network Rail, not much of it flowed into realising city region urban rail aspirations - the South Yorkshire

Tram-Train project being one example of a national organisation struggling with innovation and the requisite amount of drive needed to make it happen. And now those good times for Network Rail are definitely over with recent announcements showing that regional electrification schemes, which were theoretical in the first place, no longer even qualify as that.

Isn't it a case again that if you are waiting for the big railway to transform your urban railway you will be waiting a very long time and you may be better off doing it yourself? The Metro shows how civic entrepreneurialism and new rail tech can shape a city for the better. With a new generation of rail tech now becoming available and rising ambitions for regional cities it's time to unleash the next wave of urban rail development. ■

## ABOUT THE AUTHOR

▶ Jonathan Bray is the director of the Urban Transport Group. Throughout his career in policy and lobbying roles he has been at the frontline in bringing about more effective, sustainable and equitable transport policies.